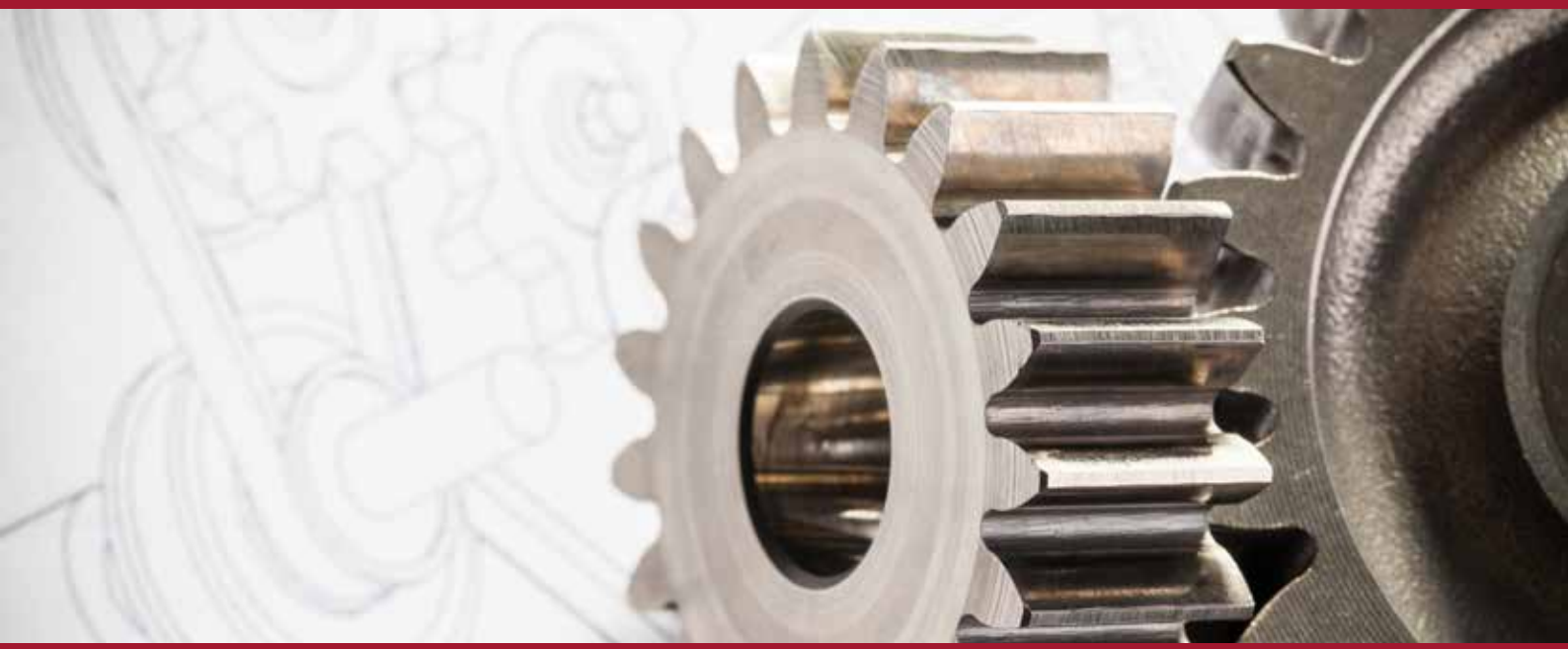
Patent Cooperation Treaty Yearly Review

The International Patent System

Economics & Statistics Series



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This quick response code provides a direct link to all WIPO statistical publications, which can be downloaded free of charge without creating an account. It also provides easy access to the WIPO Statistical Country Profiles and Data Center. To scan this code you will need an Internet connection and a barcode reader application for smartphones or tablets.

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PCT SYSTEM IN 2013 – KEY NUMBERS

Number	Trend[1]	Description
539,300	+6.2%	National phase entries[2]
205,300	+5.1%	Applications filed
45,616	+1.1%	Applicants[3]
148	+2	Member states
124	+4	Countries in which PCT applications were filed
55	+0.1	Share of national phase entries in worldwide non-residents filings (in percent)

1 Trends correspond to annual growth rates in percentage or in volume.
2 The latest available year for PCT national phase entry data is 2012.
3 PCT applicants refer to first-named applicants in published PCT applications.

HIGHLIGHTS

PCT applications surpass the 200,000 mark

An estimated 205,300 applications were filed in 2013, up 5.1% from 2012. The United States of America (US) accounted for 56% of total growth, and China 29%.[4]

The United States of America accounts for a majority of filing growth

With 57,239 applications filed, the US exceeded for the first time its pre-financial crisis filing level of 2007. China surpassed Germany to become the third largest user of the PCT system, with Japan as the second-largest user.

Among the top 10 filing countries, China (+15.6%), the US (+10.8%) and Sweden (+10.4%) saw double-digit growth in 2013. The 2013 US growth rate is the fastest since 2001. China's growth rate is similar to that in 2012. Germany (–4.5%) and the United Kingdom (-0.6%) are the only two countries among the top 10 with fewer applications in 2013 than in 2012. After strong growth in 2011 and 2012, Japan saw modest growth of 0.6% in 2013.

Several other countries also experienced double-digit growth over 2012, such as Mexico (+22%), Israel (+17.1%), Brazil (+12.2%) and South Africa (+11.5%). Among the 124 countries having filed at least one application, 76 increased their PCT filings.[5]

Panasonic returns as top applicant

Panasonic Corporation of Japan—with 2,839 published PCT applications—overtook ZTE Corporation of China (2,309 applications) as the top applicant. Both top filers saw declines from 2012, with 197 fewer applications published for Panasonic Corporation and 1,611 for ZTE Corporation.[6] They were followed by Huawei Technologies Company of China (2,110), Qualcomm Incorporated of the US (2,050) and Intel Corporation of the US (1,871). Intel had the largest increase in filings, and ZTE the largest decline.

The University of California, with 398 published applications, is at the top among educational institutions, followed by Massachusetts Institute of Technology (219) and Columbia University (133). The Commissariat à l'Énergie Atomique et aux Énergies Alternatives of France, with 419 published applications, remained at the top among public research organizations.[7]

Electronic machinery remains the technology field with the most applications

Electronic machinery with 14,897 applications, remained the field publishing the most applications, followed by computer technology (14,684) and digital communications (14,059). Of the 35 technology fields, 31 reported growth in published applications, and 6 double-digit growths: IT methods for management (+27.2%), optics (+23.0%), computer technology (+18.0%), digital communication (+11.3%) electrical machinery, apparatus, energy (+10.9%), and surface technology and coating (+10.4%).[8]

4 For further details see A.1
5 For further details see A.2
6 Data may differ from the top applicants list released in March 2014.
7 For further details see A.3.3
8 For further details see A.4.1

National phase entries grow markedly, thanks mainly to Asian filings

National phase entries (NPEs) totaled 539,300 in 2012, up 6.2% from 2011 and accounting for 55% of all patent applications filed abroad. Japan accounted for the majority of total growth (53.4%), followed by China (12.9%) and the Republic of Korea (9.6%). Thanks to sharp growth in several Asian countries, Asia became the region filing the second-most NPEs worldwide, after Europe.

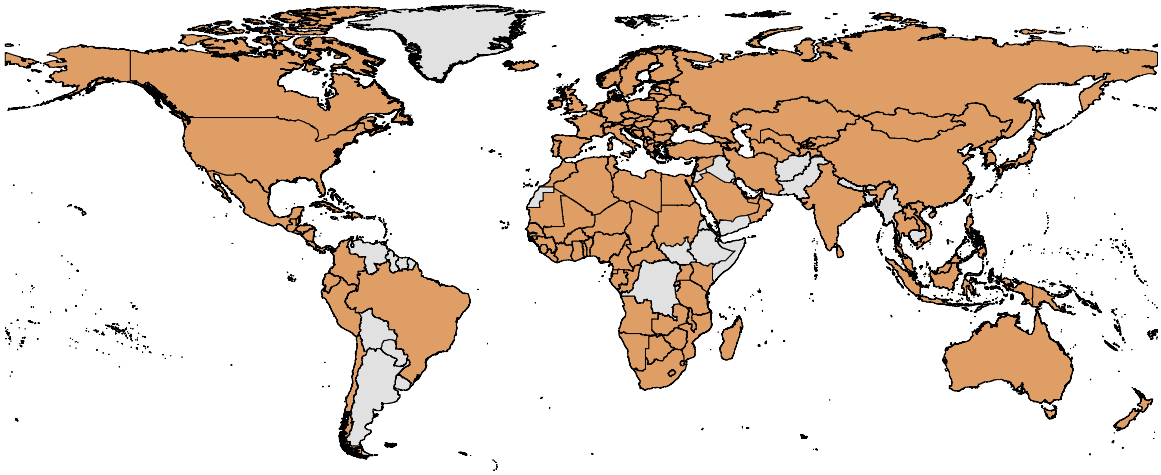
Applicants from the US remained however the largest filers of NPEs, with almost 146,988 applications and annual growth of 1.7% over 2011. Similar to filings during the international phase in 2013, US applicants exceeded their 2008 filings for the first time in 2012, followed again by applicants from Japan (112,862) and Germany (59,966), which saw respective annual growth of 17.4% and 3.7%.

All top five Asian origins saw double-digit growth in 2012, with China (+31.5%) and the Republic of Korea (+21.3%) having the sharpest ones, followed by Japan (+17.4%), India (+12.6%) and Israel (+11.3%). Growth in NPE filings was also notable for applicants residing in Chile (+32.2%) and Argentina (+16.3%).[9]

9 For further details see section B

A BRIEF PRESENTATION OF THE PATENT COOPERATION TREATY

Figure 1: Contracting states in 2013



Source: WIPO, December 2013

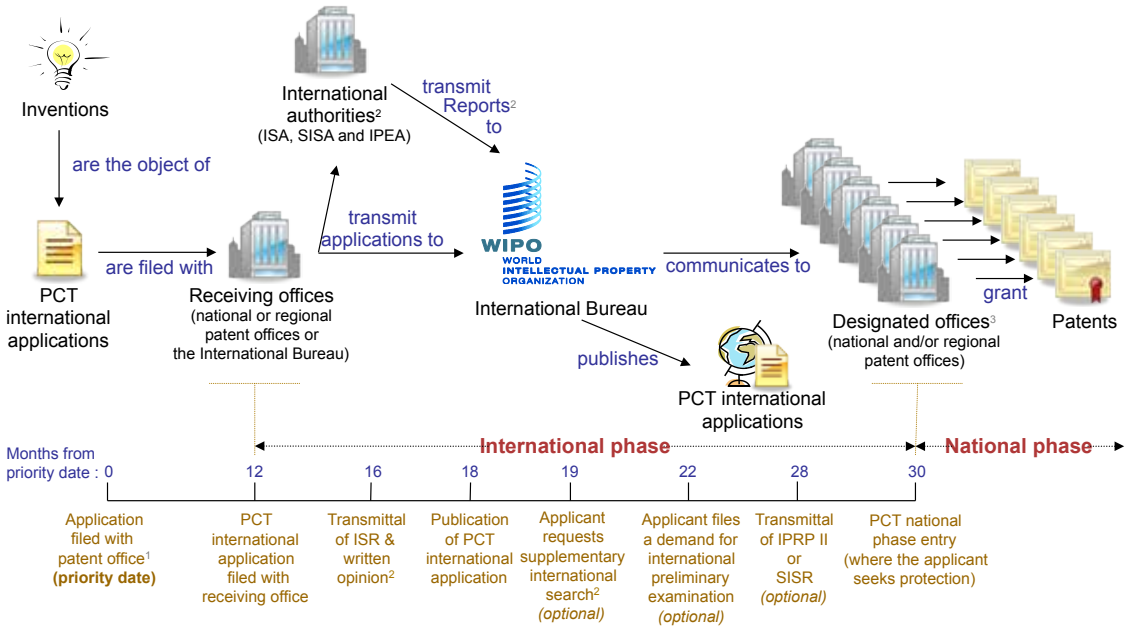
The Patent Cooperation Treaty, an international treaty administered by the World Intellectual Property Organization, offers patent applicants an advantageous route for seeking patent protection internationally. Since entering into force in 1978, the PCT has served as an alternative to the Paris Convention for the Protection of Industrial Property (1883)—the Paris Convention—for pursuing patent rights in different countries. Starting with 18 members, the treaty had 148 contracting states in 2013 (figure 1).

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. Compared with the Paris Convention route, applicants can delay the 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 the invention and on the markets in which to seek patent protection.

The reports that applicants receive during the international phase—about relevant prior art and the potential patentability of their inventions—help them make well-informed decisions. The PCT system is intended to reduce unnecessary duplication among patent offices and supports work sharing between those offices.

Figure 2: Overview of the PCT system



[1] Generally, applicants first file a national or regional patent application with their patent office, and within 12 months from priority date, file a PCT application.

[2] International searching authorities (ISA) transmit international search reports (ISRs) & written opinions; authorities specified for supplementary search (SISA) transmit supplementary international search reports (SISR); international preliminary examining authorities (IPEA) transmit international preliminary reports on patentability II (IPRP II).

[3] Called elected offices for applicants having filed a demand for international preliminary examination.

Source: World Intellectual Property Organization (WIPO), March 2014

Under the PCT system, an applicant must file an application with a receiving office and choose an international searching authority to provide an international search report and a written opinion on the potential patentability of the invention (figure 2). The International Bureau of WIPO then publishes the application in its PATENTSCOPE search service. After receiving the international search report and written opinion, the applicant can choose to request a supplementary international search by a supplementary international searching authority, have an international preliminary examination undertaken on this application by an international preliminary examining authority, or take no further action. The applicant generally has at least 30 months from the filing (priority) date to decide whether to enter the national phase in the countries or regions in which protection is sought.

International phase

The international phase usually lasts 18 months and consists mainly of the filing and formal examination of the application, international search, international publication, optional supplementary international search and optional international preliminary examination. Published applications are accessible, free of charge, through WIPO's online PATENTSCOPE search service.

Filing applications

Typically, applicants seeking to protect an invention in more than one country first file a national or regional patent application with their national or regional patent office. Within 12 months from the filing date of that first application (a time limit set by the Paris Convention), they file an international application under the Patent Cooperation Treaty with a receiving office—i.e., the respective national or regional patent office, or the International Bureau—thus beginning the international phase. Only a national or resident of a PCT contracting state can file an application.

Because the application has legal effect in all contracting states, applicants can effectively postpone the need to pay fees to and process applications separately before each national or regional patent office in which they ultimately wish to have patent protection. Note that an international patent, as such, does not exist and that granting patents remains under the control of national or regional patent offices in what is called the national phase (see below).

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

- receiving and storing all application documents;
- performing a second formalities 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 subject to an international search by one of the 17 functioning international searching authorities,[10] which identify the prior art relevant to the patentability of the invention, establish an international search report, and provide a written opinion on the invention's potential patentability. That opinion can assist the applicant in deciding whether to continue to seek protection for the invention. If the written opinion is unfavorable, the applicant may choose to amend the application to improve the probability of obtaining a patent, to withdraw the application before international publication and before incurring additional costs, or to do nothing.

Supplementary international search

Since January 1, 2009, the supplementary international search service has offered applicants the option to request additional searches from international searching authorities other than the one that carried out the initial search. This service aims to give applicants the option of obtaining a more complete overview of the prior art in the international phase by allowing them to have an additional search performed in an international searching authority's specialty language. Applicants can request a supplementary international search report by a supplementary international searching authority up to 19 months from the filing (priority) date.

International preliminary examination

After receiving the international searching authority's written opinion, applicants can request an optional international preliminary examination—that is, a second evaluation of the invention's patentability—to be carried out by an international preliminary examination authority, usually on an amended version of the application (all international searching authorities are also international preliminary examination authorities). The resulting international preliminary report on patentability further assists the applicant in determining whether to enter the national phase.

10 The offices of Chile and Ukraine have been appointed as ISAs (bringing the total number to 19), but they had not commenced operations in 2013.

DATA DESCRIPTION

National phase

Applicants have at least 18 months from the filing date of their applications before entering the national phase at individual patent offices. This delay affords additional time—compared with that under the Paris Convention—to evaluate the chances of obtaining a patent and to plan how to use the invention commercially in the countries in which protection is sought. In the national phase, each patent office is responsible for processing the application in accordance with its national patent laws and for deciding whether to grant patent protection. The time required for that processing varies across patent offices.

Patent prosecution highway

The PCT patent prosecution highway (PCT-PPH) pilots consist of bilateral agreements between patent offices to enable applicants to request a fast-track examination procedure. Under these agreements, an applicant receiving a written opinion or an international preliminary report on patentability indicating that at least one claim in the PCT application has novelty, an inventive step and industrial applicability may request that the other office fast track the examination of corresponding claims in corresponding applications. The 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 a reduced examination workload and additional knowledge sharing.

Starting January 6, 2014, a Global Patent Prosecution Highway (GPPH) will be launched. The GPPH pilot is a single multilateral agreement between a group of offices (thirteen at the end of 2013). It will allow 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.

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

For figures on the international phase of the PCT system, data are drawn from the WIPO statistics database. Due to the delay in transmitting PCT applications to WIPO, the numbers for 2013 are estimates. For major filing countries, the estimates are made using several statistical and econometric models. For other countries, the estimates adjust actual received applications according to each country's share of the estimated total PCT filings.

For the national phase of the PCT system, statistics are based on data supplied to WIPO by national and regional patent offices, which WIPO often receives six months or more after the end of the year concerned. The latest available year is thus 2012. Data may be missing for some offices and incomplete for some origins. Data are available for the majority of larger offices. With the 2012 data supplied to WIPO corresponding to 99% of the world total, only a small share of the total is estimated. Missing data are estimated using such methods as linear extrapolation and averaging adjacent data points. The equivalent patent application concept is not used in this review. National phase entry data by country of origin may thus slightly differ from other sources, such as WIPO's data center.

The income groups correspond to those used by the World Bank,[11] and the groupings by region are based on the United Nations (UN) definition of regions.[12]

The figures in this Review are subject to change.[13]

11 Available at *data.worldbank.org/about/country-classifications/country-and-lending-groups*

12 Available at *unstats.un.org/unsd/methods/m49/m49regin.htm*. Although the geographical terms used by WIPO may differ slightly from those defined by the UN, the composition of regions and subregions remains identical.

13 Regular updates are available at *www.wipo.int/ipstats/*

SPECIAL THEME – HOW UNIVERSITIES AND PUBLIC RESEARCH ORGANIZATIONS USE THE PCT SYSTEM

Universities and public research organizations (PROs) use the PCT system differently from businesses because they are usually trying to build partnerships with firms—for example through the universities technology transfer offices—for the commercial exploitation of their inventions.

Universities and PROs have filed more PCT applications over time, accounting for nearly 7.5% of applications published in 2013. Those from Europe and the United States of America (US) have traditionally accounted for the bulk of filings but those from Asia have been catching up rapidly. Universities and PROs from middle-income countries have sharply increased their use of the PCT system in recent years. But those most inclined to enter the national phase have been mainly from high-income economies.[14]

Identifying universities and PROs in PCT filing data

Keyword-based searches of applicant names identify PCT filings from universities and PROs.[15] This approach captures the great majority of PCT filings in the name of universities and PROs. But it also comes with limitations. In particular, some inventions originating from research performed at universities or PROs are not patented under the institution's name. Researchers often file patent applications separately, either as individuals or through companies that fund their research. According to some studies the number of university-owned patents in Europe is frequently a small fraction of university-invented patents: 4% in Germany and Italy, 12% in France, 20% in the Netherlands, 32% in the United Kingdom (UK) and 53% in Spain.[16] So, a sizable share of patents derived from public research goes unmeasured.

Universities rely heavily on the PCT system when filing internationally

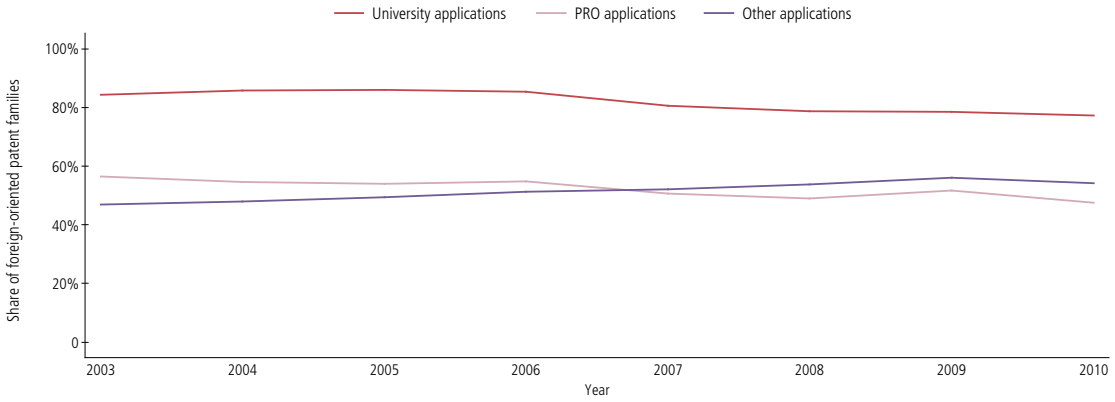
To what extent do university and PRO applicants rely on the PCT system when they file patent applications internationally? To answer this question, we can look at the share of foreign-oriented patent families that opt to use the PCT, broken down by the families' first filing date. To eliminate double counts of applicants filed with multiple offices for the same invention, a patent family comprises patent applications related by priority claims. Because patent families take time to "grow", 2010 is the latest year with comprehensive data.

14 Statistics on PCT applications in this special theme are based on published PCT applications, even if the terms "filings" or "PCT applications" are used. Statistics are therefore based on the publication date, unless otherwise stated. In addition, they rely on the first-named applicants' information, unless specified otherwise, and they exclude applicants that are natural persons. But patent family data include families owned by a natural person.

15 Universities include all types of educational institution, and PROs include private nonprofit organizations and hospitals.

16 See Daraio, C., Bonaccorsi, A., Geuna, A., Lepori, B., Bach, L., Bogetoft, P. *et al.* (2011). The European University Landscape: A Micro Characterization Based on Evidence from the Aquameth Project. *Research Policy* 40(1), 148-164.

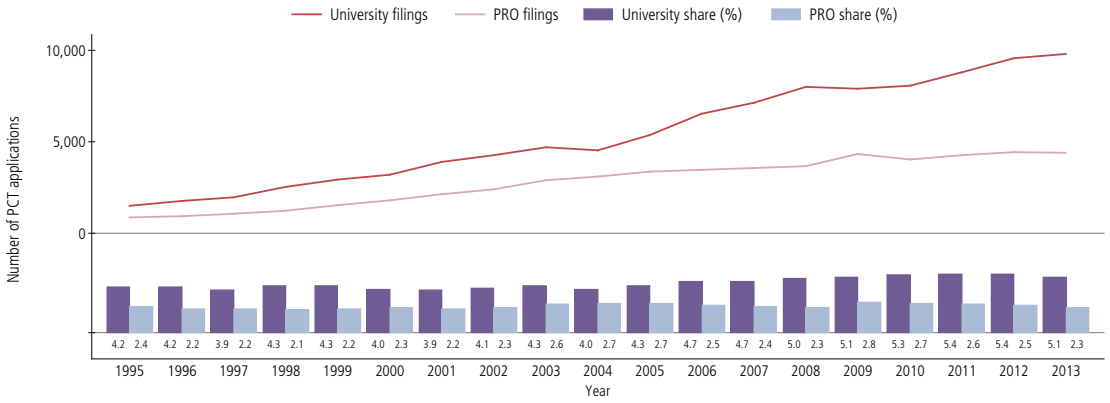
Figure ST1: Share of foreign-oriented patent families using the PCT, 2003-10



Note: The data for this figure exclude patent families that opted for the PCT but subsequently did not see a national phase entry. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database and EPO PATSTAT database, March 2014

Figure ST2: Trend in university and PRO PCT applications filed and share of total filings



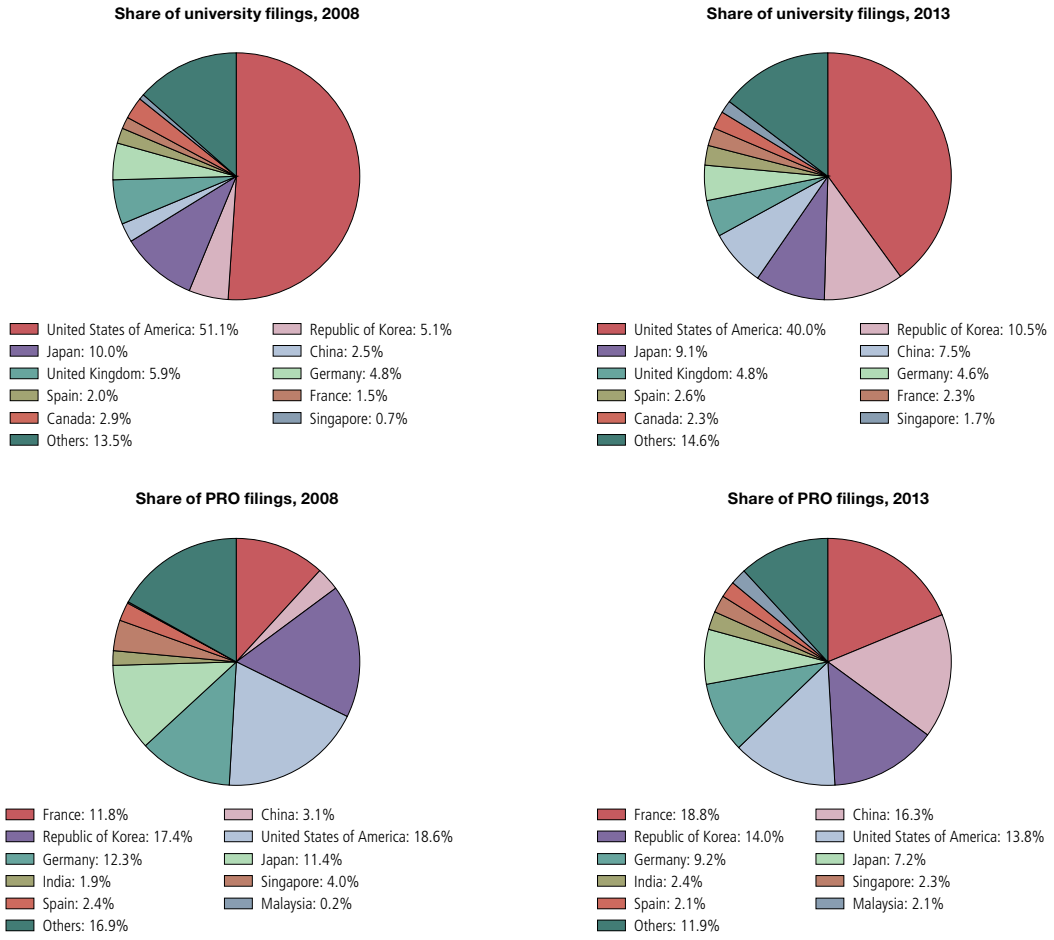
Note: PCT data are based on the publication date and first-named applicants. The university sector includes all types of educational institutions. PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database, March 2014

Universities are far more likely to use the PCT than other applicants (figure ST1). More than three-quarters of foreign-oriented patent families belonging to universities opted for the PCT, though the share fell somewhat after 2006. Interestingly, PROs also used to rely somewhat more on the PCT, but they also saw a decline in their PCT share after 2006 and were surpassed by other applicants in 2007.

What might explain the universities' greater reliance on the PCT? The 18-month international phase could offer them valuable time to find a commercial partner willing to invest further in the patenting process and in a technology's development. In addition, universities mainly engage in "upstream" innovation and may thus possess less information about the commercial potential of their inventions than companies and PROs do; this also favors the "wait and see" strategy that the PCT offers.

Figure ST3: Share of university and PRO PCT filings for the top 10 origins in 2008 and 2013



Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals.

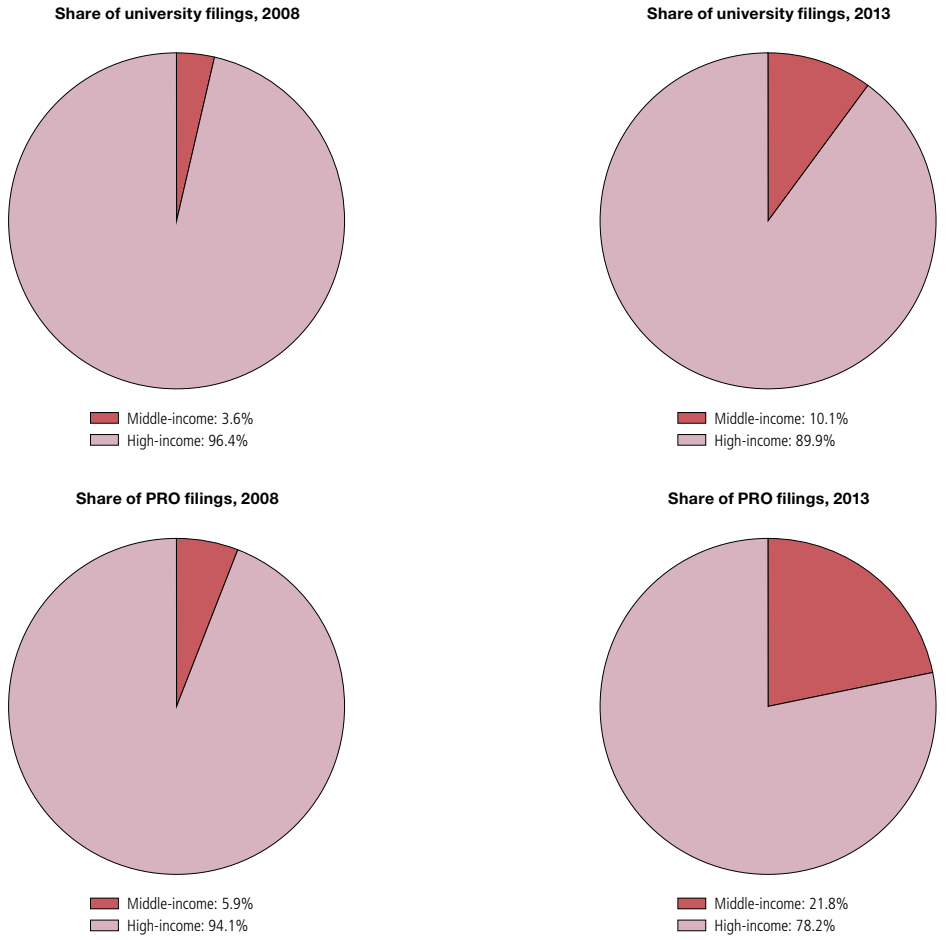
Source: WIPO statistics database, March 2014

University filing growth outpaces overall filing growth

In 2013, universities filed 9,804 PCT applications, and PROs 4,411 (figure ST2). Both tend to file an increasing number of PCT applications over time, but the number of applications filed by universities increased much faster. Universities had an average annual filing growth of 11% between 1995 and 2013, and PROs 9.5%. Both seemed to have been affected by the economic downturn as university filings fell 1.4% in 2009 and PRO filings 6.7% in 2010. But both quickly recovered growth, even though PRO filings slipped 0.7% in 2013.

