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./. The International Bureau of the World Intellectual Property Organization (WIPO) presents its compliments and has the honor to transmit herewith a copy of *The International Patent System – PCT Yearly Review*, which has also been published on the Internet at the following address: <http://www.wipo.int/ipstats/en/statistics/pct/index.html>. Paper copies can be requested by writing to [publications.mail@wipo.int](mailto:publications.mail@wipo.int).

The Review includes the developments and performance results of operations under the PCT in 2010, and focuses on major achievements during that year.

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June 7, 2011



# PCT

## THE INTERNATIONAL PATENT SYSTEM >> YEARLY REVIEW

Developments and Performance in **2010**

## ACKNOWLEDGEMENTS

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Readers are welcome to use the information provided in this review, but are requested to cite WIPO as the source. Tables and graphs can be downloaded in image format at:

*[www.wipo.int/ipstats/en/statistics/pct/](http://www.wipo.int/ipstats/en/statistics/pct/)*

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## HIGHLIGHTS

In 2010, the international patent system saw several notable developments.

**Recovery of PCT application filings.** With an estimated 164,300 PCT applications filed in 2010, the total volume increased by 5.7% compared to 2009. The strongest growth originated from China (+55.6%) which overtook the Republic of Korea as the fourth-ranked PCT filing country. India (+36.6%), the Republic of Korea (+20.3%) and Japan (+8.0%) also experienced significant growth, offsetting a mixed performance in European countries and a continued decline in the United States of America (US) (-1.6%) which, despite this decrease, remains the largest user of the PCT system.

**Changing geography of PCT filings.** Asia became the biggest PCT filing region, overtaking Europe.<sup>1</sup> Most of the filings originated from East Asia. With an annual growth of 18.4%, this subregion alone filed more PCT applications than any other subregion, followed by North America and Western Europe. These three subregions together accounted for 83.4% of all PCT applications filed.

**Top PCT applicants.** Panasonic Corporation (Japan) maintained its top position in the list of PCT applications published, followed by the telecommunications company ZTE Corporation (China) and Qualcomm Incorporated (US). Among universities, the top four university PCT applicants are located in the US, namely the University of California, the Massachusetts Institute of Technology, the University of Texas and the University of Florida.

**Fields of technology.** Digital Communication saw the fastest growth (17.3%) and accounts for the largest share of total PCT applications published (up from the third largest share in 2009). Almost every other field of technology experienced declines or only modest growth. The sharpest decline was seen in the field of telecommunications.<sup>2</sup>

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<sup>1</sup> The groupings by region and subregion are based on the United Nations definition of regions.

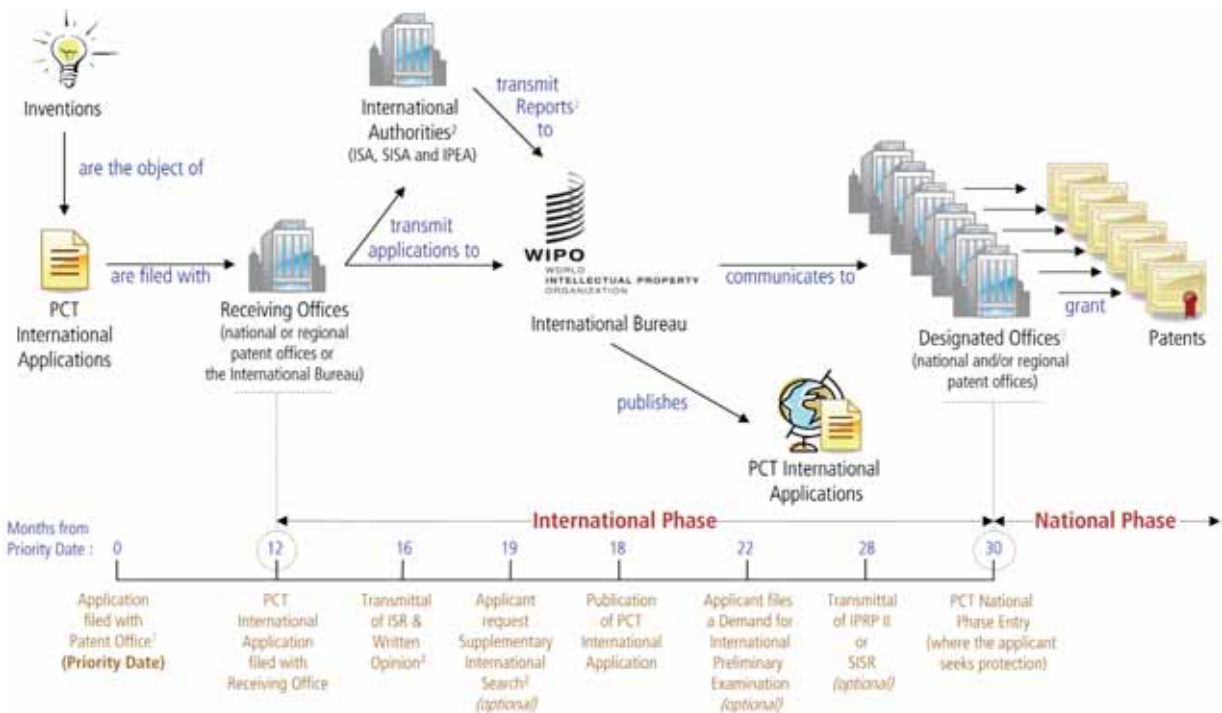
<sup>2</sup> It should be noted that the 2009 decline in PCT filings resulted in a 2.3% decrease in the number of PCT applications published in 2010.

## INTRODUCTION TO THE PATENT COOPERATION TREATY

### History

The Patent Cooperation Treaty (PCT) is an international treaty administered by the World Intellectual Property Organization (WIPO) which 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 acquiring patent rights in different countries. Starting with only 18 Members, in 2010 there were 142 PCT contracting states.

### Overview of the PCT System



<sup>1</sup> Generally, applicants first file a national or regional patent application with their patent Office and within the 12 months from priority date, file a PCT international application.

<sup>2</sup> 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).

<sup>3</sup> Called Elected Offices for applicants having filed a demand for IPRP II.