In 2013, the shares of university filings in total PCT filings stood at 5.1% and PRO filings at 2.3%. The share of university filings increased by one percentage point in 2013 compared with 1995, while the PRO share remained almost stable.

Figure ST4: Share of university and PRO PCT filings by income group in 2008 and 2013



Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database, March 2014

US universities' dominance declines

Applications filed by universities are largely dominated by US universities, which filed 3,920 applications in 2013, followed by universities from the Republic of Korea (1,026), Japan (896), China (731) and the UK (474). US universities accounted for 40% of all PCT applications filed by universities in 2013, about 11 percentage points less than their 2008 share (figure ST3). The decline was mainly due to a sharp increase in filings from universities in China and the Republic of Korea, each up about five percentage points between 2008 and 2013.

PRO filings are not dominated by a single country. With 829 filings, PROs in France filed the most applications in 2013, followed by China (717), the Republic of Korea (618), the US (608) and Germany (408). Between 2008 and 2013, the share of most origins among the top 10 PRO origins decreased, on account of those of China (+13.2 percentage points), France (+7), Malaysia (+1.9) and India (+0.5).

In 2013, the shares of the top five PRO origins in total PRO filings ranged from 18.8% for France to 9.2% for Germany. By contrast, the equivalent share varied for universities from 40% for the US to 4.8% for the UK. But the top 10 PRO origins accounted for around 88% of PRO filings in 2013, up from 83.1% in 2008, and the top 10 university origins for 85.4% in 2013, down from 86.5%.

Middle-income countries are catching up, largely due to China

High-income countries accounted for the vast majority of university (90%) and PRO (78%) filings in 2013 (figure ST4). Between 2008 and 2013, middle-income shares increased rapidly, by 6.5 percentage points for universities and by 16 percentage points for PROs, mainly driven by Chinese universities (accounting for 76% of total middle-income growth) and PROs (81%).

In 2013, Chinese universities and PROs each represented three-quarters of total middle-income university and PRO filings. The other main middle-income origins were, for universities, Malaysia (57 applications), India (55), Brazil (47), South Africa (42) and Mexico (15)—and for PROs, India (104), Malaysia (93), Brazil (11), South Africa (10) and Argentina (10).

The share of universities and PROs in filings from middle-income countries increased markedly

For high-income countries, the share of university filings remained fairly stable around 4% of total high-income filings from 1995 to 2004 and then increased to 5.5% in 2011, slipping to 5.1% in 2013 (figure ST5). By contrast, the share of PRO filings remained stable over the entire period, varying between 2% (2013) and 2.7% (2009). Even though neither share changed much over time, the number of university and PRO applications increased steadily as the total number of published applications kept increasing, both at almost the same pace as total high-income filings.

For middle-income countries without China, university and PRO shares markedly increased over time, from less than 2% of filings at the end of the 90s to 6-7% in recent years. The share of PRO filings fluctuated dramatically, reflecting relatively low volumes of filings. For example, PROs had only 180 more PCT applications published in 2004 than in 2001.

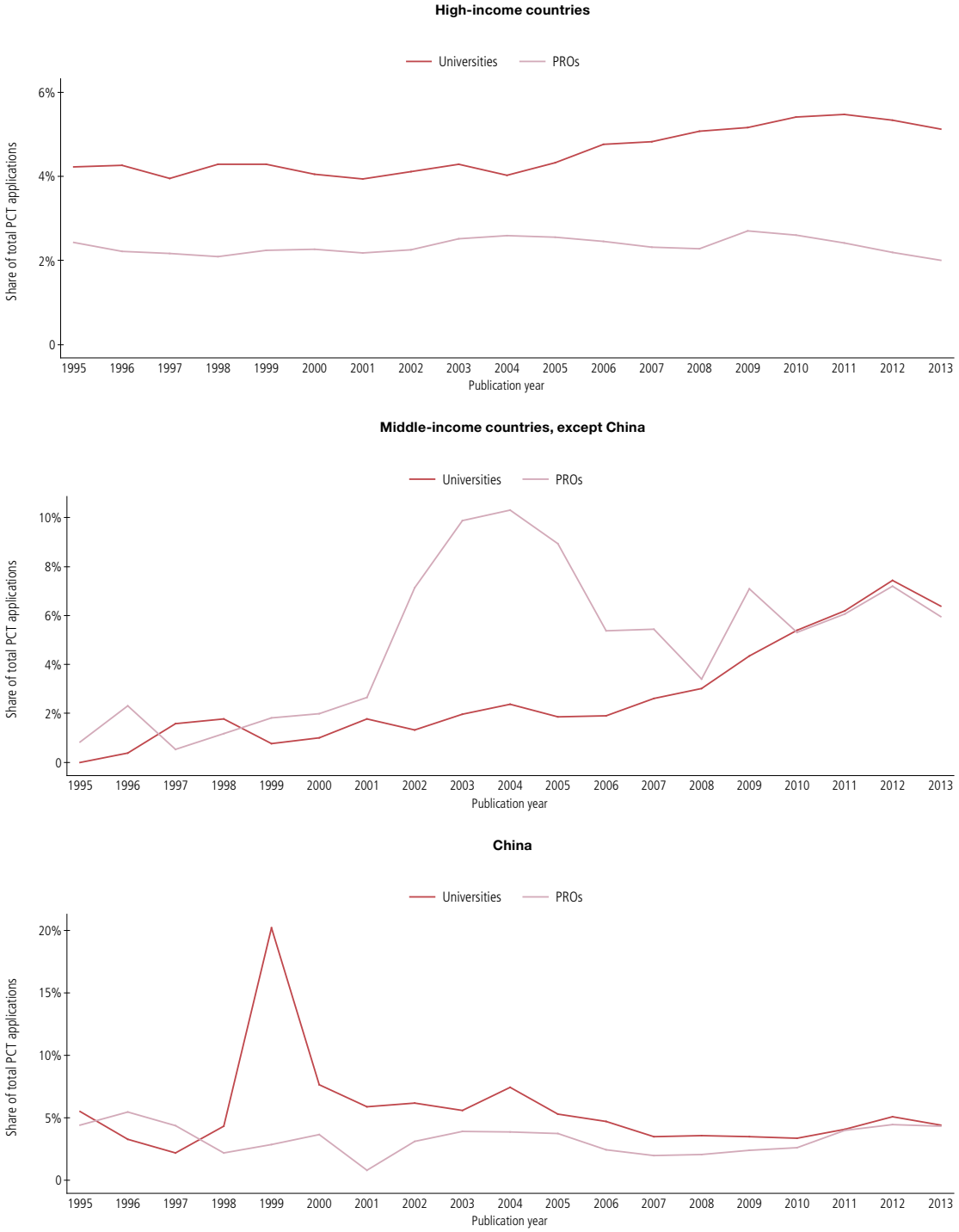
University and PRO shares in Chinese filings fluctuated considerably until the mid-2000s due to relatively low filing volumes, especially in relation to recent volumes. The share of universities and PROs in total Chinese filings remained relatively stable over time and stood between 4% and 5% since 2011. In recent years, China had a share of university filings similar to high-income countries but a share of PRO filings twice as high.

Asian PROs account for the largest shares of applicants and applications

Europe and the US have traditionally accounted for the bulk of applications filed by universities and PROs. Renowned institutions, such as the University of California and the Commissariat à l'énergie atomique et aux énergies alternatives (CEA), have ranked among the top 50 PCT applicants for many years (see subsection A.3.3). Behind these major entities, a large number of smaller institutions are using the PCT system (figure ST6).

During 2011–13, about 1,710 universities had 28,155 applications published. North-American universities, which accounted for slightly more than one-fifth of university applicants, filed 42% of all published applications belonging to universities. By contrast, universities in Europe accounted for the largest share of universities (38.5%) but filed substantially fewer applications than universities in Asia and North America.

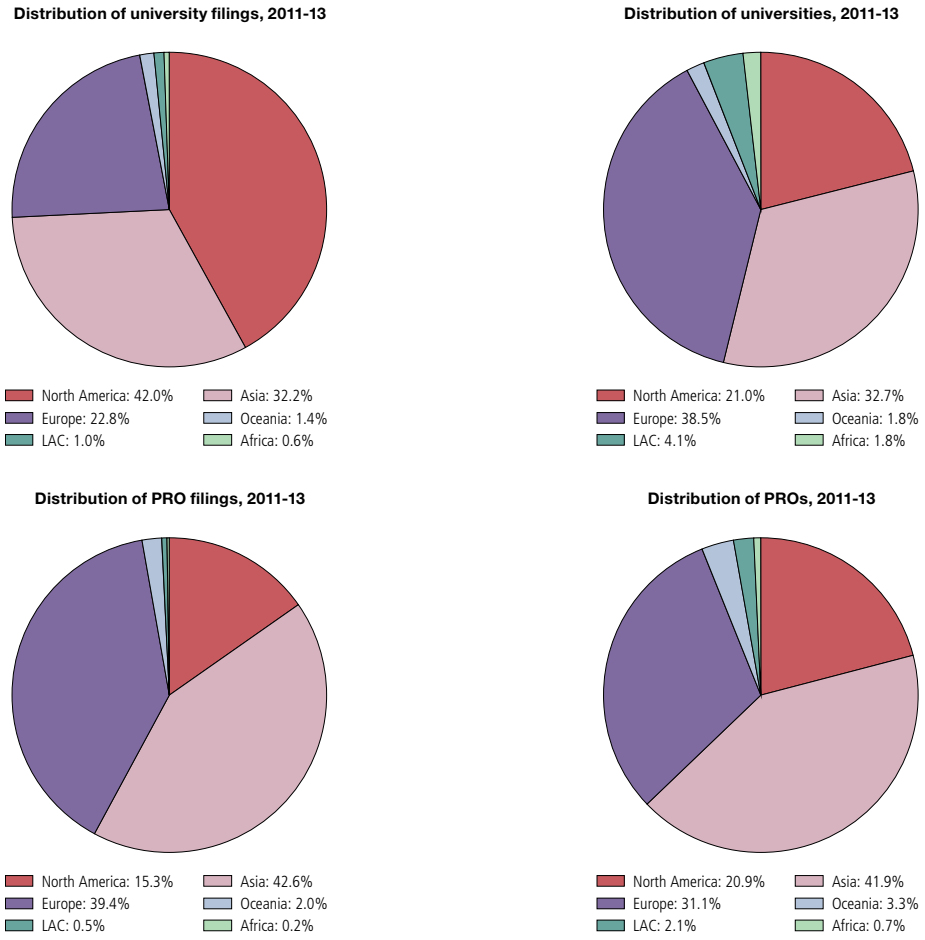
Figure ST5: Share of university and PRO filings in total PCT applications by income group



Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database, March 2014

Figure ST6: Distribution of filings and filers by applicant type and region, 2011-13



Note: LAC (Latin America and the Caribbean). PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database, March 2014

Slightly more than 570 PROs published 13,139 applications during 2011–13. Each PRO filed on average about 23 applications, above the average of 16.5 filings per university. Asian PROs accounted for both the largest share of applications (42.6%) and the largest share of applicants (41.9%). By contrast, North-American-based PROs accounted for the same share as the one for North-American universities (about 21%), but for a much smaller share of applications—15.3% of PRO filings compared with 42% of university filings.

Universities and PROs file with co-applicants more frequently than average

Universities and PROs file jointly with co-applicants much more than average. During 2011–13, 7% of all PCT applications had more than one applicant named, rising to 16% for universities and 19% for PROs (figure ST7).

Argentina had by far the largest proportion of filings with co-applicants. This likely reflects the fact that Argentina is not a PCT member, forcing its applicants to co-file with an applicant residing in, or having the nationality of, a PCT member elsewhere.[17]

Among universities, Argentina (67%), France (61%) and Japan (35%) saw the highest shares of filings with co-applicants. By contrast, universities from the Republic of Korea (9%), the UK (8%), India (6%) and Malaysia (6%) all had shares below 10%. The US share (12%) was four percentage points below the average (16%).

Among PROs, the largest shares were for those in Argentina (94%), Belgium (64%), Spain (38%), France (35%) and Japan (29%). China (8%), the Republic of Korea (8%), India (5%) and Malaysia (1%) had the lowest shares. The US PRO share is the same as its university share (12%) and below the average (19%).

In the vast majority of cases, universities and PROs are the first-named applicants

The order of listing applicants in the PCT request form has relatively minor legal significance. But in practice, the first-named applicant is often seen as the applicant having contributed most to the filing. For the top 20 origins during 2011–13, 79% of university applicants and 82% of PRO applicants were named first in these applications (figure ST8). These high shares also reflect the fact that universities and PROs are filing largely without co-applicants (see figure ST7).

Figure ST7: Share of PCT applications with co-applicants by type of applicant, 2011-13

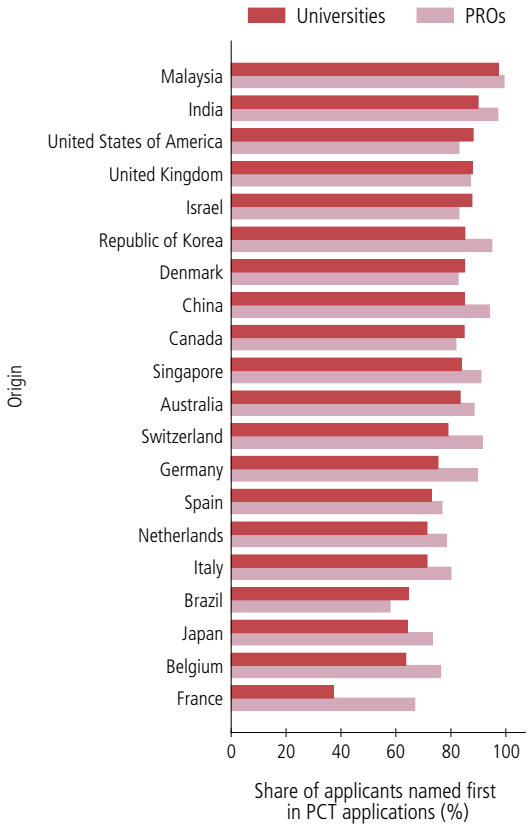
Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals. Counts are based on corporate applicants only (thus excluding natural persons) and on all applicants named in PCT applications.

Source: WIPO statistics database, March 2014

Shares for the universities varied between 97% for Malaysia and 37% for France. Among the countries filing most university and PRO applications, France and Japan had the lowest shares of the 20 countries. By contrast, China, the Republic of Korea and the US all had shares above average. For example, 88% of US universities and 95% of PROs from the Republic of Korea were named first.

17 The share of Argentinian filings with no co-applicant can be explained by the method chosen to compute indicators for this special theme, which excludes applications by natural persons.

Figure ST8: Share of university and PRO applicants named first in PCT applications for the top 20 origins, 2011-13



Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals. Counts are based on corporate applicants only (thus excluding natural persons) and on all applicants named in PCT applications.

Source: WIPO statistics database, March 2014

Most top universities in each region had their PCT filings grow

During 2011–13, all universities worldwide filed 28,153 PCT applications, most from North America (11,823), Asia (9,065) and Europe (6,421) (table ST1).

The top five universities in Africa, North America and Oceania all originated from a single country in their region: South Africa in Africa, the US in North America and Australia in Oceania.[18]

In Africa, the regional share of applicants is heavily skewed toward Stellenbosch University South African Sugarcane Research Institute (20.6%), University of Cape Town (13.1%) and University of the Witwatersrand (12.5%). In Oceania, the top three applicants accounted for 55.3% of all applications. In Asia and Europe, the regional shares were much more evenly distributed across applicants.

Most of the regional top five university applicants grew in all periods. Peking University saw the fastest growth, increasing its applications from 22 in 2005-07 to 198 in 2011–13. But in absolute numbers, the Korea Advanced Institute of Science and Technology recorded the largest increase, filing 232 more applications in 2011–13 than in 2005–07.

18 Note that North America and Oceania consist of a small number of countries.

Table ST1: Top five university PCT applicants per region, 2005-13

			Period			Regional share
Region	**Name**	**Country**	**2005-07**	**2008-10**	**2011-13**	**2011-13 (%)**
Africa	STELLENBOSCH UNIVERSITY SOUTH AFRICAN SUGARCANE RESEARCH INSTITUTE	South Africa	4	22	33	20.6
	UNIVERSITY OF CAPE TOWN	South Africa	12	23	21	13.1
	UNIVERSITY OF THE WITWATERSRAND	South Africa	9	25	20	12.5
	NORTHWEST UNIVERSITY	South Africa	7	5	14	8.8
	UNIVERSITY OF KWAZULU-NATAL	South Africa	0	3	10	6.3
	Others		10	21	62	38.8
	Total		42	99	160	100.0
Asia	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	55	116	287	3.2
	SEOUL NATIONAL UNIVERSITY	Republic of Korea	102	243	280	3.1
	UNIVERSITY OF TOKYO	Japan	140	266	238	2.6
	PEKING UNIVERSITY	China	22	59	198	2.2
	KYOTO UNIVERSITY	Japan	229	133	189	2.1
	Others		3,454	5,100	7,873	86.9
	Total		4,002	5,917	9,065	100.0
Europe	ISIS INNOVATION LIMITED	United Kingdom	114	126	201	3.1
	DANMARKS TEKNISKE UNIVERSITET	Denmark	45	85	119	1.9
	CAMBRIDGE UNIVERSITY	United Kingdom	125	91	110	1.7
	IMPERIAL INNOVATIONS LTD.	United Kingdom	104	136	105	1.6
	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Switzerland	56	74	101	1.6
	Others		3,679	5,265	5,785	90.1
	Total		4,123	5,777	6,421	100.0
LAC	UNIVERSIDADE FEDERAL DE MINAS GERAIS	Brazil	11	33	40	13.9
	UNIVERSIDADE FEDERAL DO RIO DE JANEIRO	Brazil	21	11	24	8.3
	UNIVERSIDAD DE SANTIAGO DE CHILE	Chile	0	4	21	7.3
	PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE	Chile	2	9	18	6.3
	INSTITUTO TECNOLOGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY	Mexico	5	22	13	4.5
	Others		45	101	172	59.7
	Total		84	180	288	100.0
North America	UNIVERSITY OF CALIFORNIA	United States of America	1,131	984	1,028	8.7
	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	United States of America	475	480	567	4.8
	JOHNS HOPKINS UNIVERSITY	United States of America	238	258	368	3.1
	UNIVERSITY OF TEXAS SYSTEM	United States of America	286	421	358	3.0
	HARVARD UNIVERSITY	United States of America	189	310	354	3.0
	Others		8,149	9,154	9,148	77.4
	Total		10,468	11,607	11,823	100.0
Oceania	UNIVERSITY OF SYDNEY	Australia	31	71	77	19.4
	UNIVERSITY OF QUEENSLAND	Australia	66	96	74	18.7
	MONASH UNIVERSITY	Australia	41	25	68	17.2
	UNIVERSITY OF MELBOURNE	Australia	16	29	27	6.8
	UNIVERSITY OF WESTERN AUSTRALIA	Australia	7	11	18	4.5
	Others		141	140	132	33.3
	Total		302	372	396	100.0
Total			**19,021**	**23,952**	**28,153**	

Note: LAC (Latin America and the Caribbean). PCT data are based on the publication date and on the first-named applicant. Universities include applications from all types of educational institutions.

Source: WIPO statistics database, March 2014

The top three PRO applicants originate from Europe

During 2011–13, all PRO applicants worldwide filed a total of 13,146 PCT applications (table ST2), about half of the total from university applicants. PROs from Asia and Europe accounted for more than 5,000 applications each, together representing 82% of the total.

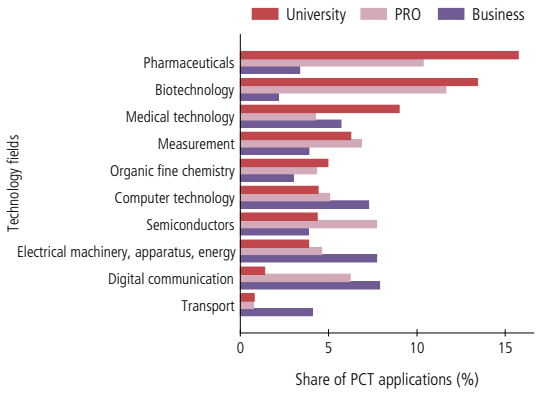
The regional share for PRO applicants is more skewed than for university applicants. In Africa, 81.3% of applications were filed by a single PRO, the Council for Scientific and Industrial Research (CSIR) in South Africa. The top three PRO applicants in the LAC region accounted for 77.3% of all PRO applications in the region. Similarly, 70.8% of applications filed by PROs from Oceania were from only two applicants. Although Europe showed a relatively even distribution for university applicants, its regional share for PRO applicants was heavily skewed toward the top three: CEA (22.7%), Fraunhofer-Gesellschaft zur Forderung der Angewandten Forschung E.V. (15.3%) and CNRS (10.7%) in 2011–13.

The top three PRO applicants in 2011-13 worldwide were from Europe. France's CEA placed first with 1,181 PCT applications. It also recorded the largest growth in the absolute number of applications (+533), going from 648 applications in 2005-07 to 1,181 in 2011-13.

University and PRO filings are concentrated in science-based technology fields

Of the 35 technology fields, university applicants filed nearly half their applications (49.4%) in their top five; pharmaceuticals (15.7%), followed by biotechnology (13.4%), medical technology (9%), measurement (6.3%) and organic fine chemistry (5%) (figure ST9). Applications by PROs were almost as concentrated among their top five (42.8%), biotechnology (11.6%), pharmaceuticals (10.4%), semiconductors (7.7%), measurement (6.9%) and digital communication (6.2%). In contrast, PCT applications by businesses spread more evenly so that the top five for businesses accounted for 32.7% of their applications. Overall and unsurprisingly, applications by universities and—somewhat less so—PROs were concentrated in science-based technology fields, especially the biological sciences and chemistry.

Figure ST9: Share of selected technology fields in PCT applications by type of applicant, 2011-13



Note: The ten technology fields presented are a combination of the top five technology fields of each of the three types of applicants: universities, PROs and businesses.

Source: WIPO statistics database, March 2014

PROs enter the national phase more often than average

From 2005 to 2009—the latest year with complete data on subsequent NPEs—71% of applications entered the PCT national phase in at least one country (figure ST10). The university share (67%) was below this average, and the PRO share (75%) above. Among the 20 selected origins, all high-income countries had a higher overall share of patent families with NPEs than middle-income countries, except for the Republic of Korea and Spain. But this distinction is less obvious for the university and PRO shares.

The university share was below the overall share of 71% for 14 of the 20 selected countries. Israel had the highest share of patent families with NPEs (85%), followed by Belgium (80%), Canada (79%), Japan (76%) and Argentina (75%). The US (70%) was also below the overall share (71%), but above the university share of 67%. By contrast, Brazil (43%) and Spain (36%) saw a minority of PCT applications result in NPEs.

Table ST2: Top five PRO PCT applicants per region, 2005-13

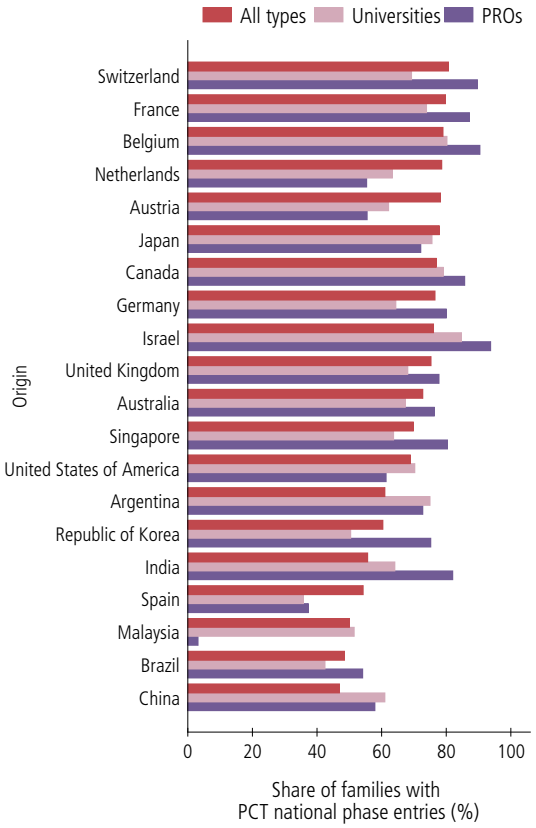
			Period			Regional share
Region	**Name**	**Country**	**2005-07**	**2008-10**	**2011-13**	**2011-13 (%)**
Africa	CSIR	South Africa	24	21	26	81.3
	SOUTH AFRICAN MEDICAL RESEARCH COUNCIL	South Africa	5	3	2	6.3
	AGRICULTURAL RESEARCH COUNCIL	South Africa	0	1	1	3.1
	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH	Namibia	0	0	1	3.1
	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Morocco	0	0	1	3.1
	Others		3	3	1	3.1
	Total		32	28	32	100.0
Asia	CHINA ACADEMY OF TELECOMMUNICATIONS TECHNOLOGY	China	0	0	517	9.3
	AGENCY OF SCIENCE, TECHNOLOGY AND RESEARCH	Singapore	332	447	389	7.0
	INSTITUTE OF MICROELECTRONICS OF CHINESE ACADEMY OF SCIENCES	China	0	1	374	6.7
	MIMOS BERHAD	Malaysia	0	162	336	6.0
	ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE OF KOREA	Republic of Korea	584	1,071	307	5.5
	Others		2,921	2,630	3,644	65.5
	Total		3,837	4,311	5,567	100.0
Europe	COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	France	648	717	1,181	22.7
	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany	641	849	798	15.3
	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	France	387	451	559	10.7
	INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)	France	101	209	319	6.1
	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	Spain	199	281	278	5.3
	Others		1,887	2,434	2,072	39.8
	Total		3,863	4,941	5,207	100.0
LAC	EMPRESA BRASILEIRA DE PESQUISA AGROPECUARIA - EMBRAPA	Brazil	1	8	24	36.4
	CONSEJO NACIONAL DE INVESTIGACIONES CIENTIFICAS Y TECNICAS (CONICET)	Argentina	0	18	16	24.2
	CENTRO DE INVESTIGACION Y DE ESTUDIOS AVANZADOS DEL INSTITUTO POLITECNICO NACIONAL	Mexico	4	4	11	16.7
	CENTRO BRASILEIRO DE PESQUISAS FISICAS - CBPF	Brazil	1	2	4	6.1
	INSTITUTO MEXICANO DEL PETROLEO	Mexico	10	9	2	3.0
	Others		20	14	9	13.6
	Total		36	55	66	100.0
North America	U.S.A., AS REPRESENTED BY THE SECRETARY DEPT. OF HEALTH AND HUMAN SERVICES	United States of America	364	324	279	14.0
	BATTELLE MEMORIAL INSTITUTE	United States of America	119	138	166	8.3
	MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH	United States of America	116	174	138	6.9
	CLEVELAND CLINIC FOUNDATION	United States of America	95	87	99	5.0
	UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY	United States of America	125	94	89	4.5
	Others		1,450	1,531	1,226	61.4
	Total		2,269	2,348	1,997	100.0
Oceania	COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION	Australia	154	182	149	53.8
	NATIONAL ICT AUSTRALIA LIMITED	Australia	21	41	47	17.0
	MURDOCH CHILDRENS RESEARCH INSTITUTE	Australia	3	9	10	3.6
	AUSTRALIAN NUCLEAR SCIENCE & TECHNOLOGY ORGANISATION	Australia	10	5	9	3.2
	WALTER AND ELIZA HALL INSTITUTE OF MEDICAL RESEARCH	Australia	19	24	8	2.9
	Others		137	99	54	19.5
	Total		344	360	277	100.0
Total			**10,381**	**12,043**	**13,146**	

Note: LAC (Latin America and the Caribbean). PCT data are based on the publication date and first-named applicant. PROs include private nonprofit organizations and hospitals.

Source: WIPO statistics database, March 2014

The PRO share was above the overall share of 71% for 13 of the 20 countries. It was also above 80% for 8 of the selected countries and even equal or above 90% for Israel (94%), Belgium (90%) and Switzerland (90%). The 3 countries having seen the most published applications from PROs in 2013 (see figure 3) had quite different shares: 87% for France, 75% for the Republic of Korea and 58% for China. Spain (37%) and Malaysia (3%) had a minority of applications by PROs result in NPEs.

Figure ST10: Share of patent families with PCT applications that entered the national phase between 2005 and 2009 for selected origins, by type of applicant



Note: PCT data are based on the publication date and first-named applicant. Universities include all types of educational institutions, and PROs include private nonprofit organizations and hospitals. Counts are based on university, PRO and corporate applicants only (thus excluding natural persons) and on all applicants named in PCT applications.

Source: WIPO statistics database, March 2014

Conclusion

While accounting for about 7 to 8% of total PCT applications, PROs and especially universities rely heavily on the PCT system in their international patenting strategies. The 18-month international phase offers them valuable time to assess the commercial potential of their inventions and, possibly, find a commercial partner.

Despite several similarities, universities and PROs also tend to use the PCT system quite differently.

Universities continue to file an increasing number of PCT applications over time. In 2013, almost 10,000 applications filed by universities were published, representing 5.1% of all published applications. On average, university filings increased faster than overall filings, from both high-income and middle-income countries. Even though middle-income—and especially Chinese—universities saw the fastest growth in recent years, US universities remained by far the largest source. On average, they also filed more applications per university than Asian and European universities. Even if universities largely file alone, their share of filings with co-applicants was more than twice that for all PCT applications. But they entered the national phase less often than the overall PCT average. Universities filed the bulk of their applications within a limited number of technology fields, especially the science-based technology fields.

PROs also filed an increasing number of applications, to reach nearly 4,500 published applications in 2013, representing 2.3% of total PCT publications. The share remained stable for high-income countries, but in middle-income countries, it almost quadrupled over the past five years, to reach one-fifth of total PRO PCT filings in 2013. China accounted for the bulk of this increase and was the second largest origin for PRO filings in 2013, after France. While the top three PROs were from Europe, Asia accounted for the largest number of PRO applicants and applications. Compared with universities and all PCT applicants, PROs had the highest share of filings with co-applicants and the highest share of applications that entered the national phase. Finally, similar to universities, PROs filed almost half their applications in five—mostly science-based—technology fields.[19]

19 For a complementary statistical and economic treatment of the matter, please see Chapter 4 "Harnessing public research for innovation – the role of IP" of the WIPO World Intellectual Property Report 2011 available on WIPO's website.

SECTION A — STATISTICS ON THE INTERNATIONAL PHASE: PCT APPLICATIONS

Section A covers the international phase of the PCT procedure. It provides a brief overview of global trends and then focuses on PCT applications by receiving office, country of origin and geographical region. It also contains data by type of applicant and field of technology—and for selected receiving offices and origins. The statistical annex provides data for all offices and origins.

A.1

Overview

A.1.1 Overall trend

An estimated 205,300 PCT applications were filed worldwide in 2013, up 5.1% from 2012 (figure A.1.1). Thanks to the fourth consecutive year of growth, this was the first time that more than 200,000 PCT applications were filed in one year. Two origins contributed most to this growth: the US with 56% of total growth and China with 29%.

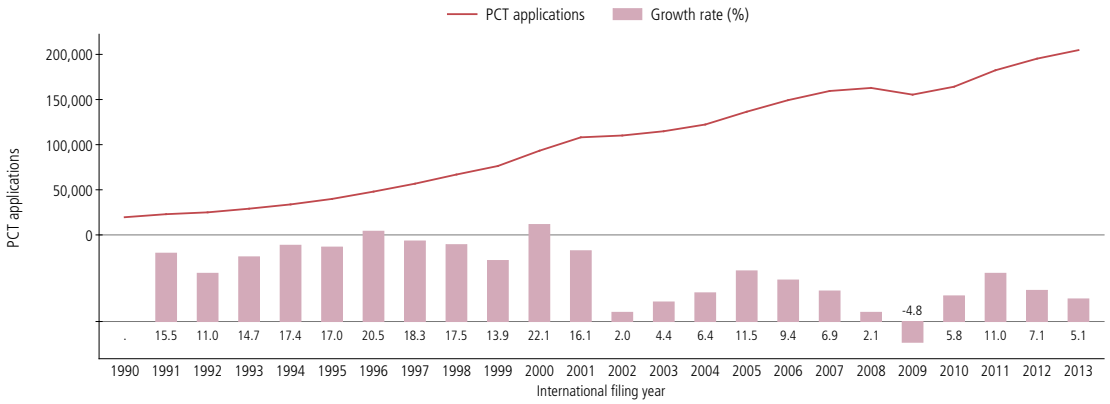
In 2013, almost three-quarters of receiving offices (ROs) (83 of the 116) had at least one filing, and a majority (47) had more filings than in 2012.[20]

A.1.2 Top receiving offices

The top 15 ROs together received almost 96% of all applications filed in 2013 (figure A.1.2.1). With 57,793 filings, the United States Patent and Trademark Office (USPTO) received the most applications, followed by the Japan Patent Office (JPO) with 43,075, and the European Patent Office (EPO) with 32,038.

For 10 of the top 15 ROs, the number of filings increased over 2012. The annual growth was strongest at Israel's office (+23.9%), the State Intellectual Property Office of the People's Republic of China (SIPO, +15.1%) and the USPTO (+11.2%). The offices with the sharpest declines were Finland (–6.7%), the United Kingdom (UK, –5.7%) and Australia (–5.5%). The largest increases in volumes were for the USPTO (+5,798 applications), SIPO (+3,018) and the Korean Intellectual Property Office (KIPO) (+573).

Figure A.1.1: Trend in PCT applications

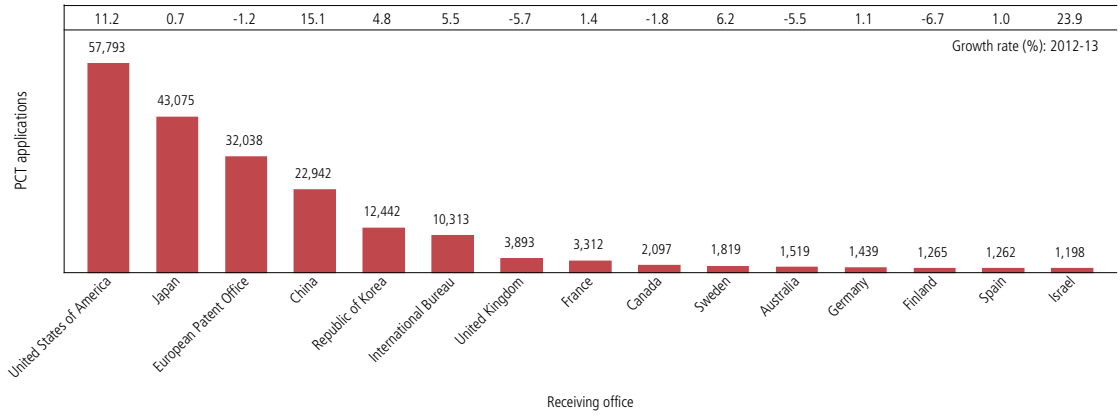


Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

20 An RO is a patent office, or the International Bureau (IB) of WIPO, with which the PCT application is filed.

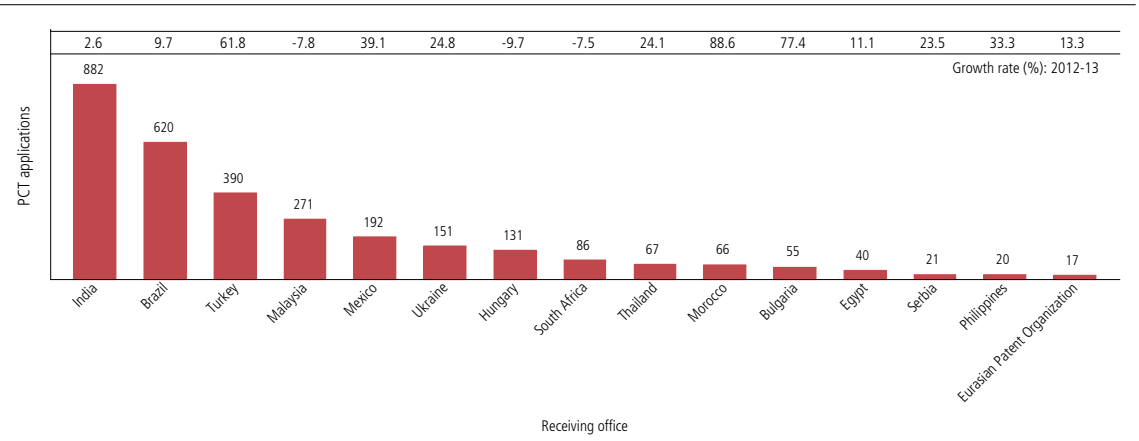
Figure A.1.2.1: PCT applications for top 15 receiving offices, 2013



Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

Figure A.1.2.2: PCT applications for selected offices of middle-income countries, 2013



Note: Data for 2013 are WIPO estimates. China is not included in this figure because it appears in Figure A.1.2, but also because of the significant difference between the number of PCT applications received by SIPO and by the ROs of other middle-income countries.

Source: WIPO statistics database, March 2014

In 2013, the offices of India (882), Brazil (620) and Turkey (390) received the most PCT applications among middle-income countries (figure A.1.2.2).[21] Filings increased at 12 of the 15 ROs, with Morocco (+88.6%) and Bulgaria (+77.4%) having the strongest annual growth. Turkey (+149 applications), Brazil (+55) and Mexico (+54) saw the largest increases in filings.

As for all PCT applicants, those from middle-income countries can choose to file their PCT applications with the International Bureau (IB) acting as RO. For some countries, such as Nigeria and Oman, the IB is even the only competent RO. In 2013, the IB's RO received 1,429 applications from middle-income countries, up 26.8% from 2012. Among middle-income applicants, those from India—with 555 filings—filed the most applications with the IB, followed by South Africa (266) and China (186).

21 This report uses the World Bank income classification based on gross national income per capita to refer to particular country groups. (See Data Description for further information.)

A.2

PCT APPLICATIONS BY COUNTRY OF ORIGIN

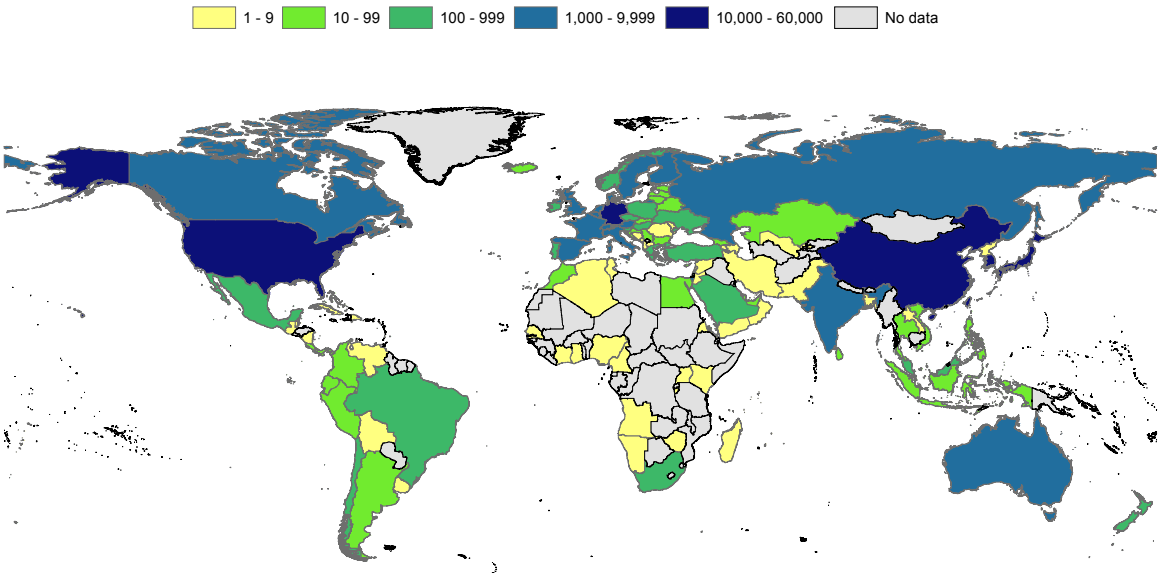
Counts here are based on the international filing date and country of residence of the first-named applicant. A statistical table containing all origins is provided in the annex.

A.2.1 World map

Even though at least one PCT application was filed in 124 countries in 2013, most applications originated from just a few countries (figure A.2.1). Applicants from Japan and the US combined filed almost half the total. When China, Germany and the Republic of Korea are added, the top five countries of origin collectively filed three-quarters of all applications. By contrast, the levels are relatively low in Africa, Latin America and parts of Asia and Europe.

High-income countries accounted for 87.2% of total PCT filings, and middle-income countries 12.8%. China, with 21,516 applications, was by far the largest user of the PCT system among middle-income countries, followed by India (1,392), Turkey (835), Brazil (661), South Africa (350) and Malaysia (310). Low-income countries filed 20 PCT applications, led by Kenya (8), Bangladesh (3) and Zimbabwe (3).

Figure A.2.1: PCT applications by country of origin, 2013



Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

Figure A.2.2.1: Trend in PCT applications for the top 10 origins

Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

A.2.2 Top origins

The top 10 origins represented 87% of total filings in 2013 (figure A.2.2.1). The US again filed the most applications. Its filings grew steadily from 1990 until the early 2000s, and then increased unevenly. In 2013, applications filed by US applicants rose by 10.8% to 57,239, the fastest growth since 2001.

With its filings increasing since the early 1990s, Japan became the second largest contributor of applications in 2003. After strong annual growth between 2010 and 2012, Japanese filings rose only 0.6% in 2013, to 43,918.

Table A.2.2.2: PCT applications for the top countries of origins by region

Region	Name	Year of international filing					Regional share	Change from
		2009	2010	2011	2012	2013	2013 (%)	2012 (%)
Africa	South Africa	375	295	319	314	350	66.7	11.5
	Morocco	24	20	19	39	66	12.6	69.2
	Egypt	33	48	33	41	49	9.3	19.5
	Others	53	73	81	63	60	11.4	-4.8
	Total	485	436	452	457	525	0.3*	14.9
Asia	Japan	29,802	32,150	38,875	43,660	43,918	52.7	0.6
	China	7,900	12,296	16,402	18,617	21,516	25.8	15.6
	Republic of Korea	8,035	9,669	10,447	11,847	12,386	14.9	4.5
	Israel	1,555	1,475	1,451	1,376	1,611	1.9	17.1
	India	961	1,286	1,331	1,314	1,392	1.7	5.9
	Singapore	593	641	661	708	837	1.0	18.2
	Turkey	389	480	539	535	835	1.0	56.1
	Malaysia	224	350	263	289	310	0.4	7.3
	Saudi Arabia	70	81	147	293	187	0.2	-36.2
	Thailand	20	72	67	67	72	0.1	7.5
	Others	186	210	199	284	265	3.0	15.2
	Total	49,735	58,710	70,382	78,990	83,329	40.6*	5.5
Europe	Germany	16,795	17,568	18,852	18,764	17,927	30.9	-4.5
	France	7,237	7,246	7,438	7,851	7,899	13.6	0.6
	United Kingdom	5,044	4,891	4,848	4,895	4,865	8.4	-0.6
	Switzerland	3,672	3,728	4,008	4,192	4,367	7.5	4.2
	Netherlands	4,462	4,063	3,503	4,071	4,198	7.2	3.1
	Sweden	3,568	3,314	3,462	3,587	3,960	6.8	10.4
	Italy	2,652	2,658	2,695	2,863	2,872	5.0	0.3
	Finland	2,122	2,138	2,079	2,326	2,103	3.6	-9.6
	Spain	1,564	1,772	1,729	1,700	1,752	3.0	3.1
	Austria	1,024	1,141	1,346	1,320	1,263	2.2	-4.3
	Others	5,801	5,845	6,296	6,573	6,791	32.3	2.0
	Total	53,941	54,364	56,256	58,142	57,997	28.2*	-0.2
Latin America & the Caribbean	Brazil	492	488	564	589	661	47.1	12.2
	Mexico	194	191	225	191	233	16.6	22.0
	Barbados	96	84	110	165	150	10.7	-9.1
	Chile	54	88	118	118	144	10.3	22.0
	Colombia	63	46	57	72	82	5.8	13.9
	Argentina	10	16	25	27	26	1.9	-3.7
	Others	97	92	105	126	107	9.5	-13.1
	Total	1,006	1,005	1,204	1,288	1,403	0.7*	8.9
North America	United States of America	45,628	45,031	49,112	51,643	57,239	95.3	10.8
	Canada	2,527	2,698	2,945	2,758	2,851	4.7	3.4
	Total	48,155	47,729	52,057	54,401	60,090	29.3*	10.5
Oceania	Australia	1,740	1,772	1,740	1,707	1,602	83.0	-6.2
	New Zealand	301	309	328	304	324	16.8	6.6
	Others	7	6	2	2	4	0.2	100.0
	Total	2,048	2,087	2,070	2,013	1,930	0.9*	-4.1
Unknown		32	9	13	21	26	n.a.	23. 8
Total		**155,402**	**164,340**	**182,434**	**195,312**	**205,300**	**n.a.**	**5.1**

Note: * share of world total. N.a. (not applicable). Data for 2013 are WIPO estimates. The table shows the top countries having filed more than 20 PCT applications in 2013 for each region (with a maximum of 10 countries per region).

Source: WIPO statistics database, March 2014

With 21,516 applications filed and annual growth of 15.6%, China had its eleventh consecutive year of double-digit growth, to become the third largest filer in 2013. Since 1990, German applicants increased their filings each year until the economic downturn of 2009. Since then, German filings have not exceeded their 2008 level, and 2013 was the second consecutive year of decline. Applicants from the Republic of Korea have been the fifth largest filers since 2010. Among the top five origins, it is the only country with no annual declines in filings since 1990.

All five countries between the sixth and tenth positions are in Europe. France and Switzerland have had a fairly continual growing number of applications since 1990. Netherlands, Sweden and the UK have had several years of declines since the early 2000s and have not yet recovered their pre-2009 filing levels.

Table A.2.2.2 shows the top countries having filed more than 20 PCT applications in 2013 for each region (with a maximum of 10 countries per region) based on the United Nations definition of regions. In 2013, applications were filed by applicants from 124 countries, of which 76 saw an increase in flings and 45 a decrease over 2012.

Since 2010, Asia has filed the most applications. Asian countries filed 40.6% of total applications in 2013, followed by North America (29.3%) and Europe (28.2%). Africa, Latin America & the Caribbean and Oceania each had less than 1% of total filings.

The top five origins combined accounted for two-thirds of all European filings, but more than 90% for each of the other regions.

A.2.3 PCT applications as a share of resident applications

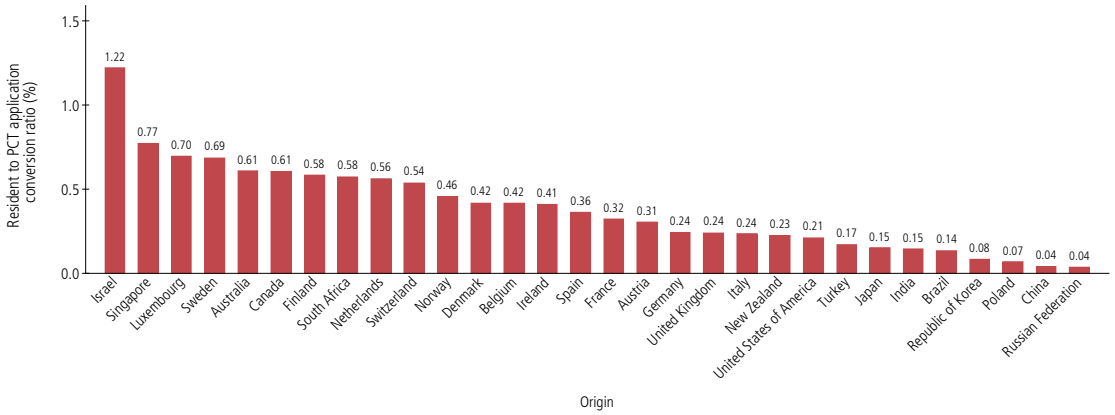
Figure A.2.3 presents a hypothetical "conversion ratio" which reflects the proportion of resident patent applications converted into PCT applications, defined as the total number of PCT applications divided by the total number of resident applications (including regional applications). Resident application data are lagged by one year because applicants have up to 12 months from the filing date of the earlier national filing to submit a PCT application.[22] For example, to derive the conversion ratio for Australia, its 2013 applications (1,602) are divided by the 2012 resident applications (2,627), to equal 0.61.

In theory, the conversion ratio should be between zero and one. But it may exceed one because some applications do not have priority claims associated with prior resident filings. For example, an Israeli applicant may forgo filing an application at the Israel Patent Office, but opt to file a first application at the USPTO, after which it is converted into a PCT application.

In 2013, applicants from Israel (1.22), Singapore (0.77) and Luxembourg (0.70) had the highest conversion ratios (figure A.2.3). By contrast, fewer than 5% of resident applications filed by applicants from China (0.04) and the Russian Federation (0.04) were converted into PCT applications. The conversion ratios of the top three filers—China (0.04), Japan (0.15) and the US (0.21)—remained stable in relation to 2012.

22 Strictly speaking, the calculation of the conversion ratio should be based on "first" filings at national offices (excluding "subsequent" filings). But the data collected from most patent offices do not distinguish between first and subsequent filings. The data in Figure A.2.4 are therefore based on total resident patent filings.

Figure A.2.3: Conversion ratio of resident patent applications to PCT applications, 2013



Note: The ratio is defined, for the top 30 origins, as PCT applications filed in 2013 divided by resident patent applications (including regional applications) filed in 2012. Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

A.3

PCT APPLICANTS

This subsection provides data on the distribution of applicants, applications by ownership type, share of applications with foreign co-applicants and top applicants. Applications by type of applicant are based on international filing date and the country of residence of the first-named applicant. Because of confidentiality requirements, the list of top applicants is based on the publication date.[23]

A.3.1 Distribution of applicants

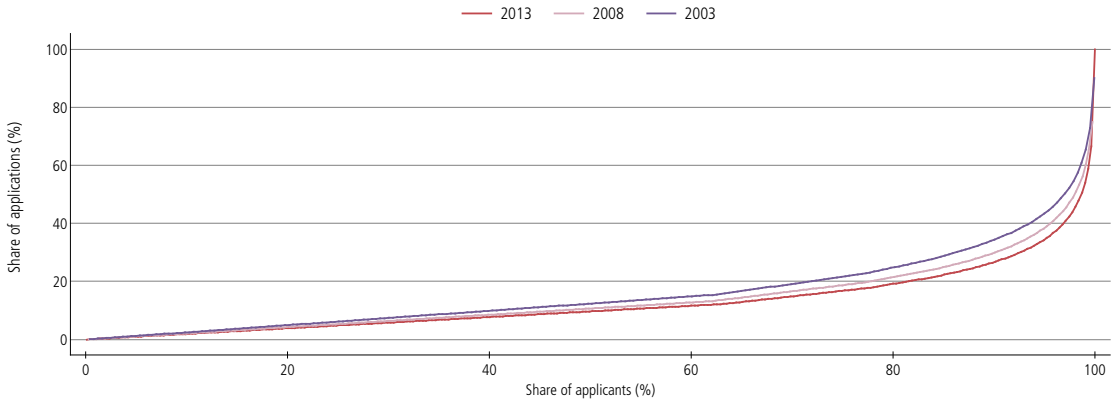
In 2013, the 192,633 PCT applications published came from 45,616 applicants. Precisely 20% of the applicants accounted for 80.8% of applications published in 2013, showing that the vast majority of applicants file substantially less than the top applicants (figure A.3.1.1). In 2003, the same share of applicants (20%) filed 75.1% of applications, so the top filers are increasing their share.

Figure A.3.1.2 shows the distribution of PCT applications for the top 30 origins is broken down by four types of applicant: businesses, individuals, universities, and government and research institutions.

In 2013, business applicants accounted for 85% of published PCT applications, followed by individuals (7.6%), universities (5.1%), and government and research institutions (2.3%). But the distribution varied greatly across origins. Businesses accounted for more than 95% of applications for residents of Finland, Sweden, and Japan—but for less than half from the Russian Federation and South Africa.

Individuals accounted for a majority of applications in the Russian Federation (63.6%). Universities accounted for a large share of applications for Singapore (18.9%) and Spain (17.6%). Government and research institutions had a high share of applications originating in Singapore (17%) and France (9.8%).

Figure A.3.1.1: Distribution of PCT applicants and published PCT applications

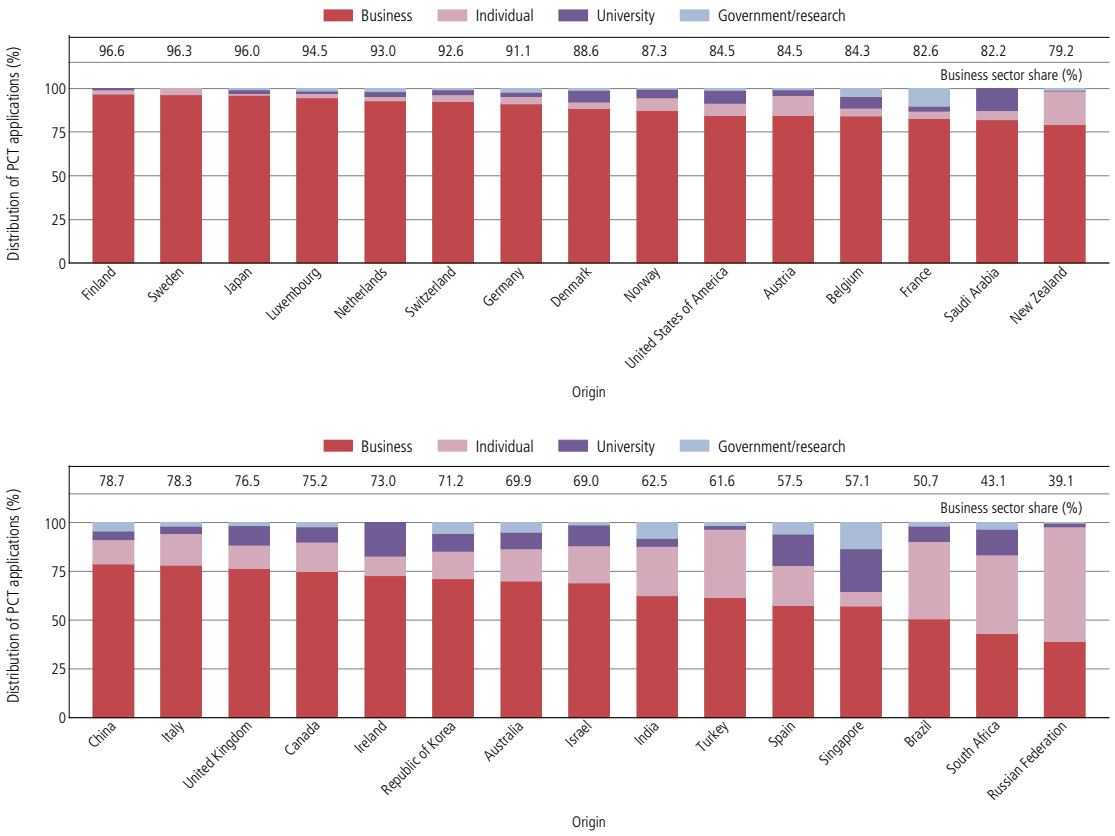


Note: Counts are based on corporate applicants only (thus excluding natural persons). Because of confidentiality requirements, data are based on the publication date.

Source: WIPO statistics database, March 2014

23 For the majority of PCT applications, the difference between the international filing date and the publication date is about six months.

Figure A.3.1.2: Distribution of PCT applications by type of applicant for the top 30 origins, 2013



Note: Government and research institutions include private nonprofit organizations and hospitals. The university sector includes all educational institutions. Because of confidentiality requirements, data are based on the publication date.

Source: WIPO statistics database, March 2014

A.3.2 Share of PCT applications with foreign co-applicants

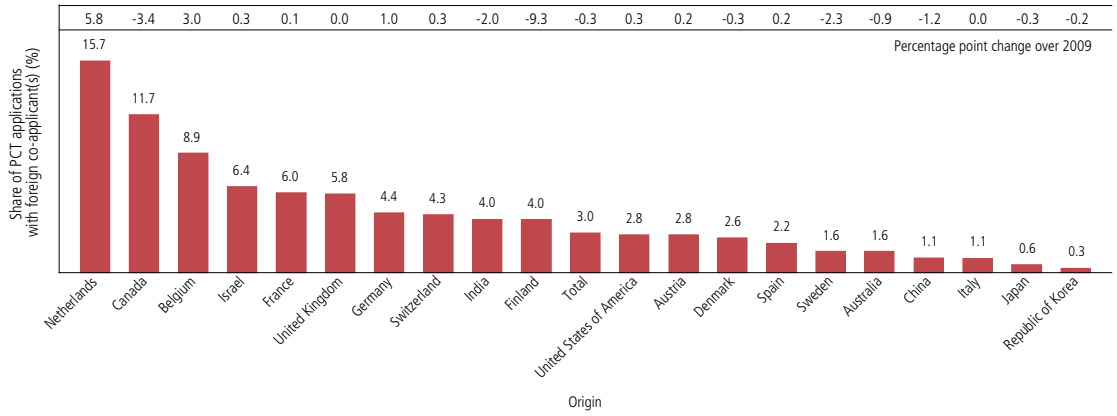
The share of applications jointly filed by applicants from different countries is calculated based on all applicants named in applications published in 2013 (not just first-named applicants) that are corporations (excluding applicants that are natural persons).

Among the top 20 origins, the Netherlands recorded the largest share of foreign co-applicants; 15.7% of its applications listed at least one foreign co-applicant (figure A.3.2). In second place was Canada with 11.7%, followed by Belgium (8.9%), Israel (6.4%) and France (6%). Only 0.6% of applications from Japan and 0.3% from the Republic of Korea had foreign co-applicants.

Over the past five years, the share of applications with foreign co-applicants has not changed substantially for the majority of the top 20 origins. Notable exceptions are the 5.8 percentage point increase over 2009 for the Netherlands and the 3.0 percentage point increase for Belgium. Finland's share of foreign co-applicants fell by 9.3 percentage points and Canada's by 3.4.

International collaboration among applicants from different countries remained fairly low in 2013, with only 3% of applications having at least two joint corporate applicants from different countries. This share increased slightly (+0.3%) over the past five years.

Figure A.3.2: Share of PCT applications with foreign co-applicants, 2013



Note: A methodology was used to compute the shares this year. Counts are based on corporate applicants only (thus excluding natural persons) and on all applicants named in PCT applications. Because of confidentiality requirements, PCT data are based on the publication date.