Source: World Intellectual Property Organization (WIPO)

- > An applicant must file a PCT application at a receiving office (RO) and choose an International Searching Authority (ISA) that will provide an International Search Report (ISR) and a written opinion on the potential patentability of the invention. The International Bureau (IB) of WIPO publishes the application and communicates it, along with the necessary supporting documents, to patent offices of countries (or regions) party to the PCT system. After receiving the ISR and written opinion, the applicant can choose to 1) request a supplementary international search by a Supplementary International Searching Authority (SISA), 2) file a demand for international preliminary examination with an International Preliminary Examining Authority (IPEA), or 3) take no further action. The applicant has, in general, 30 months from the priority date to enter the PCT national phase in the countries or regions in which protection is sought.

### Advantages of the PCT

Applicants and patent offices of PCT contracting states benefit from uniform formality requirements, international search, supplementary international search and preliminary examination reports and centralized international publication – all by paying one set of fees. Compared to 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 in which markets to seek patent protection. Because the PCT system was designed to reduce unnecessary duplication between patent offices, applicants can expect to benefit from time and cost savings.

### **Filing of PCT Applications**

Generally, 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 PCT with a RO, i.e., the respective national or regional patent office or the IB, in a language accepted by the RO, thus beginning the “international phase”. A patent application filed through the PCT system is a PCT international application, referred to hereafter as a PCT application. Only a national or a resident of a PCT contracting state can file a PCT application. If several applicants are named in a PCT application, at least one of them must comply with this requirement.

Applicants can file a single, uniform international application in one language to seek patent protection in a large number of countries, thereby avoiding the need to file several separate applications, possibly in different languages, at each national or regional patent office. At the moment of filing, all contracting states are automatically designated in the application, but the applicant ultimately decides in which national or regional offices to seek patent protection. It should be noted that an “international patent”, as such, does not exist and that the granting of patents remains under the control of national or regional patent offices in what is called the “national phase” (see below).

### **International Phase**

The international phase usually lasts for a period of 18 months and mainly consists of a formal examination of the application, international search, international publication of the application, optional supplementary international search, and optional international preliminary examination. Published PCT applications are accessible, free of charge, via WIPO’s online PATENTSCOPE search service.

#### *International Bureau*

The receiving office transmits a copy of the PCT 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 PCT application and certain associated documents into English and/or French, where necessary;
- publishing the application and related documents on PATENTSCOPE;
- communicating documents to offices and third parties;
- providing legal advice to users on request; and
- providing PCT-related assistance to PCT members.

#### *International Search*

PCT applications are subject to an international search by one of the 17 ISAs<sup>3</sup> which, in turn, identify the prior art relevant to the patentability of the invention; draft (or “establish”) an ISR; 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, or to withdraw the application before incurring additional costs.

<sup>3</sup> Fourteen ISAs are currently active. The national patent offices of India, Israel and Egypt, although appointed as ISAs, are not yet operating as such.



### *Supplementary International Search*

As of January 1, 2009, the PCT Supplementary International Search (SIS) service offers applicants the option to request searches from ISAs other than the one that carried out the initial search. This service aims to provide a more complete overview of the prior art in the international phase, by allowing the applicant to have a search performed in the ISA's specialty language. Applicants can request a Supplementary International Search Report (SISR) by an SISA up to 19 months from the priority date.

### *International Preliminary Examination*

After receiving the ISA's written opinion, applicants can request an optional international preliminary examination, i.e., a second evaluation of the invention's patentability, to be carried out by an IPEA usually on an amended version of the application. (All ISAs are also IPEAs.) The resulting International Preliminary Report on Patentability (IPRP II) further assists the applicant in determining whether or not to enter the national phase.

## **National Phase**

Under the PCT, applicants have at least 18 months from the date on which the PCT application was filed before entering the national phase at individual patent offices. This 18-month delay affords the applicant additional time – compared to that provided 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 examining the application in accordance with its national patent laws and deciding whether to grant patent protection. The time required for the examination and grant of a patent varies across patent offices.

For more information on the PCT, please visit: [www.wipo.int/pct/en/](http://www.wipo.int/pct/en/)

## SPECIAL THEME – THE CHANGING GEOGRAPHY OF THE PCT SYSTEM

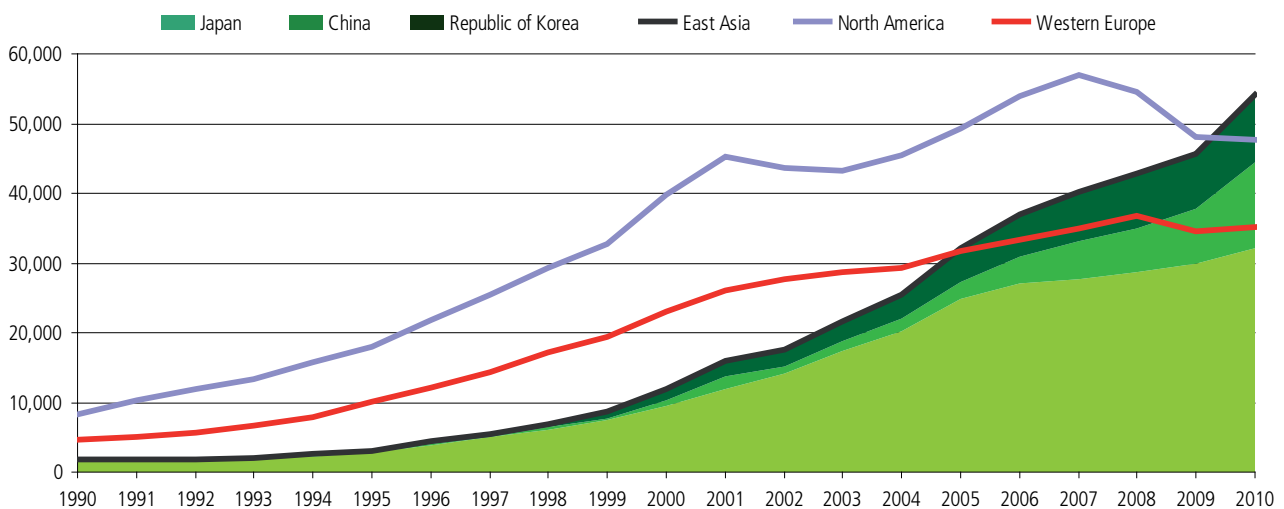
The face of the world economy has changed much over the past two decades. Led by China and other Asian economies, several middle income countries have grown at a persistently faster pace than have high income countries. Their share of the global output has correspondingly increased. The recent financial and economic crisis has only accelerated this trend; high income countries have experienced sharper declines and weaker recoveries than the group of fast-growing middle income countries.