Source: WIPO statistics database, March 2014

A.3.3 Top PCT applicants

Business sector

In 2013 Panasonic Corporation of Japan became the top business applicant, with 2,839 applications published (table A.3.3.1). ZTE Corporation of China moved to the second position with 2,309 applications published. Both remained in the top positions despite recording sharp declines in the number of published applications among the top 50 applicants (–197 for Panasonic and –1,611 for ZTE). The two have shared the top position since 2009, with Panasonic at the top in 2009, 2010 and 2013, and ZTE in 2011 and 2012.

Three-quarters of the top 50 applicants increased their published applications in 2013, with Intel Corporation (+1,212), Shenzhen China Star Optoelectronics Technology Co., Ltd (+712) and Qualcomm Incorporated (+668) recording the largest ones.

Japan had the largest number of applicants ranked among the top 50 applicants, with 19 applicants, followed by 16 applicants from the US and 3 from China, Germany and the Republic of Korea.

Table A.3.3.1: Top 50 PCT applicants: businesses, 2013

Overall rank	Changed position from 2012	Applicants	Origin	Applications	Change from 2012
1	1	PANASONIC CORPORATION	Japan	2,839	-197
2	-1	ZTE CORPORATION	China	2,309	-1,611
3	2	HUAWEI TECHNOLOGIES CO., LTD.	China	2,110	274
4	3	QUALCOMM INCORPORATED	United States of America	2,050	668
5	14	INTEL CORPORATION	United States of America	1,871	1,212
6	-3	SHARP KABUSHIKI KAISHA	Japan	1,839	-163
7	-3	ROBERT BOSCH CORPORATION	Germany	1,809	-48
8	-2	TOYOTA JIDOSHA KABUSHIKI KAISHA	Japan	1,698	40
9	1	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,468	266
10	-1	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	1,423	201
11	-3	SIEMENS AKTIENGESELLSCHAFT	Germany	1,348	70
12	0	MITSUBISHI ELECTRIC CORPORATION	Japan	1,313	270
13	3	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	1,198	452
14	-1	NEC CORPORATION	Japan	1,189	185
15	-4	LG ELECTRONICS INC.	Republic of Korea	1,178	80
16	-2	FUJIFILM CORPORATION	Japan	1,003	145
17	7	SONY CORPORATION	Japan	916	342
17	63	SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO., LTD	China	916	712
19	-4	HITACHI, LTD.	Japan	855	83
20	1	MICROSOFT CORPORATION	United States of America	808	168
21	-4	NOKIA CORPORATION	Finland	806	132
22	0	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	United States of America	774	155
23	-3	BASF SE	Germany	698	45
24	4	INTERNATIONAL BUSINESS MACHINES CORPORATION	United States of America	690	160
25	26	NISSAN MOTOR CO., LTD.	Japan	644	332
26	-8	FUJITSU LIMITED	Japan	637	-34
27	7	GOOGLE, INC.	United States of America	629	203
28	-5	3M INNOVATIVE PROPERTIES COMPANY	United States of America	605	-1
29	8	APPLE COMPUTER, INC.	United States of America	585	183
30	-5	ALCATEL LUCENT	France	540	-27
31	-1	CANON KABUSHIKI KAISHA	Japan	530	48
32	16	GENERAL ELECTRIC COMPANY	United States of America	518	197
33	-2	MURATA MANUFACTURING CO., LTD.	Japan	513	51
34	8	KONICA MINOLTA, INC.	Japan	467	89
35	22	HALLIBURTON ENERGY SERVICES, INC.	United States of America	453	163
36	10	LG CHEM, LTD.	Republic of Korea	449	97
37	2	KABUSHIKI KAISHA TOSHIBA	Japan	444	46
38	-11	MITSUBISHI HEAVY INDUSTRIES, LTD.	Japan	443	-106
39	5	KYOCERA CORPORATION	Japan	424	71
40	1	COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	France	419	28
41	7	NOKIA SIEMENS NETWORKS OY	Finland	412	91
42	8	DOW GLOBAL TECHNOLOGIES INC.	United States of America	401	85
43	1	UNIVERSITY OF CALIFORNIA	United States of America	398	45
44	-9	E.I. DUPONT DE NEMOURS AND COMPANY	United States of America	395	-27
45	30	PIONEER CORPORATION	Japan	383	170
46	-6	BAKER HUGHES INCORPORATED	United States of America	381	-16
47	-21	SUMITOMO CHEMICAL COMPANY, LIMITED	Japan	376	-184
48	-12	PROCTER & GAMBLE COMPANY	United States of America	375	-37
49	-20	SANYO ELECTRIC CO., LTD.	Japan	374	-155
50	1.290	UNITED TECHNOLOGIES CORPORATION	United States of America	370	356

Note: n.a. means not applicable. Because of confidentiality requirements, data are based on publication date. Due to a technical issue, data may slightly differ from the top applicants list released in March 2014.

Source: WIPO statistics database, April 2014.

Table A.3.3.2: Top 50 PCT applicants: universities, 2013

Overall rank	Changed position from 2012	Applicants	Origin	Applications	Change from 2012
43	1	UNIVERSITY OF CALIFORNIA	United States of America	398	45
95	10	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	United States of America	219	49
147	11	COLUMBIA UNIVERSITY	United States of America	133	17
164	-40	HARVARD UNIVERSITY	United States of America	121	-24
170	-8	UNIVERSITY OF TEXAS SYSTEM	United States of America	119	5
177	-49	JOHNS HOPKINS UNIVERSITY	United States of America	116	-25
204	34	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	104	24
212	-19	LELAND STANFORD JUNIOR UNIVERSITY	United States of America	101	5
224	30	CORNELL UNIVERSITY	United States of America	95	20
235	-29	CALIFORNIA INSTITUTE OF TECHNOLOGY	United States of America	91	0
243	-30	UNIVERSITY OF FLORIDA	United States of America	89	0
260	168	POSTECH FOUNDATION	Republic of Korea	83	36
269	-86	SEOUL NATIONAL UNIVERSITY	Republic of Korea	80	-21
281	-77	PEKING UNIVERSITY	China	77	-15
286	9	UNIVERSITY OF TOKYO	Japan	76	11
286	19	ISIS INNOVATION LIMITED	United Kingdom	76	13
288	110	NANYANG TECHNOLOGICAL UNIVERSITY	Singapore	75	25
303	135	UNIVERSITY OF PENNSYLVANIA	United States of America	72	26
307	17	UNIVERSITY OF MICHIGAN	United States of America	71	11
311	53	NATIONAL UNIVERSITY OF SINGAPORE	Singapore	69	15
353	-41	TSINGHUA UNIVERSITY	China	60	-2
357	7	TOHOKU UNIVERSITY	Japan	59	5
362	-43	KYOTO UNIVERSITY	Japan	58	-3
362	-62	YONSEI UNIVERSITY	Republic of Korea	58	-6
366	115	KOREA UNIVERSITY	Republic of Korea	57	15
374	176	NEW YORK UNIVERSITY	United States of America	56	19
401	80	UNIVERSITY OF WASHINGTON	United States of America	53	11
410	62	OSAKA UNIVERSITY	Japan	52	9
410	18	KYUSHU UNIVERSITY	Japan	52	5
425	25	ARIZONA STATE UNIVERSITY	United States of America	50	5
425	-70	UNIVERSITY OF UTAH	United States of America	50	-7
434	4	WISCONSIN ALUMNI RESEARCH FOUNDATION	United States of America	49	3
442	117	DANMARKS TEKNISKE UNIVERSITET	Denmark	48	12
463	391	AJOU UNIVERSITY	Republic of Korea	45	22
474	167	UNIVERSITY OF MINNESOTA	United States of America	44	13
474	-13	UNIVERSITY OF COLORADO	United States of America	44	0
474	167	UNIVERSITY OF PITTSBURGH	United States of America	44	13
487	-59	UNIVERSITY OF SOUTHERN CALIFORNIA	United States of America	43	-4
497	-82	STATE UNIVERSITY OF NEW YORK	United States of America	42	-6
497	21	OHIO STATE UNIVERSITY RESEARCH FOUNDATION	United States of America	42	3
497	89	VANDERBILT UNIVERSITY	United States of America	42	8
521	-192	PURDUE UNIVERSITY	United States of America	40	-19
529	170	DARTMOUTH COLLEGE	United States of America	39	11
537	-109	UNIVERSITY OF NORTH CAROLINA	United States of America	38	-9
537	85	NORTHWESTERN UNIVERSITY	United States of America	38	6
537	13	YALE UNIVERSITY	United States of America	38	1
557	198	NORTHEASTERN UNIVERSITY	United States of America	37	11
557	29	YEDA RESEARCH AND DEVELOPMENT CO. LTD.	Israel	37	3
557	48	STATE UNIVERSITY OF NEW JERSEY	United States of America	37	4
557	-65	HEBREW UNIVERSITY OF JERUSALEM	Israel	37	-4
571	-53	DUKE UNIVERSITY	United States of America	36	-3

Note: The university sector includes all types of educational institutions. Because of confidentiality requirements, data are based on publication date. Due to a technical issue, data may slightly differ from the top applicants list released in March 2014.

Source: WIPO statistics database, April 2014.

Table A.3.3.3: Top 30 PCT applicants: government and research institutions, 2013

Overall rank	Changed position from 2012	Applicants	Origin	Applications	Change from 2012
40	1	COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	France	419	28
84	-23	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany	248	-26
92	11	CHINA ACADEMY OF TELECOMMUNICATIONS TECHNOLOGY	China	227	56
118	-34	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	France	165	-31
140	-29	INSTITUTE OF MICROELECTRONICS OF CHINESE ACADEMY OF SCIENCES	China	139	-22
184	-31	INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)	France	114	-4
212	-41	AGENCY OF SCIENCE, TECHNOLOGY AND RESEARCH	Singapore	101	-7
226	-20	U.S.A., AS REPRESENTED BY THE SECRETARY DEPT. OF HEALTH AND HUMAN SERVICES	United States of America	94	3
235	11	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH	India	91	13
243	-5	NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY	Japan	89	9
254	-96	ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE OF KOREA	Republic of Korea	87	-29
264	-141	MIMOS BERHAD	Malaysia	82	-65
315	-107	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	Spain	68	-22
333	75	KOREA INSTITUTE OF INDUSTRIAL TECHNOLOGY	Republic of Korea	64	15
362	243	KOREA INSTITUTE OF ENERGY RESEARCH	Republic of Korea	58	25
390	-61	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.	Germany	54	-5
390	309	KOREA ELECTRONICS TECHNONLOGY INSTITUTE	Republic of Korea	54	26
390	-110	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK TNO	Netherlands	54	-13
401	-72	BATTELLE MEMORIAL INSTITUTE	United States of America	53	-6
401	566	JAPAN SCIENCE AND TECHNOLOGY AGENCY	Japan	53	33
410	5	COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION	Australia	52	4
419	-167	KOREA RESEARCH INSTITUTE OF BIOSCIENCE AND BIOTECHNOLOGY	Republic of Korea	51	-25
463	559	KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	45	26
509	29	CLEVELAND CLINIC FOUNDATION	United States of America	41	3
509	-94	MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH	United States of America	41	-7
529	57	KOREA INSTITUTE OF MACHINERY & MATERIALS	Republic of Korea	39	5
621	-171	RIKEN (THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH)	Japan	33	-12
639	-158	KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOLOGY	Republic of Korea	32	-10
639	88	UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY	United States of America	32	5
683	572	SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH	United States of America	30	15

Note: Government and research institutions include private non-profit organizations and hospitals. Because of confidentiality requirements, data are based on publication date. Due to a technical issue, data may slightly differ from the top applicants list released in March 2014.

Source: WIPO statistics database, April 2014.

University sector

The University of California remained the largest filer among educational institutions, with 398 published applications in 2013, followed by Massachusetts Institute of Technology (219) and Colombia University (133) (table A.3.3.2). The University of California was the only educational institution that ranked among the top 50 PCT applicants.

The number of applications published in 2013 fell for 14 of the listed applicants. Johns Hopkins University saw the sharpest fall in the absolute number (–25), followed by Harvard University (–24). Massachusetts Institute of Technology (+49) and the University of California (+45) saw the largest increases.

Nine of the top 10 university applicants are from the US, with the Korea Advanced Institute of Science and Technology as the exception. The US, with 32 of the top 50 applicants, also dominates the list of top university applicants, followed by universities from the Republic of Korea (6) and Japan (4).

Government and research institutions sector

The Commissariat à l'Énergie Atomique et aux Énergies Alternatives of France accounted for the largest number of published applications among government and research institutions, with 419 (table A.3.3.3). It had 171 more applications than the next highest and was the only government and research institution that ranked among the top 50 PCT applicants in 2013.

The Republic of Korea, with 8 applicants, had the largest number of applicants, followed by the US (6).

A.4

PCT APPLICATIONS BY FIELDS OF TECHNOLOGY

PCT applications span a wide range of technologies—some emerging, some maturing, some declining. The tendency to file patent applications differs across technologies, as some technologies depend more on the patent system than others. This subsection shows the distribution of PCT applications across fields of technology by year and origin as well as the relative specialization index.

For reasons of confidentiality, statistics are based on the publication rather than filing date. Statistics based on the publication date have a delay of about six months compared with those based on international filing date. The breakdown of published PCT applications by field of technology is based on a concordance table that relates the International Patent Classification (IPC) symbols to 35 fields of technology.[24]

A.4.1 Overall trend

Electrical machinery, with 14,897 published applications, remained the field of technology in which the largest number of PCT applications was published in 2013, followed by computer technology (14,684 applications) and digital communications (14,059) (table A.4.1). This was the second consecutive year that the top three fields belonged to the same sector, electrical engineering. Medical technology (11,920), which grew at a slower pace, ranked fourth.

In 2013, the distribution of applications among the different fields ranged from 0.2% (micro-structural and nano-technology, 400 applications) to 7.8% (electrical machinery, apparatus and energy, 14,897 applications).

Almost all fields (31 of 35) reported growth in published applications, and 6 had double-digit growth: IT methods for management (+27.2%), optics (+23%), computer technology (+18%), digital communication (+11.3%) electrical machinery, apparatus, energy (+10.9%), and surface technology and coating (+10.4%). The two fastest declining fields were micro-structural and nano-technology (–8%) and organic fine chemistry (–3.3%).

A.4.2 Countries' specialization

The map depicts the field of technology for which most applications were filed between 2009 and 2013 by the country of origin (figure A.4.2.1). The data are restricted to 10 fields of technology that received a large number of applications in that period. Only countries that filed at least 10 applications within one of these fields are considered.

Nearly a third of countries (20 of the 61) filed the majority of their applications in pharmaceuticals. Nine others filed most in medical technology. Digital communication and engines, pumps and turbines were the main field for 6 countries each.

Switzerland, with around 1,715 applications, followed by India (1,282), Spain (702) and Belgium (459), are the top applicants in countries that filed the largest share of their applications in pharmaceuticals. For digital communication, the top filers were China (18,165), followed by the Republic of Korea (4,394), Sweden (4,363) and Finland (2,816). Medical technology was the most filed field in the Netherlands (2,021), the UK (1,715) and Israel (1,470). Australia, with 836 applications, followed by the Norway (635) and South Africa (146) were the top applicants in countries that filed the largest share of their applications in civil engineering.

24 The concordance table is available at *www.wipo.int/ipstats/en/statistics/patents/*

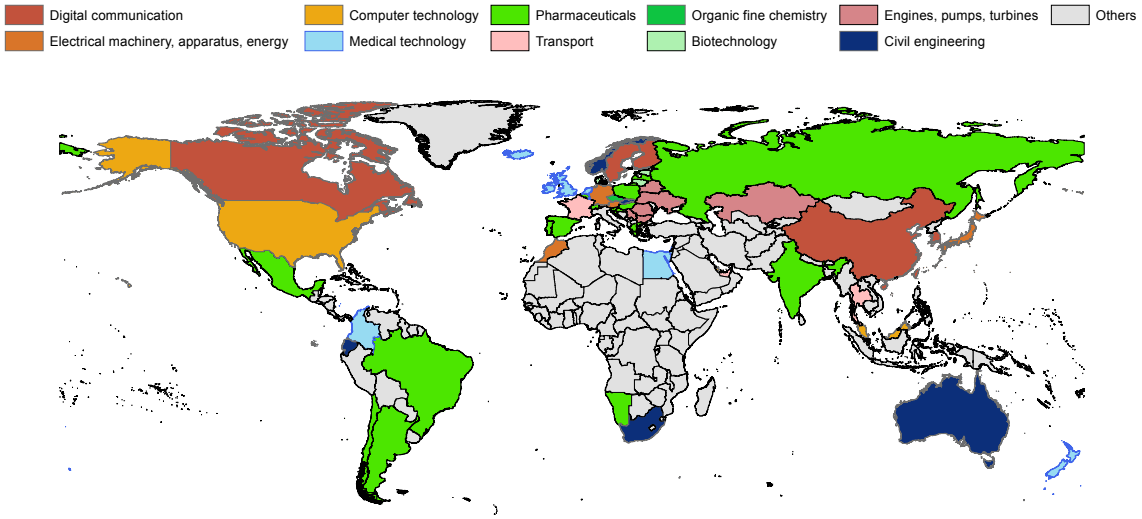
Table A.4.1: PCT applications by field of technology

		Year					2013 share (%)	Change from 2012 (%)
	Technical field	2009	2010	2011	2012	2013		
I	**Electrical engineering**							
1	Electrical machinery, apparatus, energy	8,986	9,171	11,354	13,438	14,897	7.8	10.9
2	Audio-visual technology	5,828	5,619	5,838	6,374	6,839	3.6	7.3
3	Telecommunications	5,856	4,878	4,987	4,994	5,247	2.7	5.1
4	Digital communication	9,068	10,592	11,650	12,629	14,059	7.3	11.3
5	Basic communication processes	1,392	1,277	1,204	1,299	1,288	0.7	-0.8
6	Computer technology	10,241	9,542	10,487	12,448	14,684	7.7	18.0
7	IT methods for management	2,157	2,085	2,362	2,931	3,727	1.9	27.2
8	Semiconductors	5,582	5,862	6,509	6,907	7,319	3.8	6.0
II	**Instruments**							
9	Optics	4,326	4,192	4,551	5,118	6,294	3.3	23.0
10	Measurement	6,805	6,430	6,571	7,309	7,952	4.2	8.8
11	Analysis of biological materials	1,886	1,790	1,786	1,722	1,849	1.0	7.4
12	Control	2,397	2,131	2,161	2,345	2,563	1.3	9.3
13	Medical technology	10,485	10,484	10,766	11,371	11,920	6.2	4.8
III	**Chemistry**							
14	Organic fine chemistry	5,674	5,516	5,308	5,601	5,415	2.8	-3.3
15	Biotechnology	5,313	5,222	5,245	5,313	5,515	2.9	3.8
16	Pharmaceuticals	8,401	7,836	7,713	7,809	7,711	4.0	-1.3
17	Macromolecular chemistry, polymers	3,093	2,806	3,108	3,287	3,537	1.8	7.6
18	Food chemistry	1,519	1,516	1,582	1,734	1,756	0.9	1.3
19	Basic materials chemistry	4,736	4,642	4,894	4,975	5,106	2.7	2.6
20	Materials, metallurgy	2,769	2,869	3,224	3,422	3,741	2.0	9.3
21	Surface technology, coating	2,454	2,426	2,667	2,931	3,237	1.7	10.4
22	Micro-structural and nano-technology	344	347	358	435	400	0.2	-8.0
23	Chemical engineering	3,630	3,586	3,859	4,232	4,268	2.2	0.9
24	Environmental technology	2,222	2,166	2,475	2,647	2,703	1.4	2.1
IV	**Mechanical engineering**							
25	Handling	3,722	3,648	4,071	4,018	4,254	2.2	5.9
26	Machine tools	2,946	2,714	3,049	3,378	3,495	1.8	3.5
27	Engines, pumps, turbines	4,392	4,309	5,053	5,578	6,116	3.2	9.6
28	Textile and paper machines	2,164	1,962	1,982	2,160	2,240	1.2	3.7
29	Other special machines	3,992	3,762	4,231	4,661	4,845	2.5	3.9
30	Thermal processes and apparatus	2,375	2,457	2,612	2,727	2,959	1.5	8.5
31	Mechanical elements	4,153	4,052	4,450	4,794	5,138	2.7	7.2
32	Transport	5,834	5,494	6,262	7,411	7,922	4.1	6.9
V	**Other fields**							
33	Furniture, games	3,277	3,100	3,205	3,333	3,556	1.9	6.7
34	Other consumer goods	3,010	3,003	3,173	3,362	3,394	1.8	1.0
35	Civil engineering	4,426	4,362	4,822	5,331	5,460	2.9	2.4

Note: Because of confidentiality requirements, data are based on publication date.

Source: WIPO statistics database, March 2014

Figure A.4.2.1: Main field of technology by country of origin, 2009–13



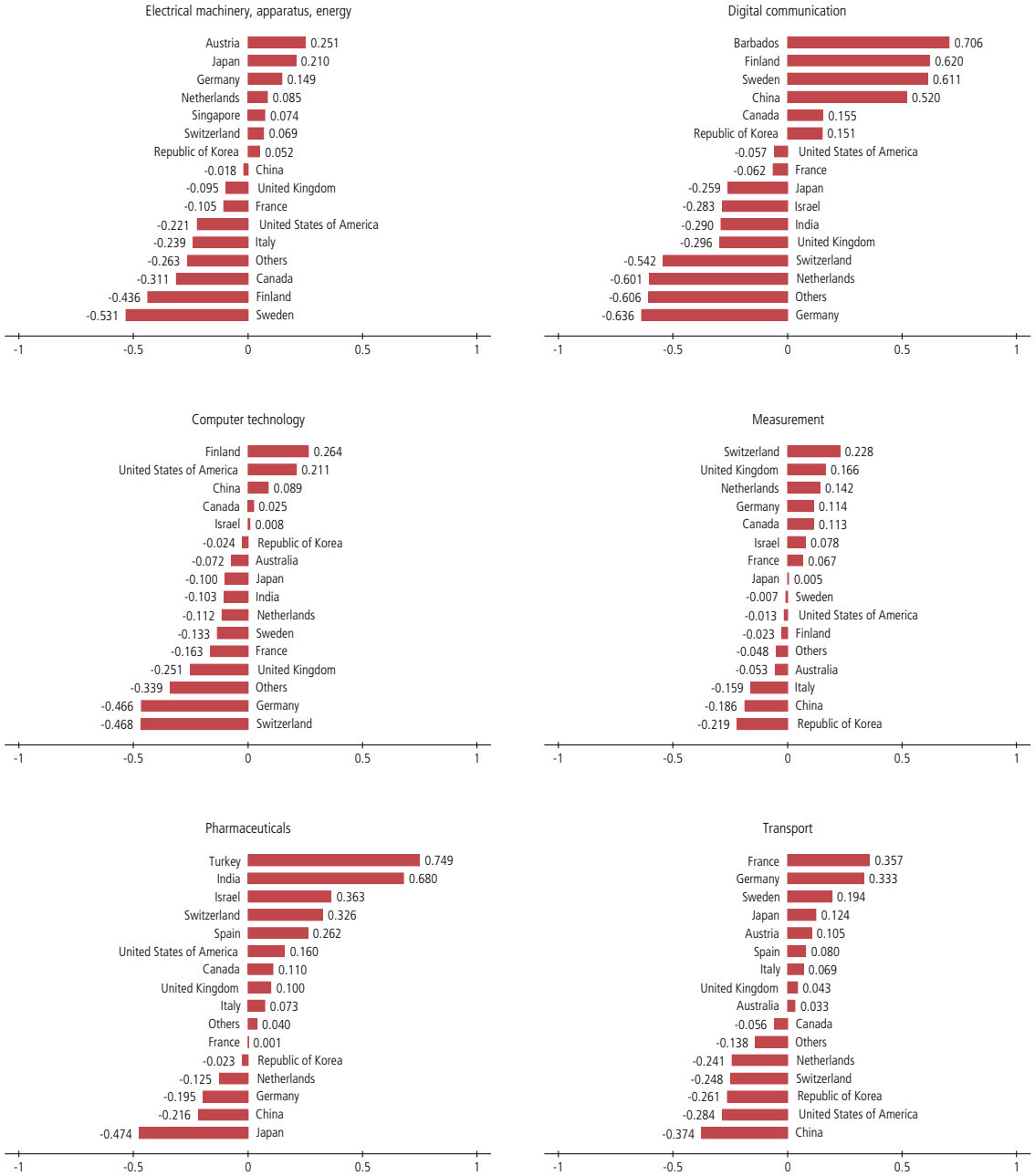
Source: WIPO statistics database, March 2014

Another way to measure how much a county specializes in a given technological field is to calculate its relative specialization index (RSI). The RSI corrects for the effects of country size and focuses on the concentration in specific technology fields; it seeks to capture whether a country tends to have a lower or a higher propensity to file in certain technology fields.[25]

Austria, Japan and Germany had a high concentration of applications in electrical machinery, apparatus and energy (figure A.4.2.2). RSI values for digital communications are skewed toward just a few origins (Barbados, Finland, Sweden and China), whereas those for measurement are more evenly distributed. In 2013 Finland and the US had a relatively high share of PCT applications in computer technology, the field experiencing the third fastest growth over 2012. The majority of the reported origins had positive RSI values for pharmaceuticals, with Turkey showing the highest value. France and Germany had high shares of applications in transport-related technology.

25 The RSI is calculated using the following formula: $RSI = Log\left(\frac{F_{CT}}{\sum_C F_{CT}} \Big/ \frac{\sum_T F_{CT}}{\sum_C \sum_T F_{CT}}\right)$ whereby F_C and F_T denote applications from country C and in technological field T, respectively. A positive RSI value for a technology indicates that a particular country has a relatively high share of PCT filings related to that field of technology.

Figure A.4.2.2: Relative specialization index for published PCT applications for selected fields of technology, 2013



Note: The IPC technology concordance table (available at: *www.wipo.int/ipstats/en*) was used to convert IPC symbols into 35 corresponding fields of technology. The data refer to published applications.

Source: WIPO statistics database, March 2014

SECTION B — STATISTICS ON PCT NATIONAL PHASE ENTRIES

The PCT process starts with the international phase and concludes with the national phase.[26] The national or regional patent office at which an applicant enters the PCT national phase further processes the application with a view to either granting or refusing it, in accordance with the applicable law.

Analyzing national phase entry (NPE) data provides information on international patenting activities. Section B briefly describes the global trends, the use of the PCT or the direct filing route, the origin of NPEs and the main offices of destination.

The data reported here are based on data supplied to WIPO by patent offices, several months after the end of each year, with the latest available data referring to 2012. Note that not all offices supply NPE data to WIPO.[27]

B.1

Overview

This subsection analyzes the global and latest trends in NPEs as well as its use relative to the Paris route.

B.1.1 Overall trend

There were 539,300 NPEs in 2012, a 6.2% increase from 2011 (figure B.1.1). Japan accounted for the majority of total growth (53.4%), and Asian countries for nearly 80%. About 85% (458,800 NPEs) were filed by non-residents (abroad) and 15% (85,500) by residents (at their home office).

This third year of consecutive growth since the decline in 2009 suggests that NPEs have returned to their long-term trend, which shows year-on-year growth in NPEs for all years between 1995 and 2012, except 2009. This growth partly reflects the increasing trend of protecting inventions abroad, as well as increasing PCT membership, making the system more attractive to its users.

B.1.2 Non-resident applications by filing route

To file an application abroad (for patent protection in a foreign country), applicants can decide either to file directly at an office (using the Paris route) or to use the PCT route and pursue the application through NPEs. In 2012, 458,800 non-resident NPEs were initiated worldwide and 375,500 applications were filed directly at offices by non-resident applicants (figure B.1.2).

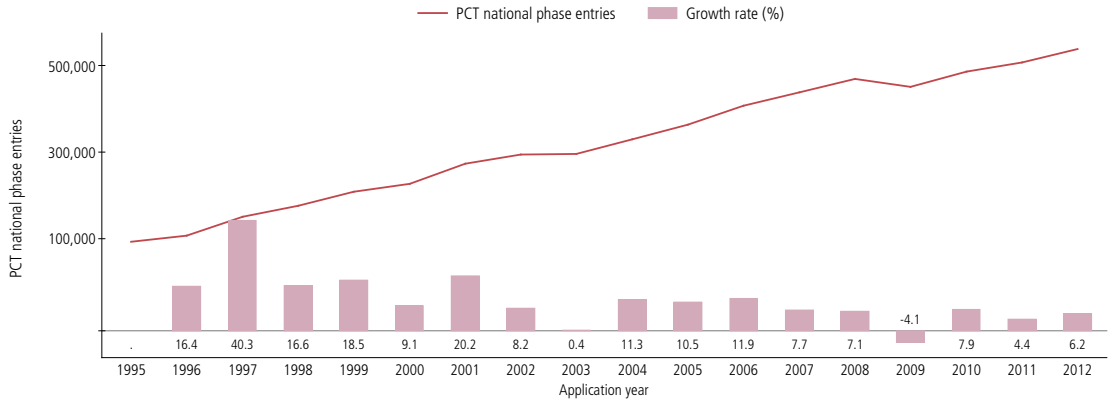
Since 1995, both routes trended upward, although the PCT route grew much faster. On average, the Paris route grew 2.1% a year from 1995 to 2012, and the PCT route 10.7%. The Paris route also had five years of declines, against two for the PCT route. During the financial crisis and economic downturn (from 2007 to 2009), the PCT route saw low average growth of 0.6% a year, while the Paris route sharply declined by 6.3%.

In 1995, three-quarters of the applications filed by non-residents were filed directly at offices. By 2007, over half of non-resident applications were filed via the PCT route and, in 2012, this share reached 55%.

26 For further details, see "A brief presentation of the Patent Cooperation Treaty".

27 for further details, see "Data Description"

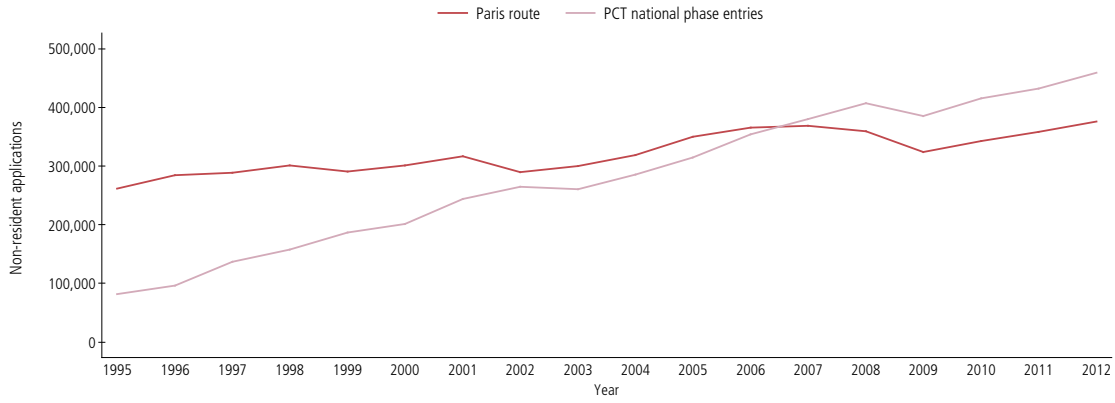
Figure B.1.1: Trend in PCT national phase entries



Note: WIPO estimates. Missing data for offices that do not provide statistics have been estimated by WIPO on an aggregate basis.

Source: WIPO statistics database, March 2014

Figure B.1.2: Trend in non-resident applications by filing route



Note: WIPO estimates. Missing data for offices that do not provide statistics have been estimated by WIPO on an aggregate basis to present the figure.

Source: WIPO statistics database, March 2014

B.2

National phase entries by country of origin

This subsection analyzes NPEs according to the applicant's origin. It also provides data by income group and further compares the use of the PCT system with that of the Paris route. Note that the origin of an application is defined using the residence of the first-named applicant. Data by origin may be incomplete.[28] A statistical table listing all origins is provided in the annex.

B.2.1 World map

NPE data were available for 144 countries but concentrated among Germany, Japan and the US, which accounted altogether for 60.3% of NPEs initiated worldwide in 2012 (figure B.2.1). Levels are low for many countries. For example, no country in Africa filed more than 1,000 NPEs in 2012. This could be partly due to missing data, as some offices do not provide statistics broken down by origin.

High-income countries accounted for 95.1% of NPEs, and middle-income countries the remaining 4.9%. China, with 16,978 NPEs, filed by far the most NPEs among middle-income countries, followed by India (3,322), Brazil (1,167), South Africa (934), Turkey (693) and Mexico (576). Low-income countries filed 40 NPEs, with applicants residing in Kenya (8), the Democratic People's Republic of Korea (7) and Mali (4) filing the largest number.

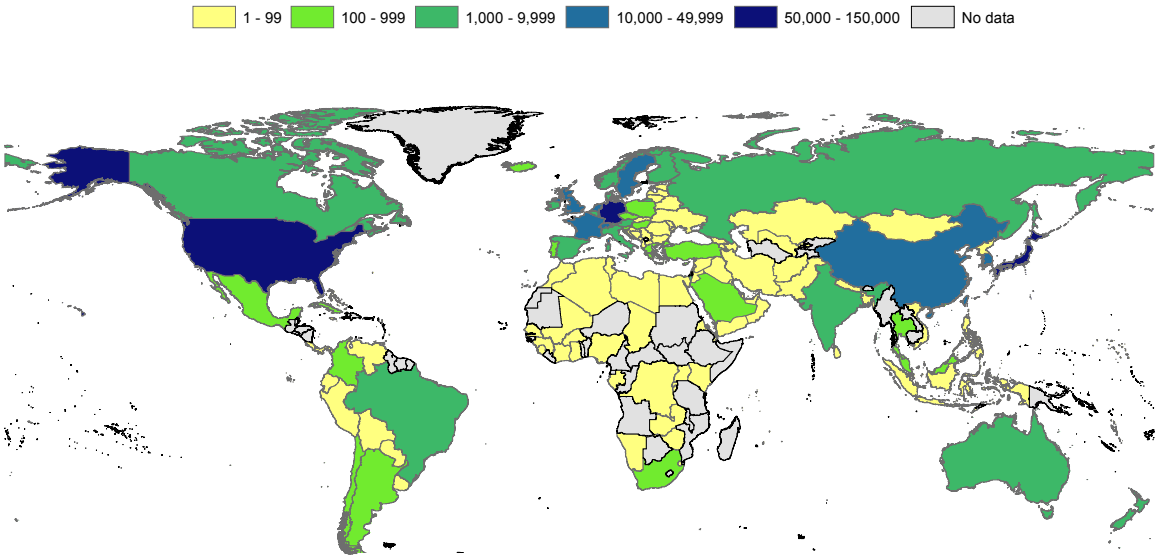
B.2.2 Top origins

The top 10 origins represented 83% of total NPEs in 2012 (figure B.2.2.1). With almost 147,000 NPEs filed, applicants from the US remained the largest users of the PCT system, even though their filings grew modestly since 2007. Thanks to annual growth of 1.7% over 2011, US applicants for the first time exceeded their 2008 filing level. Japanese applicants, who ranked second, initiated 112,862 NPEs in 2012, with annual growth of 17.4%. German applicants filed almost 60,000 NPEs, the third largest number worldwide, with annual growth of 3.7%.

China, Japan and the Republic of Korea were the only three countries that had double-digit average annual growth for 2005–2012, with 36.7% average growth for China, 15.1% for the Republic of Korea and 11% for Japan. Europe accounts for a majority of countries with the top 10 origins (6 of 10). Among European origins, France (+8.3%), Switzerland (+6.3%) and Germany (+5.5%) had the highest average annual growth from 2005 to 2012. The Netherlands (–2%) was the only country among the top 10 that filed fewer NPEs in 2012 than in 2005.

28 About 13,000 PCT NPEs were initiated in 2012 for which we have no indication of their origin or have an invalid country, such as the EPO.

Figure B.2.1: PCT national phase entries by country of origin, 2012



Note: WIPO estimates

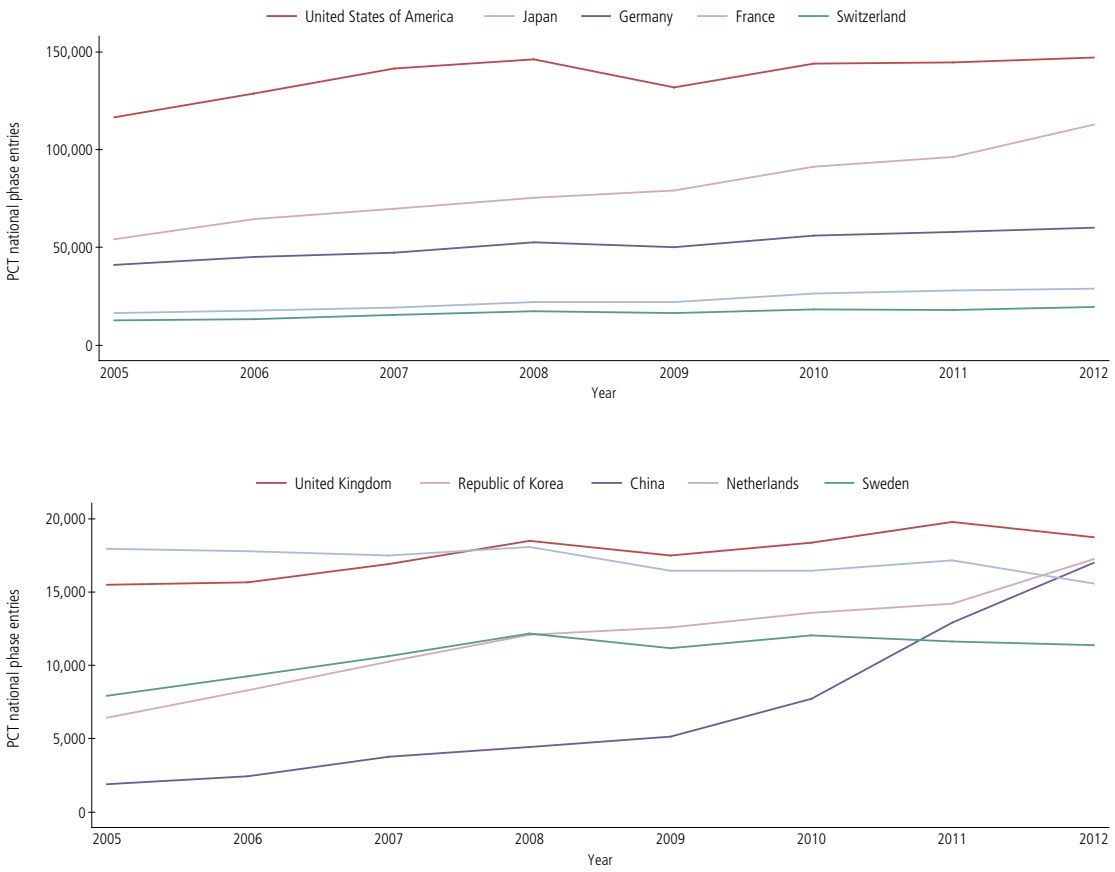
Source: WIPO statistics database, March 2014

Table B.2.2.2 shows the top countries having filed more than 20 NPEs in 2012 for each region (with a maximum of 10 countries per region) based on the United Nations definition of regions.

Europe remained the region that initiated the most NPEs worldwide, filing 37% of the total in 2012. Thanks to a sharp increase in filings, Asia placed second (29.7%), overtaking North America (28.9%). Asia was the fastest growing region in NPE filings, increasing its share from 23% in 2008 to 29.7% in 2012.

All top five Asian origins saw double-digit growth in 2012, with China (+31.5%) and the Republic of Korea (+21.3%) experiencing the sharpest. Among the top five origins of the other regions, Chile (+32.2%), Argentina (+16.3%) and Finland (+13.5%) were the only countries with double-digit growth. In each region, the regional share of the country filing most NPEs was quite high, varying from 30% for Europe (Germany) to 94.2% for North America (US).

Figure B.2.2.1: Trends in PCT national phase entries for the top 10 origins



Note: WIPO estimates.

Source: WIPO statistics database, March 2014

Table B.2.2.2: PCT national phase entries for the top origins by region

Region	Name	Year of national phase entry					Regional share	Change from
		2008	2009	2010	2011	2012	2012 (%)	2011 (%)**
Africa	South Africa	914	854	804	984	934	84.5	-5.1
	Seychelles	14	19	28	41	34	3.1	-17.1
	Tunisia	9	11	8	2	28	2.5	--
	Egypt	21	16	12	42	24	2.2	--
	Others	63	76	62	111	85	7.7	-23.4
	Total	1,021	976	914	1,180	1,105	0.2*	-6.4
Asia	Japan	75,479	79,134	91,240	96,101	112,862	70.5	17.4
	Republic of Korea	12,077	12,606	13,565	14,213	17,238	10.8	21.3
	China	4,433	5,145	7,724	12,913	16,978	10.6	31.5
	Israel	5,256	4,695	5,224	4,967	5,527	3.5	11.3
	India	2,290	1,891	2,570	2,950	3,322	2.1	12.6
	Singapore	1,487	1,259	1,821	1,950	2,009	1.3	3.0
	Turkey	376	353	446	594	693	0.4	16.7
	Malaysia	186	195	252	486	470	0.3	-3.3
	China, Hong Kong SAR	135	132	176	217	214	0.1	-1.4
	Saudi Arabia	163	189	207	241	211	0.1	-12.4
	Others	444	381	384	411	615	0.4	49.6
	Total	102,326	105,980	123,609	135,043	160,139	29.7*	18.6
Europe	Germany	52,731	49,989	55,914	57,814	59,966	30.0	3.7
	France	22,121	22,169	26,552	28,039	28,943	14.5	3.2
	Switzerland	17,298	16,426	18,245	17,971	19,428	9.7	8.1
	United Kingdom	18,470	17,470	18,367	19,771	18,748	9.4	-5.2
	Netherlands	18,057	16,452	16,452	17,160	15,567	7.8	-9.3
	Sweden	12,172	11,175	12,024	11,636	11,365	5.7	-2.3
	Italy	7,965	7,628	8,476	8,841	9,368	4.7	6.0
	Finland	5,874	4,999	6,077	5,089	5,774	2.9	13.5
	Belgium	4,698	4,327	5,049	5,135	5,272	2.6	2.7
	Denmark	4,648	4,216	4,788	5,255	4,975	2.5	-5.3
	Others	13,944	14,622	17,766	18,209	20,226	10.1	11.1
	Total	177,978	169,473	189,710	194,920	199,632	37.0*	2.4
Latin America & the Caribbean	Brazil	739	775	1,016	1,169	1,167	40.5	-0.2
	Mexico	334	320	448	569	576	20.0	1.2
	Chile	58	50	127	239	316	11.0	32.2
	Barbados	627	471	307	305	271	9.4	-11.1
	Argentina	75	91	75	104	121	4.2	16.3
	Colombia	43	73	69	145	115	4.0	-20.7
	Cuba	285	104	67	91	103	3.6	13.2
	Bahamas	66	119	122	73	69	2.4	-5.5
	Others	179	186	198	169	141	4.9	-16.6
	Total	2,406	2,189	2,429	2,864	2,879	0.5*	0.5
North America	United States of America	146,145	131,731	143,944	144,598	146,988	94.2	1.7
	Canada	7,020	7,396	8,006	8,563	8,947	5.7	4.5
	Bermuda	168	163	177	71	61	0.0	-14.1
	Total	153,333	139,290	152,127	153,232	155,996	28.9*	1.8
Oceania	Australia	6,803	6,096	6,831	6,675	6,941	87.3	4.0
	New Zealand	960	1,031	1,132	1,090	1,004	12.6	-7.9
	Others	7	4	22	7	8	0.1	--
	Total	7,770	7,131	7,985	7,772	7,953	1.5*	2.3
Unknown		25,366	25,961	9,826	12,889	11,596	n.a.	-10.0
Total		**470,200**	**451,000**	**486,600**	**507,900**	**539,300**	**n.a.**	**6.2**

Note: World totals and unknown filings are WIPO estimates. * Share of world total. ** Growth rates are calculated for countries having filed more than 30 NPEs in 2012. N.a.: not applicable. The table shows the top countries having filed more than 20 NPEs in 2012 for each region (with a maximum of 10 countries per region).

Source: WIPO statistics database, March 2014

B.2.3 PCT national phase entries per PCT application

Among high-income countries, applicants from Switzerland had the most NPEs per PCT application (with 5), followed by the Netherlands (4.1) and Australia (4); applicants from the Republic of Korea (1.7) and Spain (2.6) had the fewest (figure B.2.3).

The top 15 middle-income origins had lower average numbers of NPEs per PCT application than their high-income counterparts. Of the middle-income origins, Hungary had the most NPEs per PCT application (3.2), followed by South Africa (3), Romania (2.8) and Mexico (2.8).

B.2.4 Share of PCT national phase entries in total filings abroad

The top 15 origins are selected based on the total number of filings abroad.[29] In 2012, applicants from high-income countries (with 56.2% of filings abroad being NPEs) relied slightly more on the PCT system than did applicants from middle-income countries (52.4%).

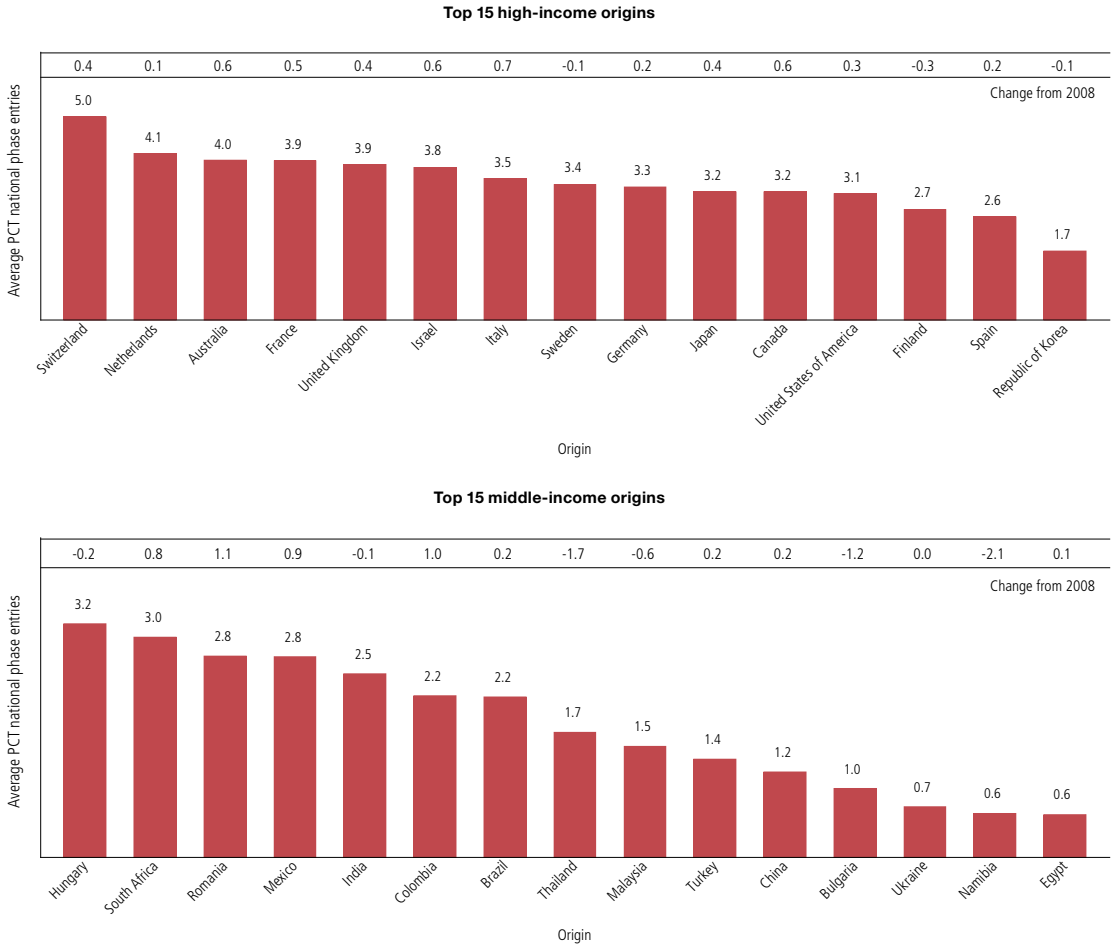
The share of PCT NPEs in total filings abroad for high-income origins ranged from 72.6% for Sweden to 30.3% for the Republic of Korea (figure B.2.4). Since 2008, the share of NPEs in total filings abroad has fallen for a majority of high-income countries (8 of 15), with the UK (–5.0 percentage points) and the US (–2.1) having the sharpest declines.

The use of the PCT system across middle-income origins ranged from 77.3% for South Africa to 3.4% for Azerbaijan. Since 2008, the share of NPEs in total filings abroad increased most for applicants residing in Thailand (+21.1 percentage points), Argentina (+5.3) and Romania (+5.1). Interestingly, applicants from Argentina filed about 37.5% of their applications abroad using the PCT system even though it is not a PCT member.[30]

29 PCT NPEs here include only entries at patent offices of foreign countries—that is, they exclude NPEs in an applicant's country of residence. But PCT NPEs at the EPO by applicants from European Patent Convention (EPC) member countries are included in the calculation of NPEs.

30 Under certain conditions, a PCT application may be filed even if the first-named applicant does not reside in a country that is member of the PCT.

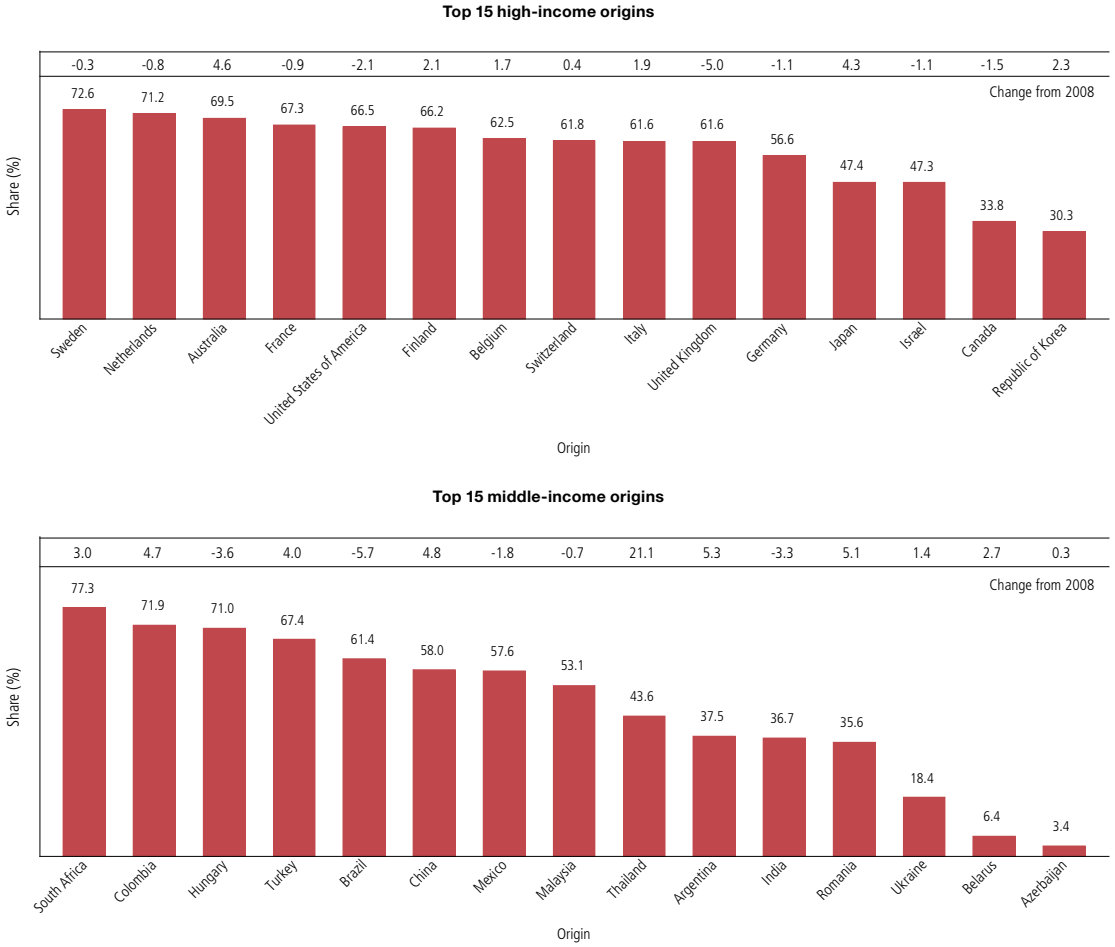
Figure B.2.3: Average number of national phase entries per PCT application for selected origins, 2012



Note: The average is defined as the number of PCT national phase entries initiated in 2012 divided by the average number of PCT applications filed the two preceding years.

Source: WIPO statistics database, March 2014

Figure B.2.4: Share of PCT national phase entries in total filings abroad, 2012



Note: The share is defined as the number of PCT national phase entries initiated abroad divided by the total number of patent applications filed abroad. Both of these numbers are WIPO estimates.

Source: WIPO statistics database, March 2014

B.3

National phase entries by office

This subsection provides information on the destinations of NPEs, NPEs by office and origin, and the NPE share in total non-resident applications. A statistical table listing all offices is provided in the annex. Data for some offices do not exist.[31]

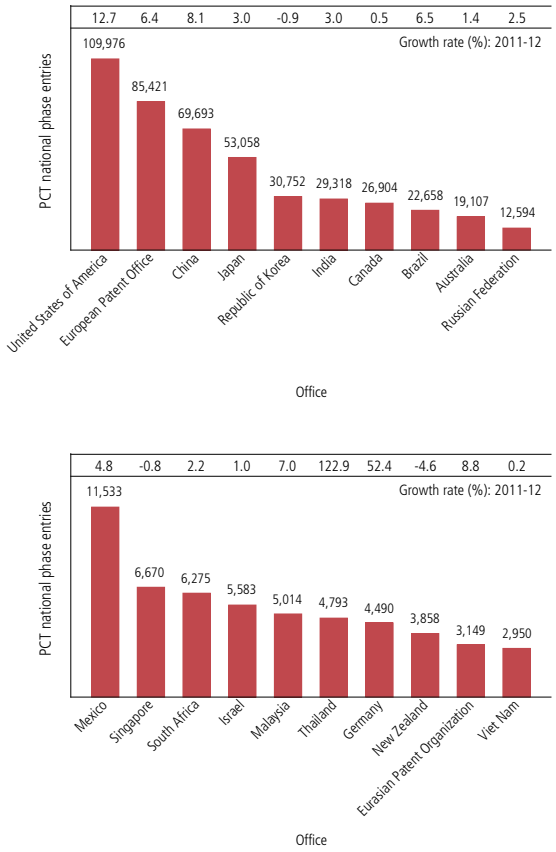
B.3.1 Top offices

The number of NPEs for the top 20 offices reflects the commercial attractiveness of the country or region represented by that patent office. The top 20 offices attracted 95.3% of all NPEs initiated in 2012. The USPTO, the most preferred office by destination in 2012, received almost 110,000 NPEs, 20.4% of all NPEs initiated (figure B.3.1.1). With 12.7% growth on 2011, for the sixth consecutive year, the USPTO had the highest growth rate among the top five offices.

All the top 20 offices had growth in filings except New Zealand (–4.6%), the Republic of Korea (–0.9%) and Singapore (–0.8%). In addition to the USPTO, Germany (+52.4%) and Thailand (+122.9%) had double-digit growth. The sharp growth for Germany may be partly explained by NPE levels that remained almost stable from 2007 to 2010 and fell by 21% in 2011. The very strong growth at the Thai office is mainly due to Thailand's accession to the PCT system in December 2009.

In volumes, the greatest increases in NPEs were at the USPTO (+12,415), SIPO (+5,207) and EPO (+5,146).

Figure B.3.1.1: PCT national phase entries for top 20 offices, 2012



Source: WIPO statistics database, March 2014

Among the 109,976 NPEs initiated at the USPTO in 2012, about 29,850 originated from Japan, 18,165 from the US and 13,460 from Germany. These three origins combined accounted for the majority of NPEs initiated at the USPTO (56%) (table B.3.1.2 captures the "flow of patents" between territories through the PCT system[32]).

31 For some offices, such as the *Institut National de la Propriété Industrielle* (INPI) of France, the "national route" via the PCT system is closed (see the PCT contracting states table in the annex). In such cases, PCT applicants must enter the national phase at a regional patent office in order to obtain patent protection in that state via the PCT. For these offices, relevant NPEs are included in the numbers for regional offices. An estimated 8,451 PCT NPEs were initiated in 2012 for which we have no indication of their office of destination.

32 A PCT applicant seeking patent protection in a European Patent Convention (EPC) member state (see list of PCT contracting states in the annex) can choose to enter the national phase at the national office (if the national route is not closed, as it is for France) or at the EPO. As a result, the number of NPEs at some European national patent offices is lower than would otherwise be expected in view of the size of the country's economy.

Table B.3.1.2: National phase entries for top 20 offices and top 10 origins, 2012

	Origin												
Office	China	France	Germany	Japan	Netherlands	Republic of Korea	Sweden	Switzerland	United Kingdom	United States of America	Unknown	Others	Total
United States of America	5,094	6,372	13,460	29,853	2,536	5,292	2,730	1,988	5,730	18,165	0	18,756	109,976
European Patent Office	3,167	5,478	12,200	14,528	2,652	2,779	2,400	2,704	2,957	23,674	16	12,866	85,421
China	2,068	3,378	8,114	20,486	2,097	3,172	1,406	2,217	1,423	17,832	165	7,335	69,693
Japan	1,461	2,867	5,097	17,881	1,501	2,286	804	1,532	1,182	13,903	278	4,266	53,058
Republic of Korea	786	1,570	3,077	9,801	737	442	320	948	575	9,617	113	2,766	30,752
India	1,086	1,429	3,389	4,849	1,362	637	948	1,425	1,017	8,797	82	4,297	29,318
Canada	354	1,486	2,266	1,601	583	397	464	1,266	1,045	12,073	124	5,245	26,904
Brazil	658	1,802	2,606	2,242	1,069	317	514	1,271	723	7,568	189	3,699	22,658
Australia	447	645	1,380	1,329	565	438	351	923	938	8,027	89	3,975	19,107
Russian Federation	520	901	1,854	1,440	819	306	387	810	373	3,119	0	2,065	12,594
Mexico	194	484	1,121	844	363	195	158	842	380	5,022	33	1,897	11,533
Singapore	130	285	521	990	130	103	94	451	240	2,465	37	1,224	6,670
South Africa	129	320	732	317	182	75	137	478	415	1,916	38	1,536	6,275
Israel	51	106	24	203	35	32	62	14	183	2,332	1,758	783	5,583
Malaysia	107	262	429	1,005	151	158	76	358	255	1,433	0	780	5,014
Thailand	106	115	177	1,882	6	81	27	9	114	1,423	549	304	4,793
Germany	112	15	936	1,587	10	133	34	54	38	1,183	76	312	4,490
New Zealand	40	149	288	191	72	31	105	318	195	1,456	22	991	3,858
Eurasian Patent Organization	42	207	424	153	206	19	40	199	140	741	19	959	3,149
Viet Nam	130	127	195	889	95	187	29	185	62	650	0	401	2,950

Note: This table shows the top 20 offices for which NPE data by origin are available.

Source: WIPO statistics database, March 2014

US applicants accounted for the largest share of NPEs at 13 of the top 20 offices, and applicants from Japan accounted for the remaining 7. Japanese NPEs represented the bulk of NPEs at 4 of the top 5 offices—the EPO was the exception.

In 2012, NPEs initiated by the top 10 middle-income countries represented 96.4% all middle-income NPEs initiated worldwide (table B.3.1.3). Similarly, 93.2% of all middle-income NPEs were initiated before the top 20 offices. The most attractive offices for middle-income NPEs were the USPTO (27.9% of middle-income NPEs initiated before these offices), the EPO (17%) and SIPO (10.5%).