This Special Theme discusses how the shift in the world economy has shaped the geography of the PCT system. To a significant extent, this is a story about the rise of East Asia. However, economic forces can only partly explain the evolution of filings via the PCT system, and several considerations provide a more nuanced view of East Asia's ascendancy.

### East Asia has become the main PCT filer

Until recently, the PCT system was mainly used by applicants from North America and Western Europe. In 2010, East Asia overtook them to become the subregion accounting for the most PCT filings (see figure 1). Indeed, since the economic recovery that followed the dot-com recession, the major East Asian filers – China, Japan and the Republic of Korea - experienced particularly rapid growth in applications. They continued to increase their filings even during and after the most recent economic downturn – unlike North America and Western Europe. From 2002 to 2010, the average annual growth rate of East Asia was 15.1%, compared to 1.1% for North America and 3.1% for Western Europe.

Figure 1: PCT filing trends



Source: WIPO Statistics Database

### Rise of East Asia reflected in economic fundamentals, but not fully

Economic fundamentals can, to some degree, explain why East Asia has emerged as the main PCT filer. Table 1 presents selected countries' shares of total PCT filings, their shares of global gross domestic product (GDP) and of worldwide research and development expenditure (R&D) for 1998 and 2008.

**Table 1: PCT filings, GDP and R&D expenditure (%)**

Countries	Income Group		PCT Filings		GDP		R&D expenditure	
	Type	Ranking	2008	1998	2008	1998	2008	1998
United States of America	High	1	31.63	41.68	20.30	23.12	33.47	38.63
Japan	High	2	17.62	9.10	6.16	7.99	12.61	15.46
Germany	High	3	11.55	14.03	4.27	5.39	6.79	7.86
Republic of Korea	High	4	4.84	0.76	1.91	1.68	3.82	2.53
France	High	5	4.33	4.79	3.02	3.63	3.80	5.01
China	Middle	1	3.75	0.52	11.66	6.53	10.20	2.74
India	Middle	2	0.66	0.02	4.91	3.65	2.23	1.67
Russian Federation	Middle	3	0.47	0.59	3.23	2.44	2.00	1.49
Brazil	Middle	4	0.29	0.17	2.83	2.98	1.80	1.66
Turkey	Middle	5	0.24	0.05	1.36	1.37	0.59	0.33
All others			24.62	28.29	40.34	41.21	22.68	22.61

Source: WIPO Statistics Database

Note: Data on GDP and on R&D expenditure are in purchasing power parity US dollars. The top five ranking of high income and middle income economies is based on 2008 PCT filings. Worldwide R&D expenditure is a WIPO estimate based on 76 countries.

In the case of China and the Republic of Korea, rising PCT share went hand in hand with growing GDP and R&D shares. However, there is no one-to-one correspondence. For example, the Republic of Korea saw a 4 percentage point increase in its PCT share, but only a modest increase in its R&D share. Vice versa, China saw a quadrupling of its R&D share, but a smaller increase in its PCT share – though China has, since 2008, overtaken the Republic of Korea in PCT filings. Comparing the two countries suggests that once an economy reaches a particular threshold level of technological development, PCT use grows over-proportionately; the Republic of Korea appears to have reached that level earlier, but China is catching up quickly.<sup>4</sup>

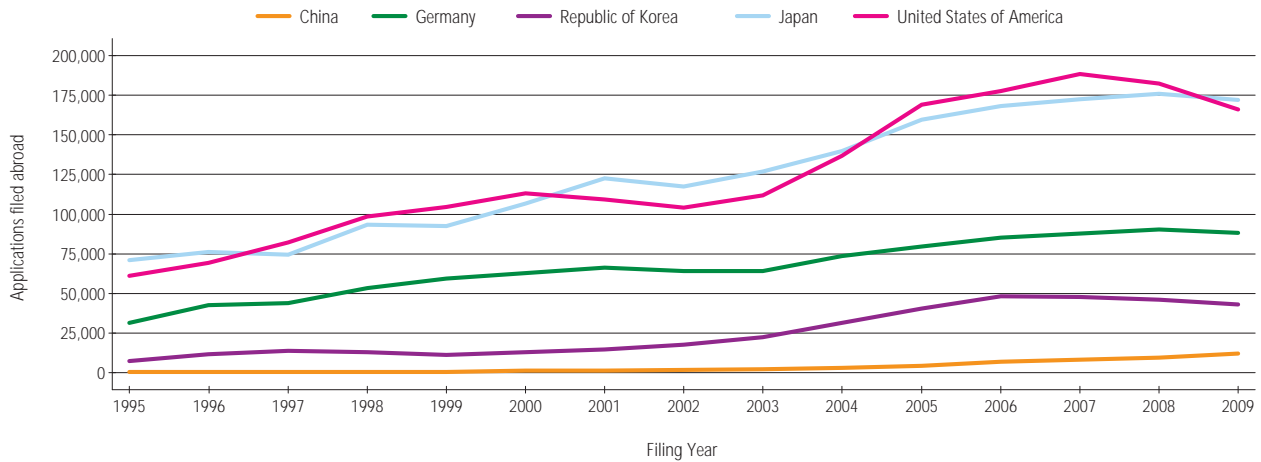
Japan stands out in that its share of global output and worldwide R&D expenditure fell, but its share of PCT filings almost doubled from 9.10% in 1998 to 17.6% in 2008. This is in contrast to the US, Germany and France which saw declining shares for all three performance measures. Japan's experience thus demonstrates that strategic decision-making can have a more pronounced impact on PCT use than that predicted by economic fundamentals.

### East Asia's rise in global patenting emerged earlier

Looking beyond the PCT system, East Asia already overtook Western Europe in 1977 as the subregion in which patent offices received the most applications. At that time, Japan accounted for the bulk of them; a decade later, filings in the Republic of Korea picked up and, some time in the 1990s, applications in China started to grow rapidly. In 2009, the number of patents filed in East Asia (834,703) exceeded the number at all offices in North America (496,285) and Western Europe (224,017) combined.

In 1995, East Asia also emerged as the region of origin of most patents filed in foreign countries. However, East Asia's dominance is less pronounced for these so-called filings abroad when taken in the context of total patents filed by the region. In particular, filings abroad by Japanese and US residents are similar in magnitude; filings abroad by Chinese residents are still few in number – though growing rapidly – especially compared to China's share of global GDP (see figure 2).

<sup>4</sup> The fact that the PCT shares of high income countries exceed their GDP shares supports the view that a threshold level for intensive use of the PCT system exists.

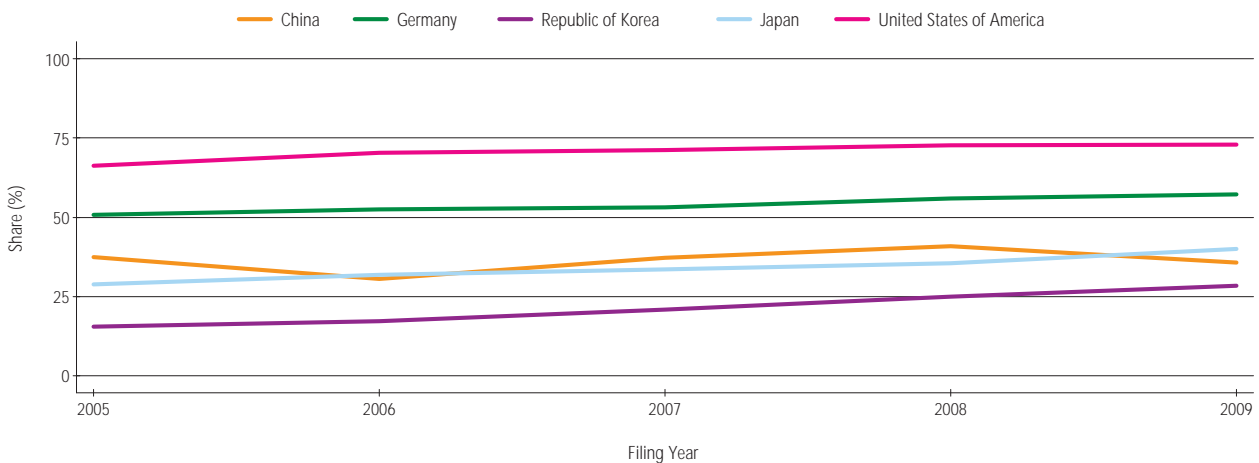
**Figure 2: Trends in patent applications filed abroad**

Source: WIPO Statistics Database

Note: Data are missing for some origins. The year 2009 is based on estimates.

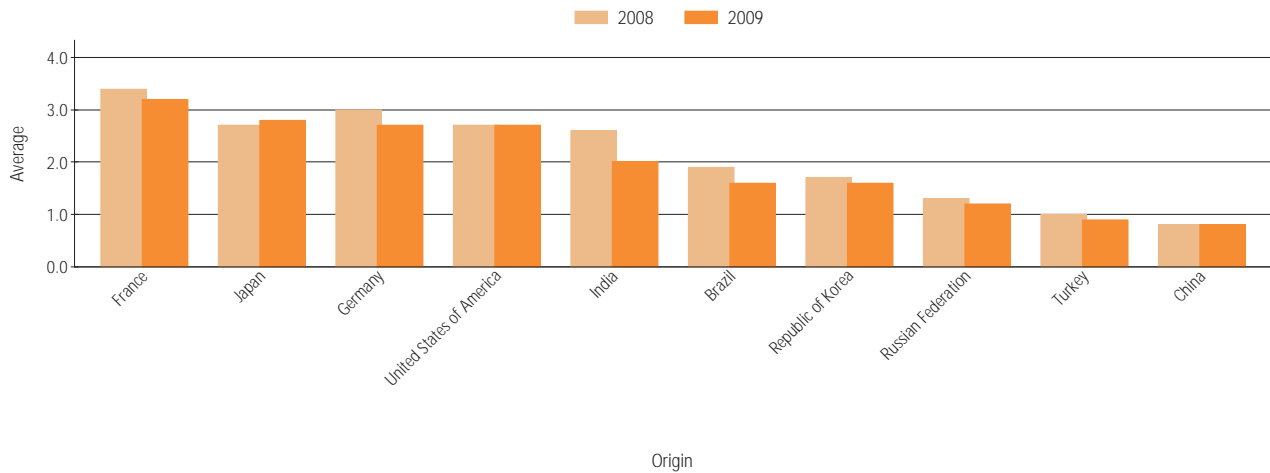
### Countries' use of the PCT system differs

As shown above, East Asia emerged as the subregion accounting for the most PCT filings in 2010, but had already become the region of origin of most patents filed in foreign countries in 1995. This suggests that East Asian applicants have relied less on the PCT system for their filings abroad than have applicants from other regions, and more on the so-called Paris route. This is, indeed, borne out by the data. Figure 3 shows the share of PCT national phase entries out of countries' total filings abroad from 2005 to 2009. For the Republic of Korea, China and Japan, this share remained below 50 percent, whereas it remained above that level for the US (73%) and Germany (57%). However, use of the PCT system has increased markedly for the Republic of Korea and Japan in recent years.

**Figure 3: Share of PCT national phase entries out of total filings abroad**

Source: WIPO Statistics Database

There are also important differences in the extent to which PCT filings later become national phase entries. Figure 4 shows that there are more than 2.5 national phase entries per PCT filing for Japan, Germany and the US; for the Republic of Korea, this number stands at around 1.5; and for China it falls to below 1 – smaller than several other middle income countries. To put these numbers into perspective, US applicants in 2009 accounted for 6 times as many PCT filings but 27 times as many PCT national phase entries as did Chinese applicants. The following factors might explain why middle income countries, and especially China, showed far fewer national phase entries per PCT filing: applicants may have commercial interests in fewer countries; they may be deterred by the costs of proceeding with national phase entry; or they may have less experience in drafting applications leading therefore to more dropouts.

**Figure 4: Number of PCT national phase entries per PCT application**

Source: WIPO Statistics Database

Note: PCT national phase entries are compared with PCT applications filed 12 months earlier. PCT national phase entry at a regional patent office may result in several national patents. Thus, the number of national jurisdictions in which applicants seek protection is invariably higher than the number of national phase entries.