Chinese applicants accounted for the two-thirds of middle-income NPEs worldwide. They also initiated the majority of middle-income NPEs at 13 of the top 20 offices and accounted for more than three-quarters of middle-income NPEs at the German office (76.7%), the JPO (76.5%) and SIPO (76.1%).

B.3.2 Share of PCT national phase entries in non-resident filings

In 2012, the use of the PCT route for non-resident filings—rather than the Paris route—varied widely from one office to another, with shares ranging from 94.2% for Israel to 22.9% for the UK (figure B.3.2). The use of the PCT system is, however, quite intense at offices of middle-income countries. Eight of the top 10 reported offices—all with shares of NPEs above 80%—are in the middle-income category. By contrast, several offices in the high-income category had a low share of NPEs, such as the United Kingdom (22.9%), Germany (24.1%) and the USPTO (33.5%).

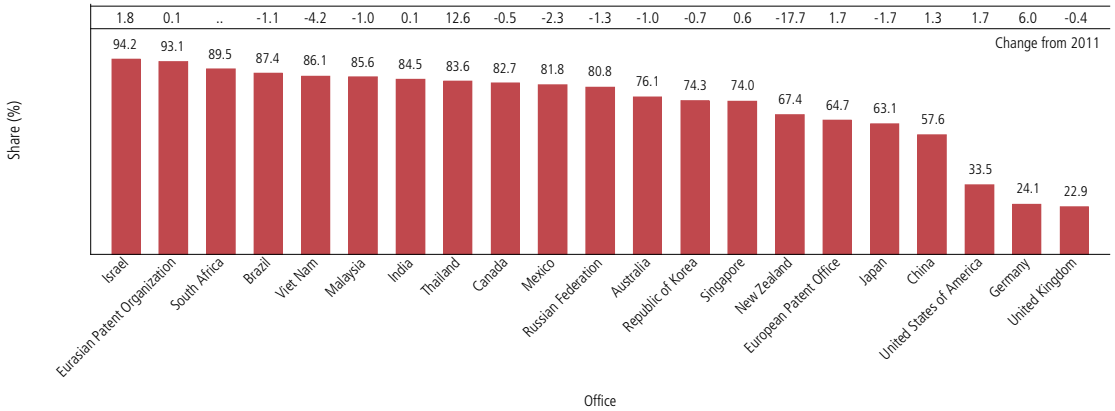
Table B.3.1.3: National phase entries for top 20 offices and top 10 middle-income origins, 2012

	Origin											
Office	Argentina	Brazil	China	Hungary	India	Malaysia	Mexico	South Africa	Thailand	Turkey	Others	Total
United States of America	33	298	5,094	153	876	104	100	201	33	109	200	7,201
European Patent Office	10	163	3,167	78	432	47	52	95	13	244	94	4,395
China	6	91	2,068	33	220	55	38	66	14	63	64	2,718
Japan	3	65	1,461	19	202	22	24	33	11	36	35	1,911
India	4	59	1,086	23	247	39	35	67	9	22	86	1,677
Republic of Korea	2	46	786	13	116	17	24	30	3	13	28	1,078
Brazil	12	82	658	23	142	15	49	51	2	13	231	1,278
Australia	4	30	447	15	163	27	22	70	2	9	35	824
Canada	5	39	354	20	189	13	42	44	2	11	40	759
Russian Federation	2	31	520	11	60	7	22	23	1	18	35	730
South Africa	3	25	129	11	121	8	18	159	2	4	33	513
Mexico	11	66	194	11	93	9	60	15	1	5	33	498
Malaysia	0	13	107	2	48	27	18	10	11	6	16	258
Singapore	0	14	130	3	50	25	1	10	0	5	7	245
Thailand	0	8	106	3	68	19	2	0	7	0	5	218
Viet Nam	0	5	130	6	34	15	3	0	6	2	7	208
Eurasian Patent Organization	1	4	42	22	31	1	1	5	0	26	20	153
Germany	2	0	112	1	8	2	1	4	2	6	8	146
United Kingdom	1	3	71	1	19	3	0	6	1	0	5	110
Israel	0	3	51	13	30	0	2	0	0	4	2	105

Note: This table shows the top 20 offices for which NPE data by origin are available.

Source: WIPO statistics database, March 2014

Figure B.3.2: Share of PCT national phase entries in total non-resident filings by office, 2012



Note: The share is defined as non-resident PCT national phase entries initiated divided by non-resident patent applications filed. It includes the 20 offices that received the most non-resident filings in 2012, that are members of the PCT system and that provided a breakdown by filing route to WIPO.

Source: WIPO statistics database, March 2014

SECTION C – PERFORMANCE OF THE PCT SYSTEM

C.1

International Bureau

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

C.1.1 Electronic filing and processing

Medium of filing

Every PCT application is filed by one of three methods: paper, paper plus PCT EASY (the application is prepared electronically using WIPO-provided software known as PCT-SAFE), and fully electronic media in different formats, such as PDF or XML (figure C.1.1). Electronic filing is encouraged by fee reductions as it offers benefits to applicants, offices and the IB.

The share of electronic filings continued to increase in 2013, to 89.6% of all applications. After the introduction of fully electronic filings, paper plus PCT-EASY filings dropped considerably—from 44.8% in 2003 to only 2.7% in 2013. Paper filings accounted for 71.3% of filings in 2000 but only 7.7% in 2013.

ePCT-filing

In May 2013, a restricted group of pilot users started submitting PCT applications to the IB as receiving office over the web, using a new ePCT-filing component. The system provides real-time validations against the IB's database, so the reference data and online validation messages are always the most up-to-date. Many formalities errors can be detected prior to submission and corrected by the applicant before filing. PCT applications using ePCT-filing are immediately available online to the person submitting the application.

Starting in October 2013, the IB opened access to the ePCT-filing pilot at the IB as receiving office, allowing all ePCT users the possibility to file in English, French, German, Spanish and Portuguese. Other languages will be included once the necessary technical modifications have been made to the system.

For details on other developments with the ePCT system, please see subsection C.2.

Automation of XML and PDF applications

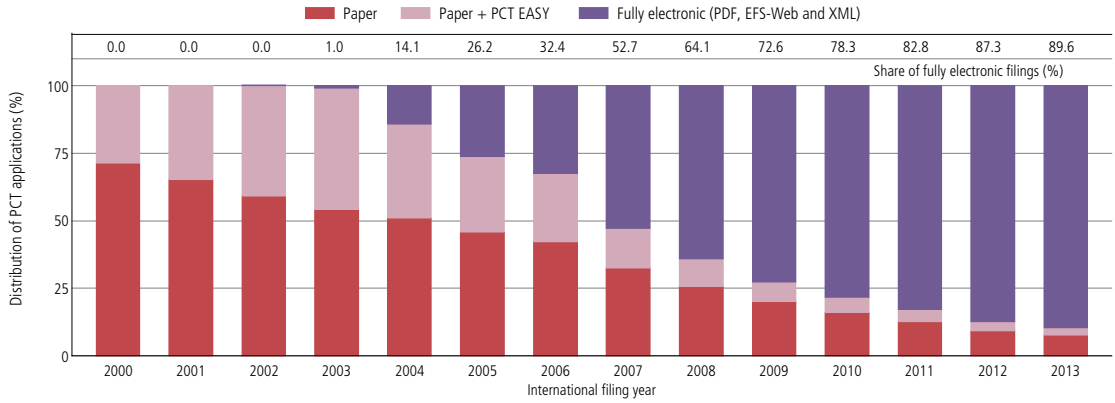
Systems and procedures introduced in 2012 to exploit the XML format for filing certain applications and related documents were extended in 2013. The new procedures were applied to Japanese and Korean XML applications as well as Chinese XML and PDF applications. As a consequence, the formalities examination and the related acknowledgement of receipt of the application by the IB (form PCT/IB/301) no longer require human intervention for about 80% of those applications.

These developments significantly improved the timeliness in issuing this form for applications from China, Japan and the Republic of Korea in 2013. This is particularly welcome, since performance on this indicator has traditionally been less than optimal for applications from these three countries. The main reasons for delays in issuing this form were the considerable increase in workload due to the rapid growth in filings and the low number of WIPO employees with the required language skills.

In years to come, the procedure for XML and PDF filings will likely be extended to applications from other countries, depending on the data the IB receives.

Also to be noted is that the formalities examination relating to form PCT/IB/301 represents about 30% of the work required to process an application.

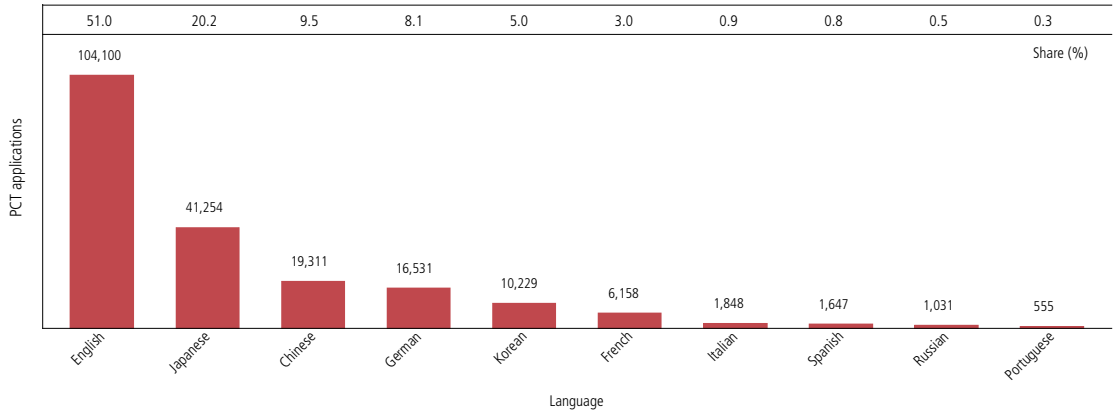
Figure C.1.1: PCT applications by medium of filing



Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

Figure C.1.2.1: PCT applications for top 10 languages of filing, 2013



Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

C.1.2 Translation and terminology database

Languages of filing

PCT applications were filed in 26 languages in 2013 (figure C.1.2.1).[33] The top 10 languages of filing made up 99.2% of total filings. The remaining languages were mainly European languages such as Dutch and Swedish.

English remained by far the most frequently used language of filing in 2013, accounting for about half (51%). The languages with the largest increases in 2013 were English (+5,783) and Chinese (+2,024). Filings in German fell most (–901).

33 A PCT application may be filed in any language accepted by the relevant RO, but must be published in one of the 10 official publication languages. Among the top 10 languages of filing in B.1.3, all are languages of publication except Italian.

Translation

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

Figure C.1.2.2 presents the distribution of in-house and outsourced translations since 2007 for both titles and abstracts (henceforth, abstracts) and international search and preliminary examination reports (henceforth, reports).

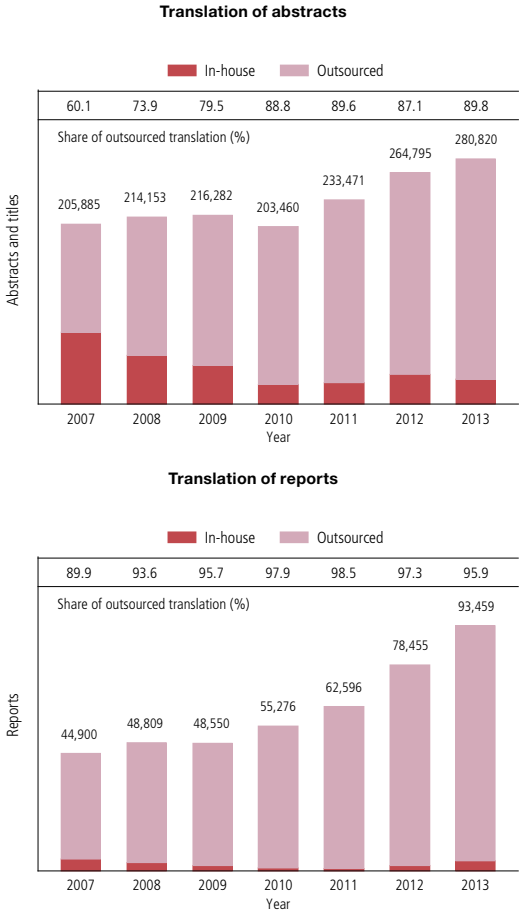
Similar to the increase in 2012, the number of documents translated in 2013 again increased substantially, with 280,820 abstracts translated and 93,459 reports translated, for respective growth of 6.1% and 19.1%. The increase was due mainly to higher numbers of translations from the Asian languages. The reports also increased markedly in length, making the translation volumes greater than would be apparent from only the percentage increases.

To deal with this growing workload, the number of abstracts outsourced rose slightly in 2013, causing the number of internally translated abstracts to fall slightly as internal resources were transferred to the translation of reports. External agencies and translators continued to translate the vast majority of abstracts (89.8%) and reports (95.9%), with the share of reports outsourced down from 97.3% in 2012.

Other important developments in 2013 included the following.

The roll-out of the system for workflow automation and translation distribution that was piloted in 2012 began in the autumn of 2013, and the benefits of this system will have a fuller impact as 2014 progresses.

Figure C.1.2.2: Distribution of translation work

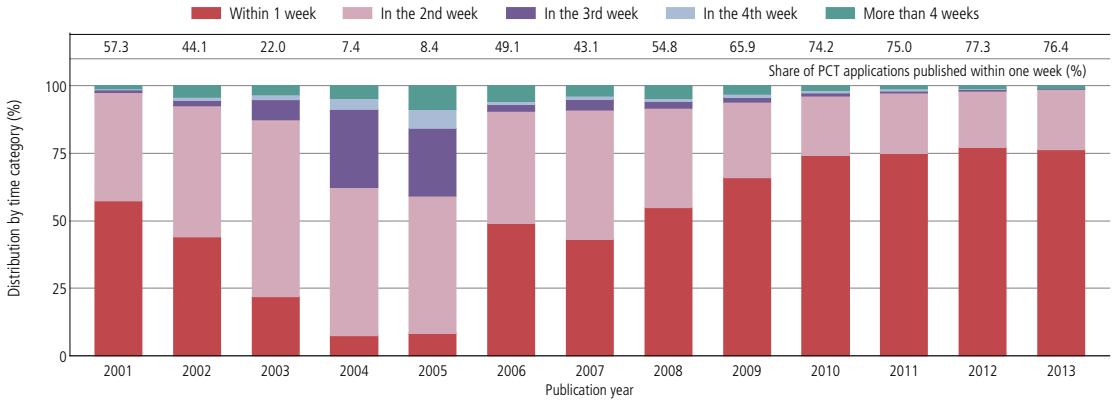


Source: WIPO, March 2014.

Structural changes to the tendering process planned in 2012 were put into operation in 2013 in a tender for Korean translation. The changes streamline the request for proposal process and ensure that the benefits are more proportional to the efforts. This approach will now be used as a template for future tenders.

Report backlogs were cleared for European and Asian languages, substantially by internal resources for the Asian languages and entirely by those for the European languages. The number of early publication requests also rose, increasing the internal workload.

Figure C.1.3.1: Timeliness in publishing PCT applications



Note: Timeliness is calculated as the time elapsed between the time limit of 18 months from the priority date and the actual publication date.

Source: WIPO statistics database, March 2014

Terminology database

To improve the quality of internally and externally produced translations, the IB continued to develop its multilingual terminology database. Emphasis was again on adding terms in languages underrepresented in the database: Arabic, Chinese, Japanese, Korean, Portuguese, Russian and Spanish. During the year, 21,240 terms were added across all 10 publication languages, with the biggest growth in Japanese, followed by Chinese, then Arabic. At the end of 2013, the database contained 86,800 terms, 93% of them validated. Preparations were made for publishing the database on the WIPO website, planned for 2014.

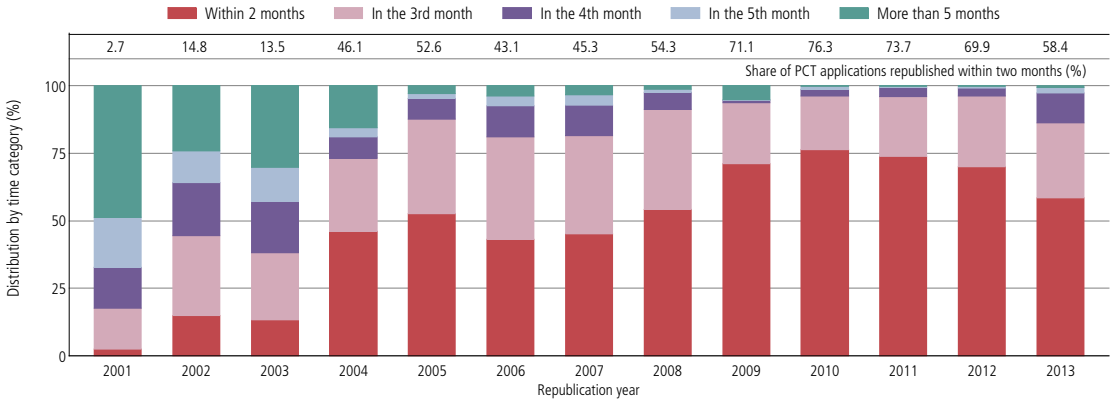
C.1.3 Timeliness in publishing

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. In 2013, 76.4% of publications occurred within one week after the expiration of the 18-month period, and 98.7% within two weeks (figure C.1.3.1). So, only 1.3% was published more than two weeks after the expiration mainly due to late arrival of translation in publication language.

The 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 the ISR after the report is received (figure C.1.3.2).

Between 2001 and 2010, the timeliness of republishing applications with ISRs improved considerably. But the share of applications republished within two months fell by almost 18 percentage points between 2010 and 2013 (from 76.3% to 58.4%). In 2013, 86.3% of republications occurred within three months of the IB's receiving the ISR, and 97.3% within four months.

Figure C.1.3.2: Timeliness in republishing PCT applications with ISRs



Note: Timeliness is calculated as the time elapsed between the date of the receipt of the ISR at the IB and the date of republication by the IB.

Source: WIPO statistics database, March 2014

C.1.4 Quality in processing applications

Formalities examination

To measure the quality of the formalities examination by the 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 are based on the timeliness of key transactions: acknowledgement of receipt of the application; publication; and republication with ISRs. The fourth reflects PCT operation quality control error rate.

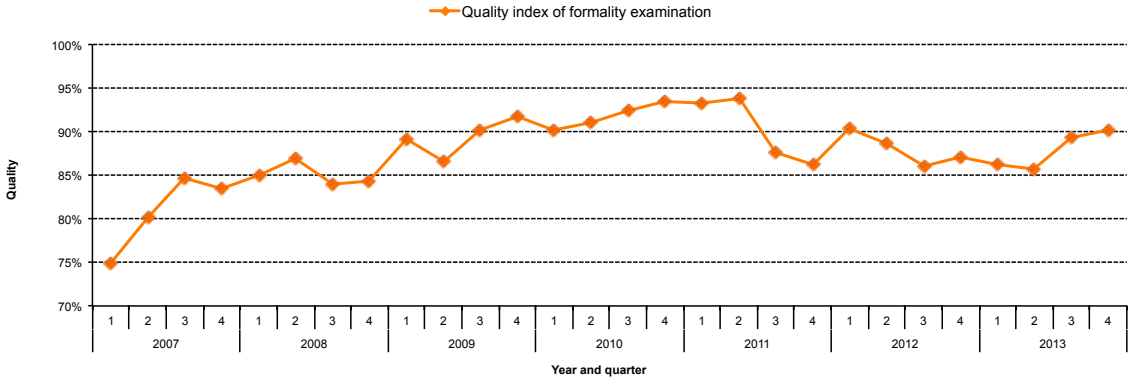
Quality, as measured by the aggregate index, improved markedly from 2007 to the second quarter of 2011, when it fell sharply since the end of 2011 (figure C.1.4.1). It has fluctuated between 85% and 90% since. The marked improvement in the second half of 2013 was thanks to faster republishing of applications with their ISRs and automating part of the examination process for applications received in XML, enabling the IB to send notifications of receipt of an application within days of receiving it (see C.1.1).

Translation

The translation quality indicator shows the average quality of abstracts and reports translated by external suppliers and in-house translators combined, based on the results of the IB's regular quality control (figure C.1.4.2).

The share of acceptable translations has remained fairly stable since 2009, fluctuating within a margin of three percentage points over five years (84.4% in 2011 and 87.4% in 2009). In 2013, 87.1% of documents translated by the IB were considered acceptable and 12.9% not acceptable, similar to the 2012 results.

Figure C.1.4.1: Formalities examination quality index



Note: The quality index is the simple average of the (i) percentage of forms PCT/IB/301 (Notification of receipt of a PCT application) sent within five weeks after the IB receives a PCT application; (ii) percentage of PCT applications published within six months and three weeks after the international filing date; (iii) percentage of republications with ISRs within two months after the IB receives the ISR; (iv) percentage of corrections to bibliographic data in the published PCT application (from 2007 to 2011); and (v) PCT operation quality control error rate (from 2012 onward).

Source: WIPO statistics database, March 2014

Figure C.1.4.2: Translation quality indicator

Source: WIPO, March 2014.

C.1.5 Efficiency in processing applications

The IB's productivity 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 thus includes the cost of all PCT activities, including translation, communication, management and others.

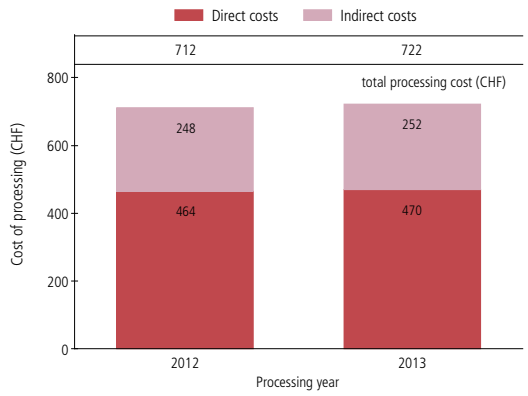
Costs have direct and indirect components. Direct costs reflect expenditure incurred by the IB in administering the PCT system and related programs. Indirect costs reflect expenditure for supporting activities (such as buildings and information technology). Indirect costs are weighted to take into account only the share attributable to the PCT system.

The methodology to compute the unit cost was revised in 2013 to align it with other WIPO unit/union cost calculations and to better capture a fast-changing environment. For example, the old method, designed in 2007, included a cost of storage over 30 years in warehouses, but paper filings (including PCT EASY filings) accounted for less than 10% of filings in 2013 (see C.1.1). The 2012 unit cost was calculated using both methods: CHF 680 (Swiss francs) using the old method and CHF 712 using the new method. The CHF 32 difference is due to the new method for allocating indirect costs.

The unit cost is calculated by dividing the total cost of production by the number of publications.

The average cost of processing a published application increased 1.4% in 2013 to reach CHF 722, due to direct and indirect costs (figure C.1.5). The number of staff remained almost stable in 2012 and 2013.

Figure C.1.5: Unit cost of processing a published PCT application



Note: The average cost of published PCT application is an estimation calculated by dividing the total processing cost by the number of published PCT applications.

Source: WIPO statistics database, March 2014

C.2

Receiving offices

A PCT application is filed with an RO, which may be a national or regional patent office or the IB. In 2013, 116 such ROs were responsible for receiving PCT applications, examining their compliance with PCT formality requirements, receiving the payment of fees and transmitting copies of the application for further processing to the IB and to the international searching authority (ISA). Subsection A.1.2 presents the number of PCT applications filed in 2012 at selected ROs. A statistical table in the annex provides the number of PCT applications for all offices and origins.

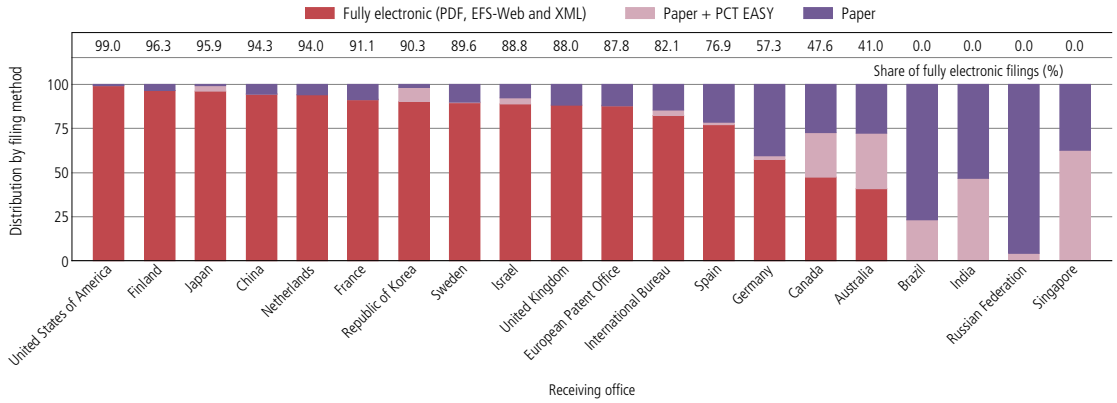
C.2.1 Distribution of applications by medium of filing

Each RO determines the media of filing that applicants will be allowed to use. Fee reductions may apply for some media. In 2013, the offices of Croatia and Portugal started receiving and processing PCT applications in fully electronic form, bringing to 28 the number of ROs that accept such filings.

At a global level, the share of fully electronic filings was 89.6% in 2013 (see C.1.1). But there was considerable variation across the top 20 ROs, ranging from 0% for Brazil, India, the Russian Federation and Singapore to 99% at the USPTO (figure C.2.1).

Paper filings remained dominant for the Russian Federation (95.7%), Brazil (76.6%) and India (53.2%). Paper plus PCT EASY filings accounted for the majority of filings in Singapore (62.6%).

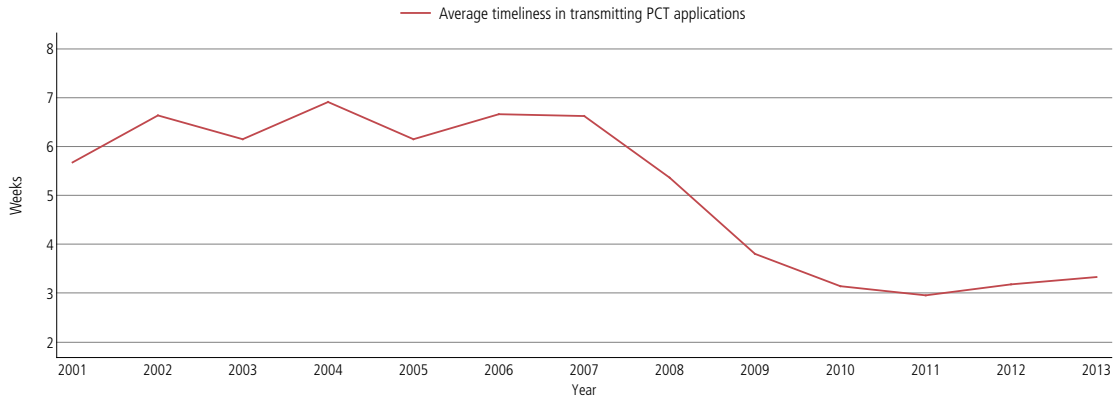
Figure C.2.1: Distribution of media of filing for top 20 receiving offices, 2013



Note: Data for 2012 are WIPO estimates.

Source: WIPO statistics database, March 2014

Figure C.2.2.1: Average timeliness in transmitting PCT applications to the IB



Note: 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 receiving office. Applications transmitted under PCT rule 19.4 are excluded.

Source: WIPO statistics database, March 2014

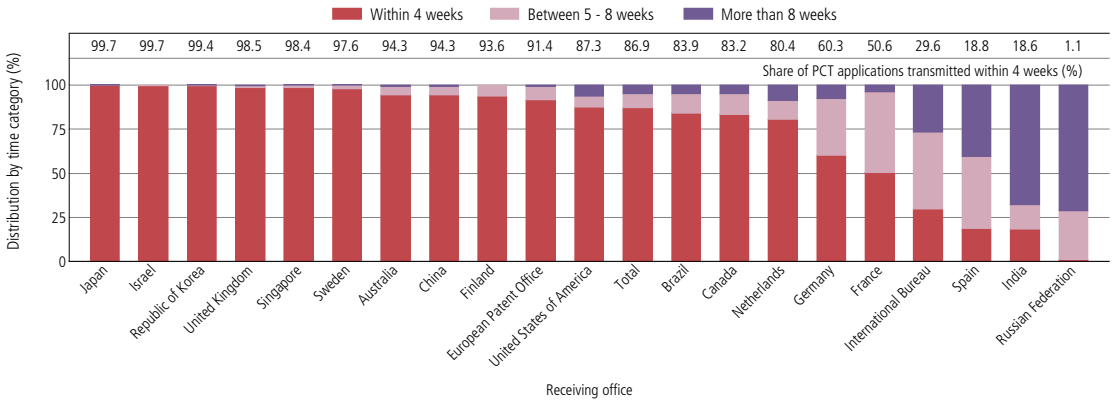
C.2.2 Timeliness in transmitting applications

The copy of the PCT application sent by the RO must reach the IB before the expiration of the 13th month from the priority date.[34] PCT applications are usually filed before the expiration of 12 months from the priority date. Where this is the case, the IB should receive the application within one month of the international filing date.

Between 2001 and 2007, the average transmission time fluctuated within about six or seven weeks from the international filing date (figure C.2.2.1). It then improved markedly, taking around three weeks in 2010. This is partly attributable to a shift to electronic filing that made the exchange of information between ROs and the IB more efficient.

34 A copy of the PCT application, known as the record copy, is transmitted to the IB by the RO for processing, publication and communication.