### What might happen in the coming years?

Fundamental economic forces will continue to shape the geography of the PCT system. Reflecting current economic forecasts, this heralds growing dominance by Asia. Even though East Asia alone already accounts for more filings than any other subregion, there remains additional growth potential. East Asian countries still rely less on the PCT system for their filings abroad than do the US and Germany. China's participation in the PCT system is still relatively young. As China's economy further develops and applicants gain experience with the international patent system, its PCT filings may well generate more national phase entries.

Beyond the three dominant East Asian countries, other Asian economies might reach the threshold level of technological development at which more intensive patenting sets in. The 36.6 percent growth in India's PCT filings in 2010 points in that direction, though it remains to be seen whether such fast growth will persist.

## SECTION A – USE OF THE PCT SYSTEM

### INTERNATIONAL PHASE: FILING OF PCT APPLICATIONS

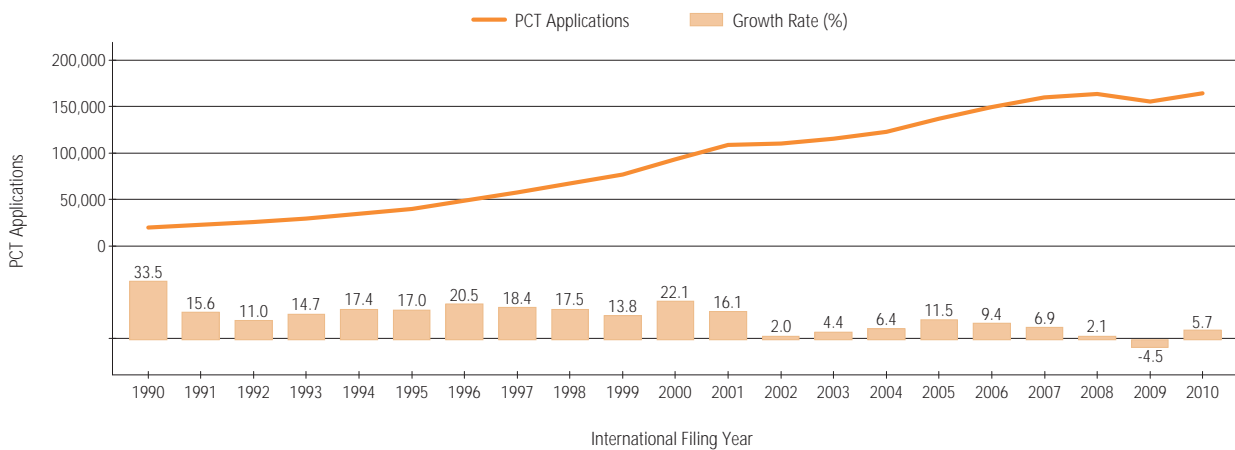
This section presents the key statistical trends and patterns for the international phase. It briefly describes the global trend, analyzes PCT applications by country of origin, income group and the applicant's geographical region;<sup>5</sup> it then presents the ranking of top applicants and a breakdown of applications by field of technology.

#### GLOBAL TREND

##### A.1 Trend in PCT Applications

Figure A.1 depicts the number of PCT applications filed since 1990 and annual growth rates. The underlying data are based on the international filing date of PCT applications.

Figure A.1: Trend in PCT applications



Source: WIPO Statistics Database

- > In 2010, an estimated 164,300 PCT applications were filed, representing a 5.7% increase compared to the previous year. Due to the economic recovery, the number of PCT applications filed in 2010 exceeded the 2008 level.
- > Since the inception of the PCT system in 1978, about 1.98 million PCT applications have been filed worldwide.

<sup>5</sup> The income groups correspond to those used by the World Bank. The groupings by region and subregion are based on the United Nations definition of regions.

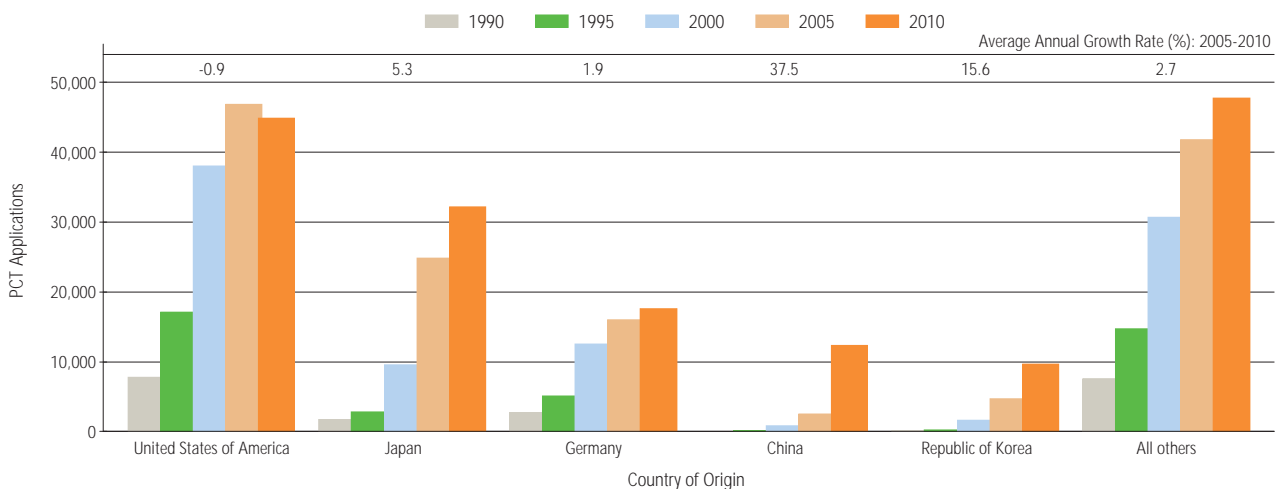
## APPLICATIONS BY COUNTRY OF ORIGIN

This subsection analyzes PCT applications according to the country, region and subregion of origin of the applicant, as well as the income group of the applicant's country of residence. PCT applications are assigned to a particular country of origin according to the country of residence of the first-named applicant. A statistical table containing all countries is provided in the annex.

### A.2 Top Countries of Origin: PCT applications

Figure A.2 shows the trend in PCT filings for the top five countries of origin, including a combined group of all other origins.

**Figure A.2: Distribution of PCT applications by country of origin**



Source: WIPO Statistics Database

- > The leading country of origin remains the US, followed by Japan and Germany.
- > Even though PCT filings of all origins combined, shown in figure A.2, have grown significantly since 1990, China and the Republic of Korea experienced particularly strong growth, with respective average annual growth rates of 37.5% and 15.6% from 2005 to 2010.
- > The share of the top five countries of origin accounted for 71% of total PCT filings in 2010.

Table A.2 presents the number of PCT applications filed by the top 20 countries of origin over the last five years.

**Table A.2: PCT applications by country of origin**

Country of Origin	Year of Filing					2010 Share (%)	Change compared to 2009 (%)
	2006	2007	2008	2009	2010		
United States of America	51,280	54,043	51,638	45,617	44,890	27.3	-1.6
Japan	27,025	27,743	28,760	29,802	32,180	19.6	8.0
Germany	16,736	17,821	18,855	16,797	17,558	10.7	4.5
China	3,942	5,455	6,120	7,900	12,295	7.5	55.6
Republic of Korea	5,945	7,064	7,899	8,035	9,668	5.9	20.3
France	6,256	6,560	7,072	7,237	7,288	4.4	0.7
United Kingdom	5,097	5,542	5,466	5,044	4,908	3.0	-2.7
Netherlands	4,553	4,433	4,363	4,462	4,078	2.5	-8.6
Switzerland	3,621	3,833	3,799	3,671	3,728	2.3	1.6
Sweden	3,336	3,655	4,137	3,567	3,314	2.0	-7.1
Canada	2,575	2,879	2,976	2,527	2,721	1.7	7.7
Italy	2,698	2,946	2,883	2,652	2,658	1.6	0.2
Finland	1,846	2,009	2,214	2,123	2,145	1.3	1.0
Australia	1,996	2,052	1,938	1,740	1,776	1.1	2.1
Spain	1,204	1,297	1,390	1,564	1,752	1.1	12.0
Israel	1,593	1,737	1,899	1,555	1,488	0.9	-4.3
India	833	902	1,072	961	1,313	0.8	36.6
Denmark	1,158	1,151	1,357	1,344	1,173	0.7	-12.7
Austria	911	1,009	953	1,024	1,140	0.7	11.3
Belgium	1,030	1,124	1,135	1,008	1,057	0.6	4.9
All others	6,006	6,672	7,308	6,768	7,170	4.4	5.9
Total	149,641	159,927	163,234	155,398	164,300	100.0	5.7

Source: WIPO Statistics Database

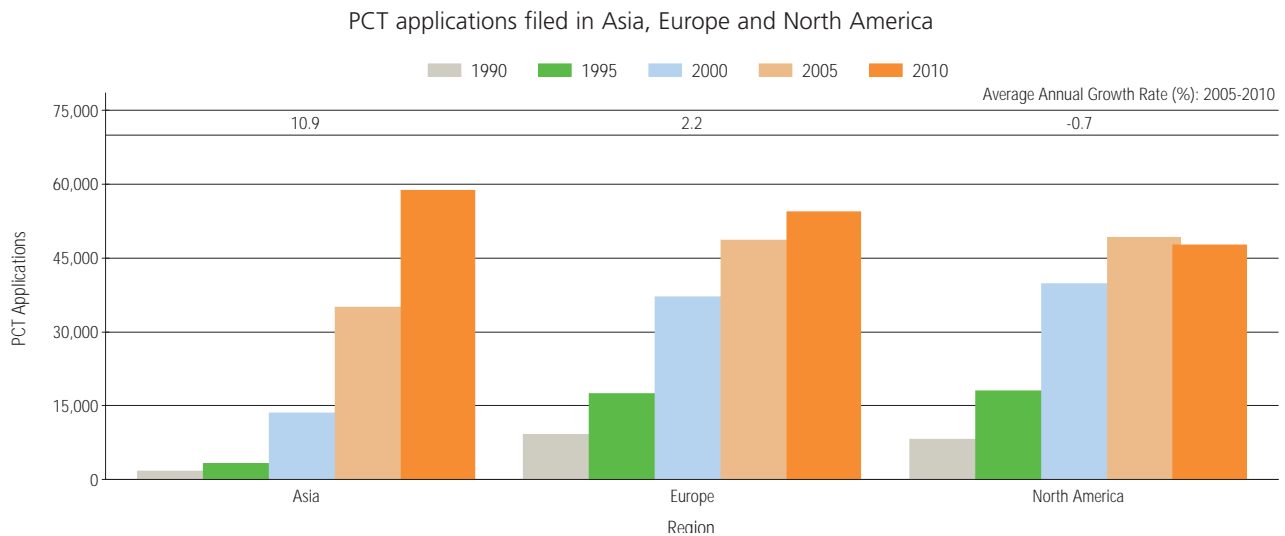
- > For the third consecutive year, applicants from the US reduced their overall number of PCT filings. Following a sharp drop of 11.7% in 2009, their filings only slightly decreased by 1.6% in 2010.
- > The number of PCT applications filed by applicants from China (+55.6%), India (+36.6%) and the Republic of Korea (+20.3%) sharply increased in 2010. The number of PCT applications filed by applicants from Spain, Austria and Japan also showed positive annual growth with 12%, 11.3% and 8% increases, respectively, compared to 2009.
- > Only a few of the countries shown in table A.2 filed fewer PCT applications in 2010 than in 2009. Among the 6 countries in which filings declined, Denmark (-12.7%), the Netherlands (-8.6%) and Sweden (-7.1%) had the sharpest decreases.
- > With a total of 54,000 PCT applications filed, European Patent Convention (EPC) member states, as a block, saw an increase of 0.8% in these applications from 2009 to 2010.