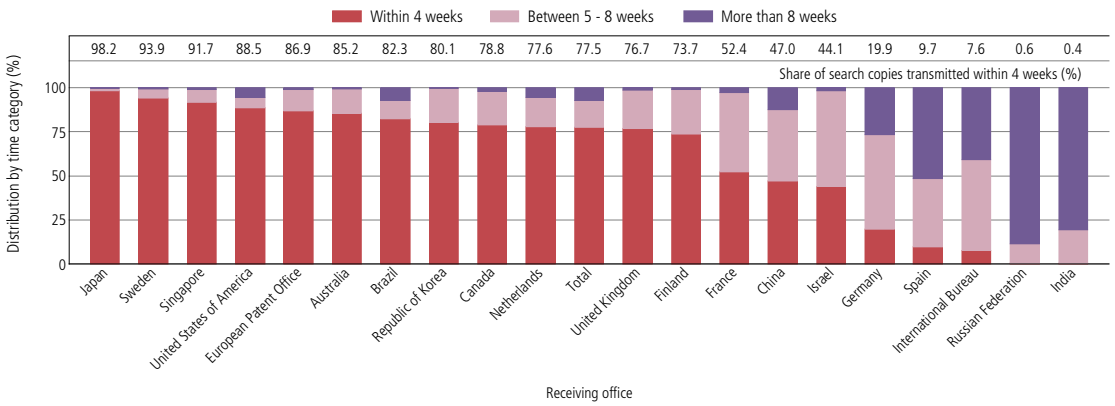
Figure C.2.2.2: Timeliness in transmitting PCT applications to the IB by time category and receiving office, 2013



Note: 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 receiving office. Applications transmitted under PCT rule 19.4 are excluded.

Source: WIPO statistics database, March 2014

Figure C.2.2.3: Timeliness in transmitting PCT applications to ISAs by time category and receiving office, 2013



Note: Timeliness is calculated as the time elapsed between the international filing date and the date on which the ISA received the PCT application (also called search copy) from the receiving office. Dates of search fee payments are not used due to the unavailability of data. Applications transmitted under PCT rule 19.4 are excluded.

Source: WIPO statistics database, March 2014

The average transmission time increased slightly from 3.2 weeks in 2012 to 3.3 weeks in 2013, the second consecutive increase, after five years of decline.

In 2013, offices transmitted on average 86.9% of their applications to the IB within 4 weeks. Israel, Japan and the Republic of Korea transmitted nearly 100% of their applications to the IB within four weeks (figure C.2.2.2). But India (18.6%) and the Russian Federation (1.1%) transmitted a fairly low share within four weeks, with the majority (67.6% and 71.2% respectively) taking more than eight weeks.

On average, in 2013, offices transmitted within 4 weeks 77.5% of their applications to ISAs. The share of applications transmitted to ISAs within four weeks ranged from 98.2% at the JPO to 0.4% at the office of India (figure C.2.2.3). The share of applications transmitted in more than eight weeks was highest for the Russian Federation (88.2%) and India (82%).

C.3

International searching authorities

Each PCT application must undergo an international search by an ISA. ROs have agreements with at least one but sometimes several ISAs that carry out international searches. If an RO has an agreement with multiple ISAs, the applicant selects one of them.

Once the ISA has performed the search, the applicant receives an ISR containing a list of documents relevant for assessing the patentability of the invention. The ISA also establishes a written opinion providing a detailed analysis of the potential patentability of the invention in light of the documents found in the search. With the ISR and the written opinion, an applicant can make a more informed decision about whether or how to enter the PCT national phase.

In 2013, 17 national or regional patent offices were acting as ISAs, with Egypt beginning to operate as an ISA on April 1, 2013, and India on October 15, 2013.[35]

C.3.1 International search reports by authority

In 2013, the EPO remained the most selected ISA, with 37.7% of all ISRs issued, followed by the JPO at 20.7% and KIPO at 14.8% (table C.3.1).

Israel started issuing ISRs in 2012, and one year later more than doubled the volume of ISRs it issued (+137.9%). The Russian Federation (+36.7%) and Austria (+31.4%) also showed substantial growth. In absolute terms, SIPO had the largest increase, issuing 3,017 more ISRs in 2013 than in 2012, for 14.6% growth. The Nordic Patent Institute (–19.8%) and Finland (–18.2%) had the sharpest declines. Despite the proportionally low decline at the USPTO (–2.7%), it accounted for the largest absolute decline, with 464 fewer ISRs issued than in 2012.

C.3.2 Timeliness in transmitting reports

The ISA must establish the ISR within three months from its receipt of a copy of the application (the "search copy"), or nine months from the priority date (or, if no priority is claimed, from the international filing date), whichever expires later.

From 2001 to 2008, the average transmittal time measured from the date of receipt of search copy to the IB increased by about 2 months, from 4 to almost 6, but has improved drastically since 2009 (figure C.3.2.1). The electronic transmittal of numerous ISRs to the IB may have played an important role. The average timeliness in transmitting ISRs fell sharply from 4.2 months to 3.6 months in 2013, the second largest improvement after the one of 2009.

35 The offices of Chile and Ukraine have been appointed as ISAs (bringing to 19 the total number of ISAs), but they had not commenced operations in 2013.

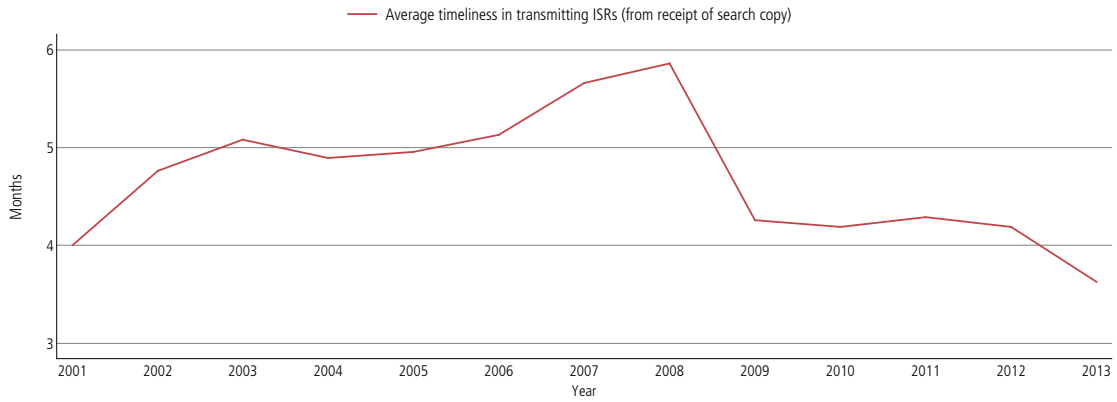
Table C.3.1: Distribution of international search reports by ISA and origin

		International filing year					2013	Change from
International searching authorities	**Total plus the top three origins**	**2009**	**2010**	**2011**	**2012**	**2013**	**share (%)**	**2012 (%)**
Australia	Australia	1,667	1,702	1,633	1,543	1,475		
	Singapore	328	400	380	386	444		
	United States of America	152	457	390	316	276		
	Total	**2,665**	**3,423**	**3,141**	**2,835**	**2,703**	**1.3**	**-4.6**
Austria	South Africa	119	60	82	91	120		
	India	405	100	61	17	25		
	United Arab Emirates	11	9	8	10	25		
	Total	**1,588**	**409**	**251**	**178**	**234**	**0.1**	**31.4**
Brazil	Brazil	65	307	432	425	498		
	Colombia					5		
	Angola					3		
	Total	66	310	435	429	510	0.2	18.9
Canada	Canada	1,942	2,094	2,295	2,180	2,216		
	United States of America	41	35	26	80	68		
	Switzerland	7	12	13	19	15		
	Total	**2,053**	**2,208**	**2,396**	**2,339**	**2,319**	**1.1**	**-0.9**
China	China	7,723	12,111	16,197	18,268	21,134		
	United States of America	138	295	496	899	1,054		
	India	5	219	225	285	318		
	Total	**8,095**	**13,273**	**18,017**	**20,720**	**23,737**	**11.6**	**14.6**
Egypt	Egypt					13		
	Total					**13**	**0.0**	**n/a**
European Patent Office	United States of America	17,880	16,963	17,643	18,622	20,876		
	Germany	16,688	17,426	18,525	18,433	17,695		
	France	6,991	7,054	7,223	7,569	7,697		
	Total	**69,955**	**68,940**	**71,638**	**75,143**	**77,395**	**37.7**	**3.0**
Finland	Finland	845	903	914	968	796		
	Poland					2		
	Sweden	6	3	5	1	1		
	Total	**860**	**921**	**928**	**977**	**799**	**0.4**	**-18.2**
India	India					107		
	Total					**107**	**0.1**	
Israel	Israel				331	816		
	United States of America				13	20		
	Panama					6		
	Total				**360**	**856**	**0.4**	**137.9**
Japan	Japan	28,307	30,597	36,931	41,382	42,046		
	United States of America	61	91	44	160	137		
	Singapore	14	6	7	18	58		
	Total	**28,446**	**30,856**	**37,094**	**41,677**	**42,433**	**20.7**	**1.8**
Nordic Patent Institute	Norway	158	189	118	132	114		
	Denmark	72	97	134	128	101		
	Sweden					4		
	Total	**239**	**299**	**275**	**278**	**223**	**0.1**	**-19.8**
Republic of Korea	United States of America	13,454	12,997	15,940	14,847	17,006		
	Republic of Korea	7,434	9,342	10,225	11,732	12,358		
	Canada	147	149	218	225	280		
	Total	**21,716**	**23,305**	**27,173**	**27,558**	**30,461**	**14.8**	**10.5**
Russian Federation	United States of America	21	4	22	1,376	2,366		
	Russian Federation	654	744	915	975	911		
	Ukraine	66	77	114	94	126		
	Total	**849**	**936**	**1,181**	**2,678**	**3,661**	**1.8**	**36.7**
Spain	Spain	1,087	1,154	1,106	1,066	1,017		
	Mexico	149	168	169	150	206		
	Chile	36	61	88	73	101		
	Total	**1,351**	**1,453**	**1,445**	**1,401**	**1,416**	**0.7**	**1.1**
Sweden	Sweden	1,554	1,383	1,397	1,210	1,276		
	Finland	208	375	317	218	107		
	Norway	117	126	131	82	100		
	Total	**2,039**	**2,074**	**1,940**	**1,577**	**1,527**	**0.7**	**-3.2**
United States of America	United States of America	13,835	14,143	14,491	15,248	15,070		
	Israel	652	712	661	494	328		
	India	94	152	222	249	205		
	Total	**15,460**	**15,904**	**16,477**	**17,099**	**16,635**	**8.1**	**-2.7**
Unknown		20	29	44	66	269		
Total		**155,402**	**164,340**	**182,435**	**195,315**	**205,300**	**100.0**	**5.1**

Note: Data for 2013 are WIPO estimates.

Source: WIPO statistics database, March 2014

Figure C.3.2.1: Average timeliness in transmitting ISRs to the IB measured from date of receipt of search copy



Note: Timeliness is calculated as the time between the date when ISA receives a copy of the PCT application and the date when the ISA transmits the ISR to the IB (or, if applicable, the date of receipt of the Article 17(2)(a) declaration). The figure shows timeliness in establishing the ISR where the applicable time limit for establishing the ISR under Rule 42 is three months from receipt of the search copy.

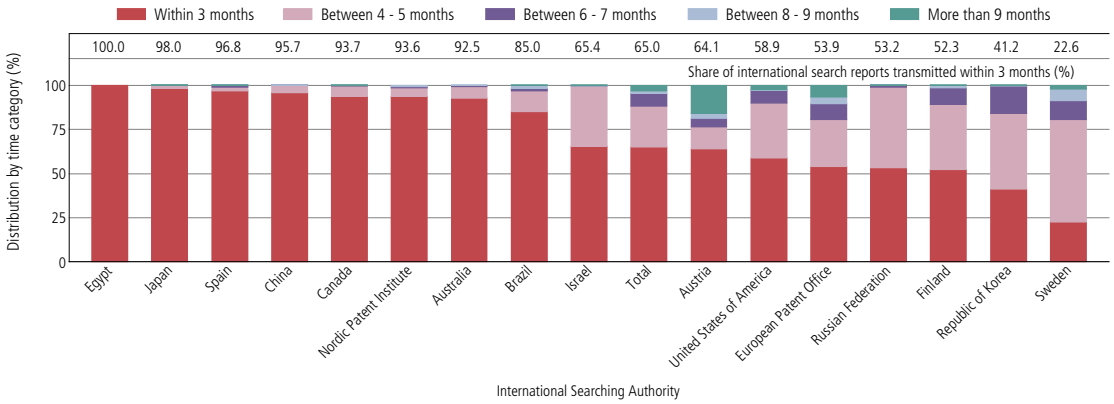
Source: WIPO statistics database, March 2014

In 2013, ISAs transmitted, on average, 65% of ISRs to the IB within 3 months from date of receipt of the search copy (figure C.3.2.2). That share ranged, in 2013, from 100% at Egypt's patent office to 22.6% at Sweden's. Seven offices had more than 90% of ISRs transmitted within three months in 2013, when Austria, KIPO and the USPTO markedly increased their shares. For example, only 2.4% of ISRs issued by KIPO were transmitted to the IB within three months in 2012 against 41.2% in 2013.

In practice, since the technical preparations for publishing a PCT application take about a month and should finish 15 days before the publication date, the establishment of the ISR and its transmission to the IB within 16 to 17 months from the priority date still allows the IB to publish the ISR with the application. ISRs received by the IB after the completion of technical preparations for publication are published separately later.

Timeliness in transmitting ISRs measured from priority date was relatively homogeneous across ISAs as they all issued most ISRs within 16 months (figure C.3.2.3). In 2013, ISAs issued, on average, 77.3% of ISRs within 16 months, against 69.9% in 2012. The office of Egypt, the JPO and the Nordic Patent Institute transmitted, respectively, 100%, 99.6% and 97.7% of ISRs within 16 months from the priority date. Timeliness improved markedly at KIPO (68% of ISRs) and at the office of Austria (53.5%), up respectively from 23.7% and 22.5% in 2012.

Figure C.3.2.2: Timeliness in transmitting ISRs to the IB measured from date of receipt of search copy by time category and ISA, 2013



Note: Timeliness is calculated as the time between the date when the ISA receives a copy of the PCT application and the date when the ISA transmits the ISR to the IB (or, if applicable, the date of receipt by the IB of the Article 17(2)(a) declaration). The figure shows timeliness in establishing the ISR where the applicable time limit for establishing the ISR under Rule 42 is three months from receipt of the search copy.

Source: WIPO statistics database, March 2014

Figure C.3.2.3: Timeliness in transmitting ISRs to IB measured from priority date by time category and ISA, 2013

Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the ISA transmits the ISR to the IB (or, if applicable, the date of receipt by the IB of the Article 17(2)(a) declaration).

Source: WIPO statistics database, March 2014

C.4

Supplementary international searching authorities

Since 2009, the supplementary international search (SIS) service has allowed PCT applicants to request searches in additional languages, complementing the search by the main ISA.

C.4.1 Supplementary international search reports by authority

There were 67 SIS requests in 2013, up from 21 in 2012 (table C.4.1). The number of SIS requests at the office of the Russian Federation increased by 13, and those at the EPO by 9 to account collectively for 93% of total requests made in 2013.

Table C.4.1: Distribution of supplementary international search reports by SISA

Supplementary International Searching Authority	Year of Supplementary International Search				
	2009	2010	2011	2012	2013
Austria			1	2	2
European Patent Office		3	7	21	30
Finland				1	
Nordic Patent Institute		1		3	
Russian Federation	23	35	31	19	32
Sweden	2	2	2		3
Total	**25**	**41**	**41**	**46**	**67**

Note: The figures for 2013 may be incomplete.

Source: WIPO statistics database, March 2014

C.5

International preliminary examining authorities

PCT applicants can request an optional international preliminary examination (IPE) with a competent international preliminary examining authority (IPEA), with competence based on negotiated agreements between ROs and IPEAs.

Once the IPE has been carried out, an International Preliminary Report on Patentability (IPRP) is sent by the IPEA to the applicant, who is then better placed to make an informed decision about whether to enter the PCT national phase. The report is also transmitted to national offices in their capacity as "elected" office.[36] Patent offices, in examining the PCT application during the national phase, take into account the IPRP (as well as the ISR and the written opinion of the ISA) when considering the patentability of the underlying invention.

In 2013, 17 national or regional patent offices were acting as IPEAs, with the offices of Egypt and India beginning to operate as IPEAs on April 1, 2013, and October 15, 2013, respectively.[37]

C.5.1 International preliminary reports on patentability by authority

The number of IPRPs issued in 2013 fell 6.3% from that in 2012, to a total volume of 14,727 reports (table C.5.1). Most of this decline originated from the EPO (–415 reports, or –5.4%) and the JPO (–271 reports or –9.9%). Some IPEAs showed growth, such as Austria doubling its IPRPs in 2013, after halving them in 2012, and the Russian Federation (+45 reports or +59.2%). Israel issued its first 11 reports in 2013.

36 "Elected" offices are national or regional offices at which the PCT application has potential legal effect.

37 The offices of Chile and Ukraine have been appointed as IPEAs, bringing the total to 19, but they had not yet commenced operations in 2013.

Table C.5.1: Distribution of IPRPs by IPEA

International preliminary examining authority	Year 2009	2010	2011	2012	2013	2013 share (%)	Change from 2012 (%)
Australia	724	850	701	818	654	4.4	-20.0
Austria	113	61	28	14	28	0.2	100.0
Brazil			15	45	47	0.3	4.4
Canada	427	258	184	360	255	1.7	-29.2
China	425	394	340	450	434	2.9	-3.6
European Patent Office	9,584	8,264	7,177	7,742	7,327	49.8	-5.4
Finland	132	139	122	115	91	0.6	-20.9
Israel					11	0.1	n/a
Japan	2,175	1,905	2,206	2,741	2,470	16.8	-9.9
Nordic Patent Institute	11	34	40	37	48	0.3	29.7
Republic of Korea	368	308	248	254	256	1.7	0.8
Russian Federation	109	62	67	76	121	0.8	59.2
Spain	135	109	148	106	85	0.6	-19.8
Sweden	523	409	357	332	249	1.7	-25.0
United States of America	2,150	2,878	3,460	2,628	2,651	18.0	0.9
Total	**16,876**	**15,671**	**15,093**	**15,718**	**14,727**	**100.0**	**-6.3**

Note: The figures for 2013 may be incomplete.

Source: WIPO statistics database, March 2014

C.5.2 Timeliness in transmitting reports

Similar to establishing search reports (see C.3.2), the PCT regulations set a time limit for establishing the IPRP: 28 months from the priority date, six months from the start of the preliminary examination, or six months from the date of receipt of the translated application document by the IPEA (where relevant)—whichever time limit expires latest.

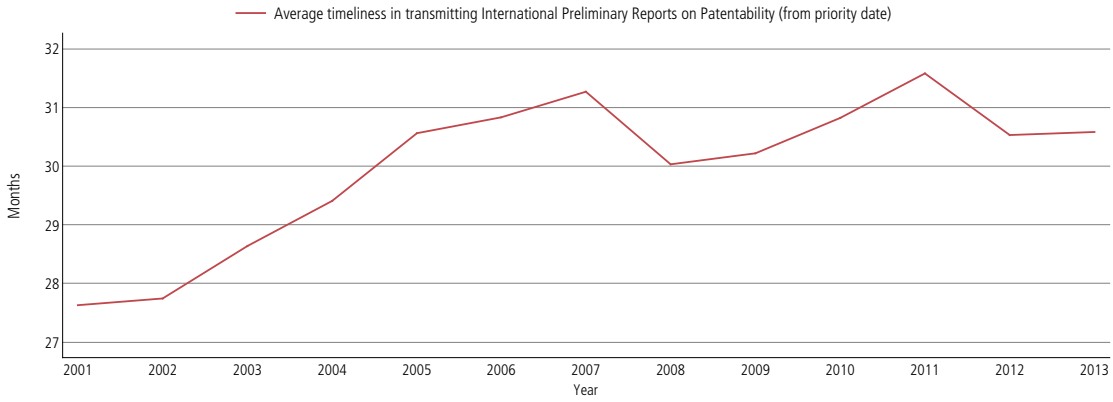
In practice, most applicants enter the national phase immediately before the expiration of the time limit set by the PCT—that is generally, 30 months from the priority date. The establishment of IPRPs before 28 months from the priority date is therefore intended to give applicants two months, in principle, to evaluate the IPRP and consider its impact on the decision to enter the PCT national phase.

Timeliness here is measured using the date the IB receives reports, rather than the date when the reports were established. The measurement may thus be influenced by transmittal times.

Average time in transmitting IPRPs increased markedly over the past decade (figure C.5.2.1). Since 2001, the delay in transmitting IPRPs rose from 27.6 months to peak in 2011 with 31.6 months. The two exceptions were 2008 and 2012, which saw declines of more than one month. In 2013, the average time to transmit IPRPs remained similar to that in 2012, at 30.6 months from the priority date.

In 2013, precisely 72.8% of IPRPs were transmitted to the IB within 28 months from priority date, against 68.4% in 2012 (C.5.2.2). The JPO, the Nordic Patent Institute, SIPO and Spain each transmitted more than 90% of IPRPs within 28 months of the priority date of the application. The USPTO transmitted 58.5% of IPRPs later than 32 months from the priority date, and Austria 42.9%.

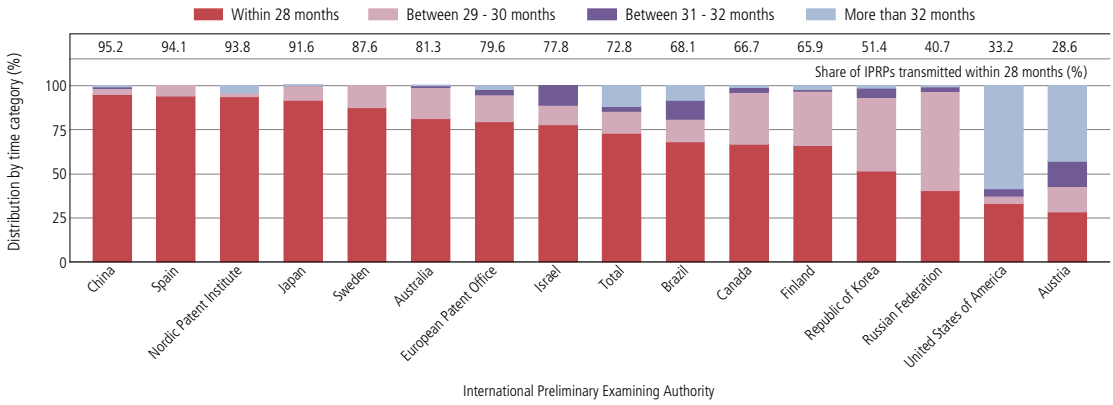
Figure C.5.2.1: Average timeliness in transmitting IPRPs to the IB



Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the IB received the IPRP from the IPEA.

Source: WIPO statistics database, March 2014

Figure C.5.2.2: Timeliness in transmitting IPRPs to the IB by time category and IPEA, 2013



Note: The figure presents the same timeliness information for 2013 as in figures B.5.1 and B.5.2, but breaks it down by IPEA. Timeliness is calculated as the time elapsed between the priority date and the date when the IB received the IPRP from the IPEA.

Source: WIPO statistics database, March 2014

C.6

PCT-Patent Prosecution Highway pilots

Use of the PCT-Patent Prosecution Highway (PCT-PPH) pilots enables applicants—where a favorable written opinion or IPRP has been issued by the participating ISA and/or IPEA—to fast-track patent examination procedures in the national phase and generally to obtain a patentability decision more quickly from participating offices.

In 2013, 53 PCT-PPH bilateral pilots were active, with the participation of 24 offices, including 14 International Authorities. But new, more comprehensive pilot programs were agreed on, to start in January 2014.

C.6.1 New pilots

Bilateral and unilateral pilots

The following offices started bilateral PCT-PPH pilots in 2013:

- Danish Patent and Trademark Office (DKPTO) and SIPO
- DKPTO and Israel Patent Office
- National Board of Patents and Registration of Finland and SIPO
- Canadian Intellectual Property Office and USPTO
- Austrian Patent Office and SIPO
- Israel Patent Office and JPO
- Patent Office of the Republic of Poland and JPO
- Eurasian Patent Office and JPO
- Mexican Institute of Industrial Property and SIPO
- Austrian Patent Office and KIPO
- National Institute of Industrial Property (Portugal) and USPTO
- Intellectual Property Office (Philippines) and USPTO
- JPO and Federal Service for Intellectual Property (ROSPATENT) (Russian Federation)
- JPO and Directorate General of Intellectual Property Rights (Indonesia)
- Austrian Patent Office and JPO
- KIPO and Swedish Patent and Registration Office (started on January 1, 2014)

The Israel Patent Office launched a unilateral PCT-PPH pilot based on written opinions or its own IPRP.

IP5 PPH pilot

The IP5 offices, comprising the world's five largest intellectual property offices (the EPO, the JPO, KIPO, SIPO and the USPTO) launched a comprehensive IP5 PPH pilot that would use PCT products. The program started in January 2014.

Global PPH pilot

At the end of 2013, it was announced that, starting January 6, 2014, a number of offices would pilot a new global PPH arrangement. It would be possible for a request for accelerated processing at any participating office based on work products—including a written opinion or IPRP under the PCT—from any of the other participating offices, if at least one claim was found patentable by the office of earlier examination and if any other applicable eligibility criteria were met. The pilot uses a single set of qualifying requirements, to simplify and improves the existing PPH network to make it more accessible to users.

By the end of 2013, the following offices decided to participate in that pilot:

- Canadian Intellectual Property Office
- DKPTO
- National Board of Patents and Registration of Finland Intellectual Property Office (UK) (an operating name of the office)
- IP Australia
- JPO
- KIPO
- National Institute of Industrial Property (Portugal)
- Nordic Patent Institute
- Norwegian Industrial Property Office
- ROSPATENT
- Spanish Patent and Trademark Office
- USPTO

Table C.6.2.1: Distribution of PCT-PPH requests by international authority and office of PCT national phase entry, 2013

	Office of PCT national phase entry												
International authority	**United States of America**	**Japan**	**China**	**Republic of Korea**	**European Patent Office**	**Canada**	**Australia**	**Philippines**	**Indonesia**	**Russian Federation**	**Mexico**	**Israel**	**Total**
Japan	726	952	572	206	221	-	-	19	22	7	8	0	2,733
Republic of Korea	1,000	44	206	56	-	-	-	-	-	-	-	-	1,306
European Patent Office	941	207	-	-	-	-	-	-	-	-	-	-	1,148
China	366	36	-	13	-	-	-	-	-	1	0	-	416
United States of America	154	12	24	20	36	20	12	8	-	4	-	2	292
Canada	42	-	-	-	-	101	-	-	-	-	-	-	143
Australia	89	-	-	-	-	-	23	-	-	-	-	-	112
Sweden	64	13	-	-	-	-	-	-	-	-	-	-	77
Russian Federation	35	1	6	-	-	-	-	-	-	-	-	-	42
Finland	12	2	1	-	-	-	-	-	-	1	-	0	16
Israel	14	1	-	-	-	-	-	-	-	-	-	1	16
Austria	14	-	-	0	-	-	-	-	-	-	-	-	14
Nordic Patent Institute	10	4	-		-	-	-	-	-	-	-	-	14
Spain	4	0	-	-	-	-	-	-	-	0	3	-	7
Total	**3,471**	**1,272**	**809**	**295**	**257**	**121**	**35**	**27**	**22**	**13**	**11**	**3**	**6,336**

Source: WIPO, based on data from the JPO, March 2014

At the beginning of January 2014, four more offices also joined:

- Hungarian Intellectual Property Office
- Icelandic Patent Office
- Israel Patent Office
- Swedish Patent and Registration Office

C.6.2 Number of requests by office

With 6,336 requests for PCT-PPH fast-track patent examination in 2013, the number of requests grew 38.4% over 2012 (table C.6.2.1). The USPTO received 3,471 requests, making it the most chosen office of destination, followed by the JPO (1,272 requests) and SIPO (809). The USPTO received almost 800 requests more than previous year, and SIPO about 400, doubling its number. Of 23 participating offices, 12 received requests for PCT-PPH fast-track processing in 2013.

The international authorities (ISA or IPEA) whose reports and opinions were most often relied on as the basis of PCT-PPH requests were the JPO (2,733 requests), followed by KIPO (1,306) and the EPO (1,148).

Table C.6.2.2 compares the July to December 2013 data for PCT-PPH applications with total patent applications for some key elements of the patent examination procedure. Note that because of significant differences in patenting procedures among offices, a cross-office comparison is not relevant.

The grant rate and percentage of the first action allowance were higher for PCT-PPH applications. At the USPTO, 90.3% of PCT-PPH applications were granted but only 53% of all applications were granted. At the JPO, the difference in first action allowance was also wide between PCT-PPH applications (63%) and all applications (16%).

In addition, the pendency time was shorter and the number of office actions reduced for PCT-PPH applications, compared with all applications. For example, at the JPO the average final decision pendency was 4.1 months for PCT-PPH applications and 22 months for all applications. The average number of office actions was reduced to 0.5 for PCT-PPH applications, compared with 1.1 for all applications.

Table C.6.2.2: Additional statistics on PCT-PPH applications, July to December 2013

Additional statistics	Office of PCT national phase entry: Canada	Japan	Republic of Korea	United States of America
Grant percentage (%)				
PCT-PPH applications	92.0	94.0	87.1	90.3
All applications combined	65.0	71.0	67.5	53.0
First action allowance percentage (%)				
PCT-PPH applications	42.0	63.0	31.2	19.9
All applications combined	4.6	16.0	10.5	17.3
Average first action pendency (months)				
PCT-PPH applications	2.0	2.4	3.1	5.2
All applications combined	15.8	13.0	13.2	18.0
Average final decision pendency (months)				
PCT-PPH applications	3.8	4.1	6.3	14.1
All applications combined	35.1	22.0	19.1	29.0
Average number of office actions				
PCT-PPH applications	0.6	0.5	0.8	
All applications combined	1.6	1.1		2.4

Source: WIPO, based on data from the JPO, March 2014

SECTION D
DEVELOPMENT OF THE PCT SYSTEM

D.1

PATENTSCOPE SEARCH SYSTEM

The PATENTSCOPE database provides access to PCT applications in full text format on the day of publication. The information may be searched by multiple criteria in a set of languages. In addition, it provides access to over 32 million patent documents.