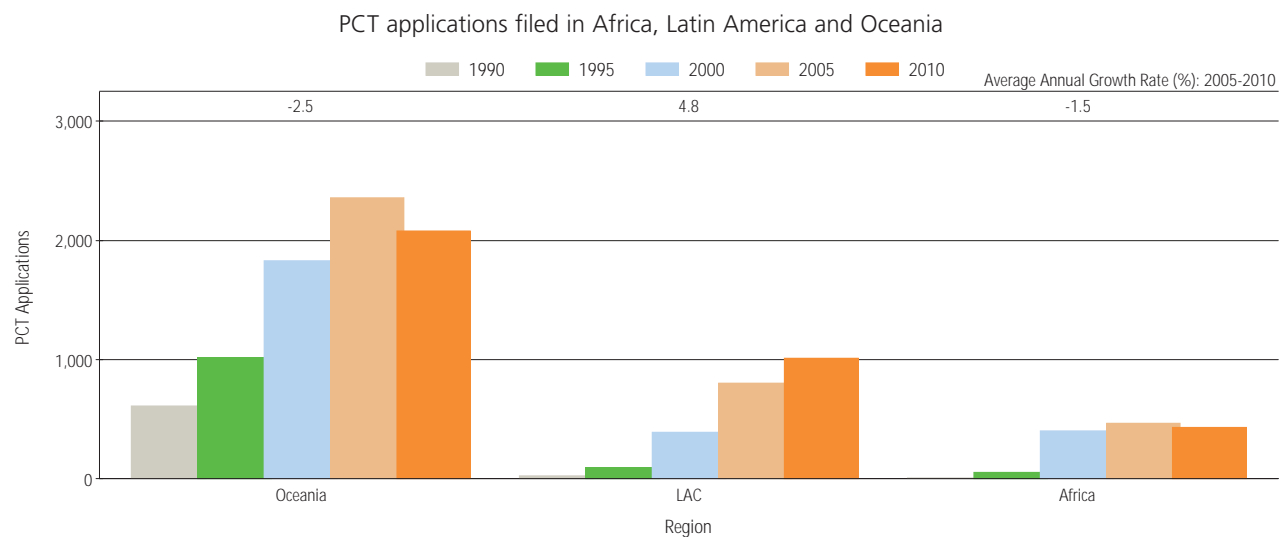
### A.3 Geographical Regions: PCT Applications

Figure A.3 depicts PCT application filing trends according to the region of origin of the applicant.

**Figure A.3: PCT applications filed by geographical region**



Source: WIPO Statistics Database



Source: WIPO Statistics Database

- > In 2010 Asia became the region to file the most PCT applications worldwide, followed by Europe and North America. North America had dominated the ranking in 2005.
- > Applicants from Asia, Europe and North America each filed between 45,000 and 60,000 PCT applications in 2010. By contrast, applicants from the other three regions only filed between about 400 and 2,000 PCT applications each over the same period.
- > Only three of the six regions had a positive average annual growth rate over the period from 2005 to 2010, namely Asia (10.9%), Latin America and the Caribbean (LAC) (4.8%) and Europe (2.2%).

## A.4 Geographical Subregions: PCT Applications

Table A.4 shows PCT applications filed from 2006 to 2010 according to the subregion of origin of the applicant.

**Table A.4: PCT applications filed by geographical subregion**

Regions	Sub Regions	Year of Filing				
		2006	2007	2008	2009	2010
Africa	Central Africa	2	1	5	10	6
	East Africa	23	20	23	19	17
	North Africa	59	82	75	75	76
	Southern Africa	423	408	393	378	326
	West Africa	8	2	5	2	6
	<i>Total</i>		<i>515</i>	<i>513</i>	<i>501</i>	<i>484</i>
Asia	East Asia	36,921	40,264	42,789	45,740	54,147
	South Central Asia	860	934	1,091	1,007	1,355
	Southeast Asia	590	667	839	870	1,115
	West Asia	2,031	2,274	2,450	2,118	2,168
	<i>Total</i>		<i>40,402</i>	<i>44,139</i>	<i>47,169</i>	<i>49,735</i>
Europe	Eastern Europe	1,226	1,295	1,412	1,386	1,459
	Northern Europe	12,576	13,488	14,423	13,324	12,835
	Southern Europe	4,283	4,668	4,730	4,735	4,869
	Western Europe	33,327	35,019	36,793	34,496	35,193
	<i>Total</i>		<i>51,412</i>	<i>54,470</i>	<i>57,358</i>	<i>53,941</i>
LAC	Caribbean	297	436	302	147	119
	Central America	192	206	244	216	205
	South America	407	504	577	644	689
	<i>Total</i>		<i>896</i>	<i>1,146</i>	<i>1,123</i>	<i>1,007</i>
North America	North America	53,855	56,922	54,614	48,144	47,611
	<i>Total</i>		<i>53,855</i>	<i>56,922</i>	<i>54,614</i>	<i>48,144</i>
Oceania	Australia/New Zealand	2,350	2,452	2,296	2,041	2,075
	Melanesia	1	1		1	
	Micronesia	1	1			1
	Polynesia	1		5	6	5
	<i>Total</i>		<i>2,353</i>	<i>2,454</i>	<i>2,301</i>	<i>2,048</i>

Source: WIPO Statistics Database

- > There is substantial variation in filing levels across subregions. In 2010, applicants from East Asia filed the greatest number of PCT applications, overtaking for the first time the number of applications from North America.
- > Most subregions experienced a decrease in PCT filings since 2007 or 2008, likely due to the economic crisis. However, several subregions saw continued growth in filings despite the difficult global economic environment. In particular, all Asian subregions (except West Asia), Eastern Europe, South America and Southern Europe saw notable increases in filings.

## A.5 PCT Applications by Income Group

Table A.5 presents PCT applications filed from 2006 to 2010 according to the income group of the applicant's country of origin.