The national patent collections of Bahrain, Canada, China, Egypt, Estonia, the United Arab Emirates and the United States of America were added to PATENTSCOPE, bringing the number of offices to 37.

National phase information was added to the PATENTSCOPE search system for Austria, Cuba, India, New Zealand and Thailand, bringing the number of offices that provide such information to 48.

Ten webinars were held on topics related to the use of the PATENTSCOPE search system, and the PowerPoint slides for those webinars became available on the WIPO website.[38]

D.2

ePCT SYSTEM

The ePCT system enables applicants to securely review and consult the most up-to-date bibliographic data and documents in their PCT applications, including those not yet published.

The system has two parts: ePCT public services, and ePCT private services. The latter require additional authentication with a digital certificate and also allow semi-automated actions on a PCT application.

ePCT for applicants

The following new online actions were added to ePCT in 2013, allowing applicants to:

- prepare a demand for international preliminary examination (with automatic completion of bibliographic data) and submit it to the IB for onward transmittal to the competent IPEA;
- request the withdrawal of the demand for international preliminary examination or the withdrawal of elections of states;
- check whether a priority document is already available in the digital access service for priority documents (DAS) and determine whether the IB has been given access rights, when requesting the IB to obtain a priority document from the WIPO Digital Access Service for priority Documents; and
- request that an indication of availability for licensing purposes be displayed on the PATENTSCOPE website.

38 Available at: *www.wipo.int/patentscope/en/webinar*

ePCT for offices

The following additional online actions were added to ePCT, allowing receiving offices and international authorities to submit updates of bibliographic data and to transmit to the IB various electronic documents, such as: The record copy for PCT applications filed in PCT-EASY or paper format, Priority documents, Withdrawals of PCT applications and priority claims.

Since 2013, it has been possible for offices to upload documents electronically to the IB even if they do not act as an RO, ISA or IPEA.

D.3

Legal developments

Changes in the PCT regulations that entered into force or were adopted by the assembly of the PCT Union (PCT Assembly) in 2012 and in 2013 are presented here:

Amendments adopted in 2012 that entered into force on January 1, 2013

The amendments served to simplify the procedures for applicants from all PCT contracting states made possible by the enactment of the Leahy-Smith America Invents Act. They include consequential changes in relation to signatures (PCT Rules 4.15, 53.8 and 90*bis*.5) and a simplification of the provisions which permit documents containing oaths or declarations of inventorship to be required by the designated office in certain circumstances, and a limitation of the extent to which the designated office may require further documents or evidence relating to such oaths and declarations furnished during the international phase (PCT Rule 51*bis*.1 and 2).

As a consequence of these amendments, the administrative instructions under the PCT and the PCT Receiving Office Guidelines were modified accordingly, with effect from the same date.

Amendments adopted in 2013 that will enter into force on July 1, 2014

The amendments require the IPEA to carry out a “top-up” search during international preliminary examination, the main purpose of which is to find potentially relevant patent publications which had become available since the international search was conducted (PCT Rules 66 and 70); and the availability of the written opinion of the ISA on PATENTSCOPE as from the date of international publication (instead of 30 months from the priority date) (PCT Rule 94 and deletion of PCT Rule 44*ter*).

D.4

Meetings

Several meetings take place every year between the PCT international authorities, the IB, PCT member states and/or offices to ensure the regular operation of the system and to improve its performance and facilitate its use.

Meeting of international authorities under the PCT

The 20th session of the meeting of international authorities under the PCT was held in Munich, Germany, from February 6 to 8, 2013 and was preceded by an informal session of the quality subgroup. The matters discussed included:

- the development of ePCT including expanding the interface to support additional languages;
- quality matters, including standardized clauses in reports, gathering and presentation of metrics for PCT processes, sharing of search strategies, and feedback mechanisms between offices;
- the collaborative search and examination pilot project carried out between the EPO, KIPO and the USPTO;
- the supplementary international search system;
- PCT minimum documentation (updating the definition of the patents part);
- work to update the PCT International Search and Preliminary Examination Guidelines;
- development of a new XML sequence listing standard;
- the revision of WIPO standard ST.14 in relation to cited documents; and
- the requirements and procedures for the appointment of offices as international search and preliminary examining authorities.

PCT working group

The sixth session of the PCT working group was held in Geneva from May 21 to 24, 2013. The working group proposed amendments to the PCT regulations, which were later adopted by the PCT assembly (see D.3). Other proposals to amend the PCT regulations or to modify the PCT Receiving Office Guidelines or the PCT international search and preliminary examination guidelines were considered by the working group but would require further discussions at future meetings.

The working group also discussed papers on PCT fee reductions, appointment of international authorities and coordination of technical assistance under the PCT, where discussions will continue at the following session of the working group.

PCT assembly

The 44th session of the PCT assembly was held in Geneva from September 23 to October 2, 2013, as part of the meetings of the assemblies of the member states of WIPO. The PCT assembly adopted amendments to the PCT regulations, which will enter into force on July 1, 2014 (C.3.2). It also appointed the State Intellectual Property Service of Ukraine as an international searching and preliminary examining authority. The appointment will become effective from a future date to be notified by the office when it is ready to begin operations.

D.5

PCT TRAINING

The IB offers training sessions and provides training materials on the PCT system to a wide range of interested parties worldwide.

New video tutorials: "Learn the PCT"

A series of 29 short videos, providing a basic introduction on important aspects and issues in the international phase and national phase of PCT processing, were produced by the PCT Legal Division and made available on WIPO's YouTube channel.

Seminars

The PCT Legal Division participated in 55 seminars for PCT users. The seminars were held in 15 countries (Belgium, China, Denmark, Finland, France, Germany, Greece, Hungary, Japan, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States of America) and at WIPO headquarters.

The seminars were provided in six languages (Chinese, English, French, German, Japanese and Spanish). In addition, 40 presentations on the PCT were given to users and potential users of the PCT.

Webinars

In 2013, "PCT update" webinars, as well as webinars on the use of the ePCT system, ePCT-filing and filing with the PCT-SAFE software, were given in all 10 PCT publication languages. A total of 1,093 participants took part in the 25 webinars. The recordings and accompanying PowerPoint presentations are on the PCT website.

In July, WIPO announced that it would welcome requests from companies, universities, law firms and other interested entities for custom PCT training in webinars. Available free of charge, such webinars can be tailored to the specific requirements of the requesting party.

Distance learning

The PCT distance learning course entitled "Introduction to the PCT," available in all 10 PCT publication languages, was followed on the Internet by 3,569 participants in 147 countries.

International Cooperation

The PCT International Cooperation Division organized and participated in 43 events such as seminars and workshops mainly for offices of PCT member states and possible PCT member states as well as other stakeholders. These were held in 31 countries and at WIPO headquarters. There were over 1,300 participants from 63 countries.

STATISTICAL TABLE

The table shows the number of PCT applications filed in 2013 and the number of PCT national phase entries in 2012 by office and by country or territory of origin.[39]

The following example may help in understanding the table below: the office of Australia received 1,519 PCT applications as a PCT receiving office in 2013 and 19,107 PCT national phase entries as a designated office in 2012; applicants residing in Australia filed 1,602 PCT applications in 2013 and initiated 6,941 PCT national phase entries worldwide in 2012.

		PCT applications filed (international phase) in 2013		PCT national phase entries in 2012	
Name	Code	at receiving office	by country of origin	at office of destination	by country of origin
Afghanistan	AF	n.a.	0	n.a.	4
Albania	AL	1	1	--	1
Algeria	DZ	7	7	738	16
Andorra	AD	n.a.	4	n.a.	9
Angola	AO	IB	3	--	0
Antigua and Barbuda	AG	0	0	--	1
Argentina	AR	n.a.	26	n.a.	121
Armenia	AM	5	8	3	7
Australia	AU	1,519	1,602	19,107	6,941
Austria	AT	475	1,263	550	4,698
Azerbaijan	AZ	5	7	11	22
Bahamas	BS	n.a.	12	n.a.	69
Bahrain	BH	0	2	160	4
Bangladesh	BD	n.a.	3	n.a.	1
Barbados	BB	IB	150	36	271
Belarus	BY	10	15	145	15
Belgium	BE	68	1,106	EP	5,272
Belize	BZ	0	3	--	0
Bermuda	BM	n.a.	0	n.a.	61
Bolivia (Plurinational State of)	BO	n.a.	1	n.a.	1
Bosnia and Herzegovina	BA	6	7	14	4
Brazil	BR	620	661	22,658	1,167
Brunei Darussalam	BN	0	0	--	1
Bulgaria	BG	55	58	9	29
Burkina Faso	BF	OA	0	OA	1
Burundi	BI	n.a.	1	n.a.	1
Cameroon	CM	OA	1	OA	0
Canada	CA	2,097	2,851	26,904	8,947
Chad	TD	OA	0	OA	1
Chile	CL	104	144	2,463	316

39 A PCT applicant seeking protection in any of the European Patent Convention (EPC) member states can generally choose to enter the national phase at the relevant national office or at the EPO (see EPC member states indicated in the PCT contracting states table in the annex). This explains why the number of PCT national phase entries at some European national offices is lower than would otherwise be expected. The PCT national phase route is closed for France, Italy, the Netherlands and several other countries (again, see the PCT contracting states table in the annex). A PCT applicant seeking protection in those countries must enter the PCT national phase at the regional office (the EPO).

Name	Code	PCT applications filed (international phase) in 2013		PCT national phase entries in 2012	
		at receiving office	by country of origin	at office of destination	by country of origin
China	CN	22,942	21,516	69,693	16,978
China, Hong Kong SAR	HK	n.a.	0	n.a.	214
China, Macao SAR	MO	n.a.	0	n.a.	11
Colombia	CO	12	82	1,759	115
Costa Rica	CR	1	12	570	12
Côte d'Ivoire	CI	OA	1	OA	1
Croatia	HR	37	43	12	60
Cuba	CU	9	9	131	103
Curaçao	CW	n.a.	0	n.a.	1
Cyprus	CY	0	33	EP	193
Czech Republic	CZ	175	197	44	279
Democratic People's Republic of Korea	KP	1	1	27	7
Democratic Republic of the Congo	CD	n.a.	0	n.a.	2
Denmark	DK	540	1,263	60	4,975
Djibouti	DJ	n.a.	0	n.a.	2
Dominican Republic	DO	2	7	254	0
Ecuador	EC	2	19	--	1
Egypt	EG	40	49	1,474	24
Eritrea	ER	n.a.	1	n.a.	1
Estonia	EE	6	21	1	98
Eurasian Patent Organization	EA	17	n.a.	3,149	n.a.
European Patent Office	EP	32,038	n.a.	85,421	n.a.
Finland	FI	1,265	2,103	47	5,774
France	FR	3,312	7,899	EP	28,943
Gabon	GA	OA	0	OA	2
Georgia	GE	10	10	219	11
Germany	DE	1,439	17,927	4,490	59,966
Ghana	GH	1	1	--	2
Greece	GR	71	111	EP	210
Guatemala	GT	1	2	319	0
Guinea	GN	OA	0	OA	2
Honduras	HN	0	0	223	0
Hungary	HU	131	158	25	504
Iceland	IS	14	44	7	145
India	IN	882	1,392	29,318	3,322
Indonesia	ID	8	14	--	37
International Bureau	IB	10,313	n.a.	n.a.	n.a.
Iran (Islamic Republic of)	IR	n.a.	4	n.a.	5
Iraq	IQ	n.a.	0	n.a.	1
Ireland	IE	26	435	EP	1,410
Israel	IL	1,198	1,611	5,583	5,527
Italy	IT	349	2,872	EP	9,368
Jamaica	JM	n.a.	0	n.a.	14
Japan	JP	43,075	43,918	53,058	112,862
Jordan	JO	n.a.	1	n.a.	7
Kazakhstan	KZ	14	15	--	13
Kenya	KE	3	8	128	8
Kuwait	KW	n.a.	0	n.a.	7
Lao People's Democratic Republic	LA	IB	2	--	0
Latvia	LV	14	24	EP	64
Lebanon	LB	n.a.	4	n.a.	10
Libya	LY	0	0	--	1
Liechtenstein	LI	CH	186	CH	194
Lithuania	LT	18	40	6	13
Luxembourg	LU	0	350	5	1,146
Madagascar	MG	IB	1	38	0
Malaysia	MY	271	310	5,014	470

Name	Code	PCT applications filed (international phase) in 2013		PCT national phase entries in 2012	
		at receiving office	by country of origin	at office of destination	by country of origin
Mali	ML	OA	0	OA	4
Malta	MT	0	73	EP	110
Marshall Islands	MH	n.a.	0	n.a.	1
Mauritius	MU	n.a.	7	n.a.	4
Mexico	MX	192	233	11,533	576
Monaco	MC	0	17	EP	47
Mongolia	MN	0	0	--	1
Montenegro	ME	IB	2	37	1
Morocco	MA	66	66	802	4
Namibia	NA	AP	5	--	15
Nepal	NP	n.a.	0	n.a.	2
Netherlands	NL	1,027	4,198	EP	15,567
Netherlands Antilles	AN	n.a.	0	n.a.	13
New Zealand	NZ	249	324	3,858	1,004
Nicaragua	NI	1	2	162	0
Nigeria	NG	IB	7	--	1
Norway	NO	284	715	436	2,817
Oman	OM	IB	3	--	3
Pakistan	PK	n.a.	1	n.a.	1
Panama	PA	1	18	--	11
Paraguay	PY	n.a.	0	n.a.	17
Peru	PE	10	13	994	15
Philippines	PH	20	32	--	14
Poland	PL	215	330	53	606
Portugal	PT	70	147	12	277
Qatar	QA	0	28	56	10
Republic of Korea	KR	12,442	12,386	30,752	17,238
Republic of Moldova	MD	1	1	11	5
Romania	RO	2	9	8	64
Russian Federation	RU	1,097	1,087	12,594	1,220
Rwanda	RW	0	0	--	1
Saint Kitts and Nevis	KN	0	2	--	14
Saint Vincent and the Grenadines	VC	IB	2	--	10
Samoa	WS	n.a.	3	n.a.	4
San Marino	SM	0	4	--	3
Saudi Arabia	SA	n.a.	187	n.a.	211
Senegal	SN	OA	1	OA	1
Serbia	RS	21	25	13	13
Seychelles	SC	0	9	--	34
Sierra Leone	SL	AP	0	--	1
Singapore	SG	562	837	6,670	2,009
Slovakia	SK	32	41	14	84
Slovenia	SI	87	124	EP	190
South Africa	ZA	86	350	6,275	934
Spain	ES	1,262	1,752	114	4,472
Sri Lanka	LK	IB	14	--	21
Swaziland	SZ	AP	0	AP	9
Sweden	SE	1,819	3,960	80	11,365
Switzerland	CH	232	4,367	68	19,428
Syrian Arab Republic	SY	1	1	--	4
T F Y R of Macedonia	MK	1	1	--	1
Tajikistan	TJ	0	0	3	0
Thailand	TH	67	72	4,793	120
Tonga	TO	n.a.	1	n.a.	0
Trinidad and Tobago	TT	0	0	--	5
Tunisia	TN	1	2	--	28
Turkey	TR	390	835	228	693

Name	Code	PCT applications filed (international phase) in 2013		PCT national phase entries in 2012	
		at receiving office	by country of origin	at office of destination	by country of origin
Uganda	UG	AP	2	--	3
Ukraine	UA	151	152	2,108	88
United Arab Emirates	AE	IB	59	--	58
United Kingdom	GB	3,893	4,865	2,109	18,748
United States of America	US	57,793	57,239	109,976	146,988
Uruguay	UY	n.a.	4	n.a.	10
Uzbekistan	UZ	1	5	241	2
Vanuatu	VU	n.a.	0	n.a.	3
Venezuela (Bolivarian Republic of)	VE	n.a.	1	n.a.	16
Viet Nam	VN	12	17	2,950	34
Yemen	YE	n.a.	1	n.a.	4
Zambia	ZM	0	0	26	1
Zimbabwe	ZW	0	3	--	1
Unknown		3	26	8,451	12,945
Total		**205,300**	**205,300**	**539,300**	**539,300**

Note:
--: data unknown;
n.a.: not applicable, as it is not a PCT member;
AP (African Regional Intellectual Property Organization), CH (Switzerland), EP (European Patent Office), IB (IB) and OA (African Intellectual Property Organization) are the competent—designated, elected or receiving—offices for certain member states;
PCT national phase entries by origin; world totals; and PCT application data are WIPO estimates; and
Offices of destination are designated and/or elected offices.

Source: WIPO statistics database, March 2014

ACRONYMS

EFS-Web	Web-based Electronic Filing System of the USPTO
EPC	European Patent Convention
EPO	European Patent Office
IB	International Bureau
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
NPE	National phase entry
KIPO	Korean Intellectual Property Office
PCT	Patent Cooperation Treaty
PCT-PPH	Patent Cooperation Treaty - Patent Prosecution Highway
PCT-SAFE	PCT- Secure Application Filed Electronically
PDF	Portable Document Format
RO	Receiving office
SAFE	Secure application filed electronically
SIPO	State Intellectual Property Office of the People's Republic of China
SIS	Supplementary international search
SISA	Authority specified for supplementary search (supplementary international searching authority)
SISR	Supplementary international search report
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization
XLM	Extensible Markup Language

GLOSSARY

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

Application: A set of legal documents submitted to a patent office requesting that a patent be granted for the applicant's invention. The patent office processes the application and decides whether to grant a patent or reject the application.

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 that regulate the filing of PCT applications, the international searches and written opinions by ISAs, and the international publication of PCT applications—and that provide for the communication of PCT applications and related documents to designated offices.

Chapter II of the PCT: The provisions in the PCT that regulate the optional international preliminary examination procedure.

Country of origin: For statistical purposes, the country of origin of a PCT application is the country of residence (or nationality, in the absence of a valid residence) of the first-named applicant in the application.

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 the invention is sought, as specified in the PCT application.

Elected office: The national or regional office of, or acting for, a state elected by the 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, a patent application filed by a resident of a given country with a patent office of a foreign country. For example, a patent application filed with the USPTO by an applicant residing in France is considered a filing abroad from the perspective of France. A filing abroad is the opposite of a nonresident filing, which describes a patent application by a resident of a foreign country from the perspective of the country receiving the application.

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 authority: A national or regional patent office or international organization that fulfills specific tasks, as prescribed by the PCT.

International Bureau: In the context of the PCT, the IB of WIPO acts as a receiving office for PCT applications from all contracting states. It also handles certain processing tasks for all PCT applications filed with all receiving offices worldwide.

International filing date: The date on which the receiving office receives a PCT application (provided certain formality requirements have been met).

International Patent Classification: 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 patent applications. 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 the 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, as well as their communication to designated and elected offices by the IB.
4. Optional establishment of an SISR by a SISA.
5. Optional establishment of an IPRP by an IPEA.

International preliminary examining authority (IPEA): A national or regional patent office appointed by the PCT Assembly to carry out international preliminary examination. 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 non-binding opinion established by an IPEA at the request of the applicant, on whether the claimed invention appears to be novel, to involve an inventive step (is not obvious) and to be industrially applicable. Prior to January 1, 2004, this report was known as the "International Preliminary Examination Report."

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

International searching authority: 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: The entry of a PCT application into the national phase before a national or regional patent office. National phase entry involves the payment of fees and, where necessary, the submission of a translation of the PCT application. It must take place within 30 months from the priority date of the application, although longer time periods are allowed by some offices.

National phase under the PCT: Following the PCT international phase, the national phase consists of the processing of the application before each national or regional patent office in which the applicant seeks protection for an invention.

Non-Resident filing: For statistical purposes, a patent application filed with a national patent office by an applicant from a foreign country. For example, a patent application filed with the USPTO by an applicant residing in France is considered a non-resident filing from the perspective of the US. A "non-resident filing is the opposite of a filing abroad, which describes a patent application filed by the resident of a given country with a foreign patent office from the perspective of the applicant's origin. A non-resident filing is also known as a foreign filing.

Paris Convention: An international convention (the Paris Convention for the Protection of Industrial Property) 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.

Patent: An exclusive right granted by law to an applicant for an invention for a limited period of time (generally 20 years from the time of filing). The patent holder has the right to exclude others from commercially exploiting the invention for the duration of the patent term. 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 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 are 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 (contracting states) by filing a single PCT international application. The decision whether to grant patent rights remains the prerogative of national and regional patent offices.

PATENTSCOPE Search Service: Provides access, free of charge, to all published PCT applications along with their related documents, and to the national or regional patent collections from numerous offices worldwide. Since April 2006, the PATENTSCOPE search service has become the authentic publication source of PCT applications. Powerful, flexible search interfaces allow retrieval of relevant PCT applications and associated information.

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

PCT-Patent Prosecution Highway Pilots (PCT-PPH): A number of bilateral agreements signed between patent offices enable applicants to request a fast-track examination procedure whereby patent examiners can use the work products of another office or offices. These work products can include the results of a favorable written opinion by an ISA, the written opinion of an IPEA or the IPRP issued within the framework of the PCT. By requesting this procedure, applicants can generally obtain patents more quickly from participating offices.

Prior art: All information disclosed to the public in any form about an invention before a given date. Information on the prior art can assist in determining whether the claimed invention is new and involves an inventive step (is not obvious) for the purposes of international searches and international preliminary examination.

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

Publication of PCT application: The IB publishes the PCT application and related documents promptly after the expiration of 18 months from the priority date. If the 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: A patent office—or the IB—with which the PCT application is filed. The role of the RO is to check and process the application in accord with the PCT and its regulations.

Resident filing: For statistical purposes, an application filed with a patent office by an applicant having residence in the same country. For example, a patent application filed at the JPO by a resident of Japan is considered a resident filing for that office. A “resident filing” is also known as a “domestic filing.”

Supplementary international searching authority: See "Authority specified for supplementary international search."

Supplementary international search report: A report, similar to the ISR, established during the supplementary international search, that allows the 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 that carries out the main international search. The SIS primarily focuses on the patent documentation in the language in which the SISA specializes.

World Intellectual Property Organization: A specialized agency of the United Nations, WIPO is dedicated to developing a balanced and effective international IP system that rewards creativity, stimulates innovation and contributes to economic development while safeguarding the public interest. WIPO was established in 1967 with a mandate from its member states to promote the protection of IP throughout the world through cooperation among states and in collaboration with other international organizations.

Written opinion of the ISA: 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 nonbinding written opinion on whether the claimed invention appears to be novel, to involve an inventive step and to be industrially applicable.

PCT CONTRACTING STATES

During 2013, two countries acceded to the PCT: Iran (Islamic Republic of) (effective October 4) and Saudi Arabia (effective August 3), bringing the total number to 148.

The Comoros deposited its instrument of accession to the Bangui Agreement establishing the Organisation Africaine de la Propriété Intellectuelle (OAPI), and became bound by the Agreement on 25 May 2013, bringing the number of OAPI member states to 17. PCT applications filed on or after that date include the designation of the Comoros for an OAPI patent.

Albania (EP)
Algeria
Angola
Antigua and Barbuda
Armenia (EA)
Australia
Austria (EP)
Azerbaijan (EA)
Bahrain
Barbados
Belarus (EA)
Belgium (EP)[2]
Belize
Benin (OA)[2]
Bosnia and Herzegovina[1]
Botswana (AP)
Brazil
Brunei Darussalam
Bulgaria (EP)
Burkina Faso (OA)[2]
Cameroon (OA)[2]
Canada
Central African Republic (OA)[2]
Chad (OA)[2]
Chile
China
Colombia
Comoros (OA)[2,3]
Congo (OA)[2]
Costa Rica
Côte d'Ivoire (OA)[2]
Croatia (EP)
Cuba
Cyprus (EP)[2]
Czech Republic (EP)
Democratic People's Republic of Korea
Denmark (EP)
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea (OA)[2]
Estonia (EP)
Finland (EP)
France (EP)[2]
Gabon (OA)[2]
Gambia (AP)
Georgia
Germany (EP)
Ghana (AP)
Greece (EP)[2]
Grenada
Guatemala
Guinea (OA)[2]
Guinea-Bissau (OA)[2]
Honduras
Hungary (EP)
Iceland (EP)
India
Indonesia
Iran (Islamic Republic of)
Ireland (EP)[2]
Israel
Italy (EP)[2]
Japan
Kazakhstan (EA)
Kenya (AP)
Kyrgyzstan (EA)
Lao People's Democratic Republic
Latvia (EP)[2]
Lesotho (AP)
Liberia (AP)
Libya
Liechtenstein (EP)
Lithuania (EP)
Luxembourg (EP)
Madagascar
Malawi (AP)
Malaysia
Mali (OA)[2]
Malta (EP)[2]
Mauritania (OA)[2]
Mexico
Monaco (EP)[2]
Mongolia
Montenegro[1]
Morocco
Mozambique (AP)
Namibia (AP)
Netherlands (EP)[2]
New Zealand
Nicaragua
Niger (OA)[2]
Nigeria
Norway (EP)
Oman
Panama
Papua New Guinea
Peru
Philippines
Poland (EP)
Portugal (EP)
Qatar
Republic of Korea
Republic of Moldova[4]
Romania (EP)
Russian Federation (EA)
Rwanda (AP)[5]
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
San Marino (EP)
Sao Tome and Principe
Saudi Arabia
Senegal (OA)[2]
Serbia (EP)
Seychelles
Sierra Leone (AP)
Singapore
Slovakia (EP)
Slovenia (EP)[2]
South Africa
Spain (EP)
Sri Lanka
Sudan (AP)
Swaziland (AP)[2]
Sweden (EP)
Switzerland (EP)
Syrian Arab Republic
Tajikistan (EA)
Thailand
The former Yugoslav Republic of Macedonia (EP)
Togo (OA)[2]
Trinidad and Tobago
Tunisia
Turkey (EP)
Turkmenistan (EA)
Uganda (AP)
Ukraine
United Arab Emirates
United Kingdom (EP)
United Republic of Tanzania (AP)
United States of America
Uzbekistan
Viet Nam
Zambia (AP)
Zimbabwe (AP)

Note: 1 Extension of European patent possible. 2 May only be designated for a regional patent (the national route via the PCT has been closed). 3 Only international applications filed on or after May 25, 2013, include the designation of this state for an OAPI patent. For international applications filed before that date, extension of OAPI patent possible. 4 Only international applications filed before April 26, 2012, include the designation of this state for a Eurasian patent. 5 Only international applications filed on or after September 24, 2011, include the designation of this state for an ARIPO patent. Where a state can be designated for a regional patent, the two-letter code for the regional patent concerned is indicated in parentheses (AP = ARIPO patent, EA = Eurasian patent, EP = European patent, OA = OAPI patent).

Source: WIPO, December 2013.

ADDITIONAL RESOURCES

The following patent resources are available on the WIPO website:

PATENTSCOPE
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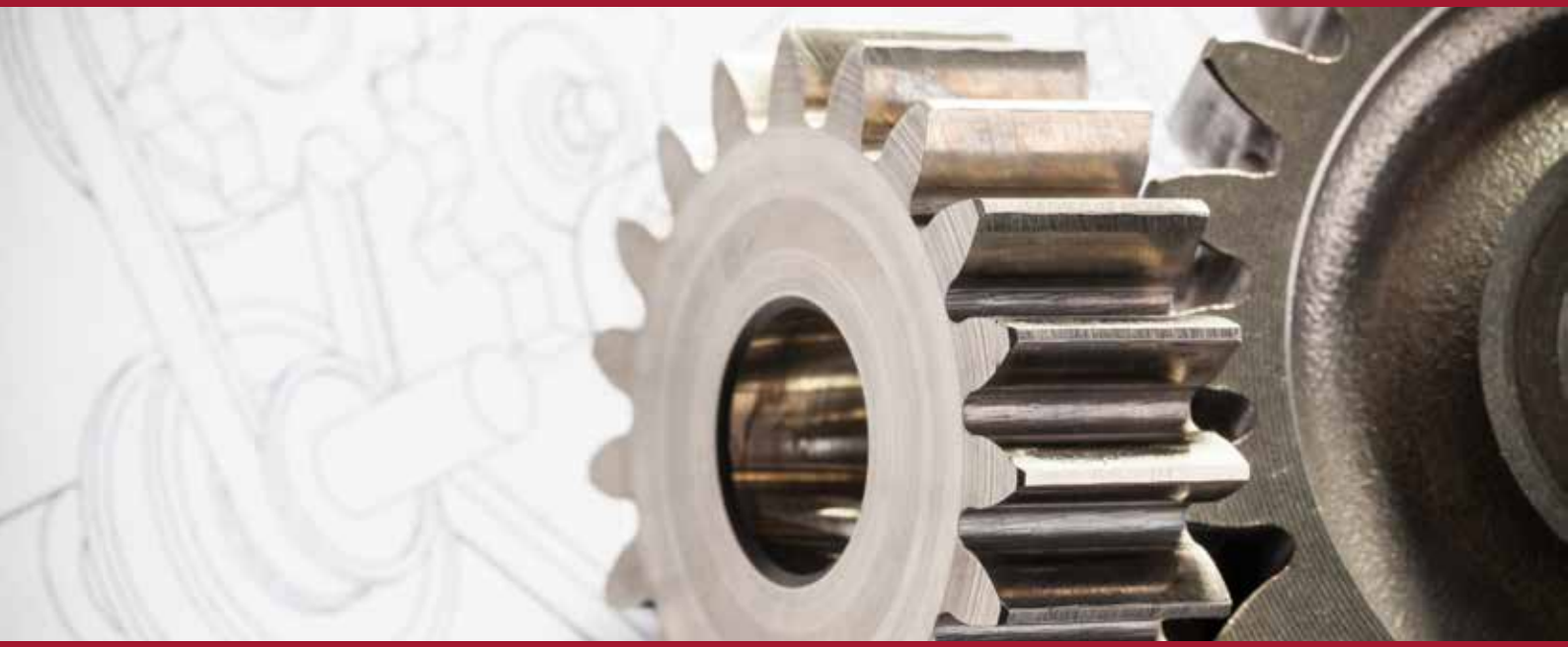

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