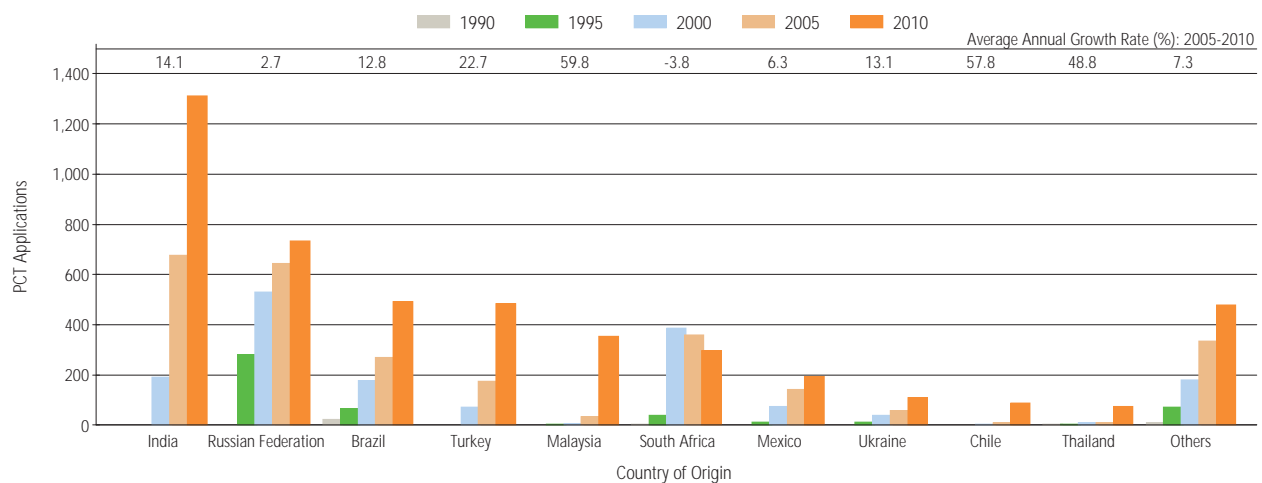
**Table A.5: PCT applications filed by income group**

Income Groups	Year of Filing				
	2006	2007	2008	2009	2010
High Income	142,153	150,540	152,839	143,457	147,345
Middle Income	7,243	9,095	10,209	11,890	16,910
Low Income	13	8	18	12	22

Source: WIPO Statistics Database

- > The high income group filed an increasing number of PCT applications from year to year until the onset of the economic crisis in 2008. In 2010, the number of PCT applications by this group increased compared to 2009 but did not reach its pre-crisis level.
- > The middle income group, dominated by China, was not as affected by the crisis as was the high income group. Its filing trend remained positive during the period shown in table A.5, with a substantial increase in 2010.
- > Use of the PCT system by low income countries is limited. Over the last five years, the main countries of origin in terms of PCT filings were the Democratic People's Republic of Korea (17 PCT applications), Kenya (17) and the Lao People's Democratic Republic (7).

**Figure A.5: Top 10 middle income countries: PCT applications**



Source: WIPO Statistics Database

Note: China was not included in the graph due to the significant difference in PCT filings between China and the other middle income group countries. Data for China are available in paragraph A.2.

- > Several countries experienced significant increases in PCT filings from 2005 to 2010. Over this period, Malaysia (+59.8 %), Chile (+57.8 %) and Thailand (+48.8%) saw the highest average annual growth rates. However, it should be noted that Chile and Thailand only acceded to the PCT in 2009 and Malaysia in 2006. Even though it was possible, under more restrictive conditions<sup>6</sup>, for their applicants to file a PCT application before they acceded to the PCT, their accession strongly promoted PCT filings by applicants from those countries.
- > Over the past five years, notable increases in PCT filings have also been observed from applicants originating from countries that have been PCT members for more than a decade, such as applicants from Turkey (+22.7%), India (+14.1%) and Brazil (+12.8%).

<sup>6</sup> At least one applicant must be a resident or national of a contracting state.

## A.6 PCT Applications as Share of Resident Applications

Table A.6 presents a hypothetical “conversion ratio” that seeks to capture how frequently applicants opt for a PCT application after filing a patent application with their national or regional patent office. Formally, the conversion ratio is defined as the total number of PCT applications filed by country A in year t divided by the total number of resident patent applications filed by country A in year t-1. (Total data on resident patent applications include regional patent applications.) The one-year lag between PCT applications and resident patent applications is due to the fact that applicants have up to 12 months from the filing date of the earlier national filing to submit a PCT application.<sup>7</sup> For example, the conversion ratio for Germany is 0.29 (17,558 PCT applications in 2010 divided by 60,557 resident applications in 2009).

A high conversion ratio implies that a large proportion of resident applications lead to the filing of PCT applications. Similarly, a low conversion ratio means only a small share of resident applications give rise to PCT applications.

It should be noted that numbers are somewhat biased as certain PCT applications do not have priority claims associated with prior resident filings. For example, an Israeli applicant may forgo filing a patent application at the Israeli Patent Office, but opt to file a national application first at the United States Patent and Trademark Office (USPTO), after which it is then “converted” into a PCT application. This explains why for certain countries the value of the conversion ratio exceeds 1.

**Table A.6: Conversion ratio of top 30 countries**

Country	Conversion Ratio from Resident Applications to PCT Applications	Change compared to 2009
Israel	1.59	0.08
Singapore	1.26	0.15
Luxembourg	1.23	-0.19
Finland	1.01	0.10
Canada	0.80	0.08
Switzerland	0.76	0.02
Netherlands	0.67	-0.03
Belgium	0.65	0.06
Denmark	0.53	-0.04
Spain	0.41	0.04
Ireland	0.41	-0.02
France	0.39	0.01
South Africa	0.36	-0.07
Austria	0.36	0.03
Slovenia	0.29	-0.08
Germany	0.29	0.02
Malaysia	0.29	0.01
United Kingdom	0.29	0.01
Mexico	0.25	-0.06
Italy	0.24	0.00
Hungary	0.22	0.02
United States of America	0.21	0.01
New Zealand	0.20	-0.06
Turkey	0.19	0.01
Czech Republic	0.16	-0.07
Japan	0.11	0.02
Republic of Korea	0.08	0.01
Poland	0.07	0.00
China	0.05	0.01
Russian Federation	0.03	0.00

Source: WIPO Statistics Database

Note: Filings at the European Patent Office (EPO) by an applicant of an EPC member state are considered resident filings.

- > The conversion ratio for the top 30 filing countries varied from 0.03 (Russian Federation) to 1.59 (Israel) in 2010.
- > The first half of the ranking is composed almost exclusively of high income countries. South Africa, being the only exception, is ranked at position 13.

<sup>7</sup> Ideally, the calculation of the conversion ratio should be based on “first filings” at national patent offices. However, the data collected from most patent offices do not distinguish between “first” and “subsequent” filings. The figures presented in Table A.6 are, therefore, based on total resident patent filings.

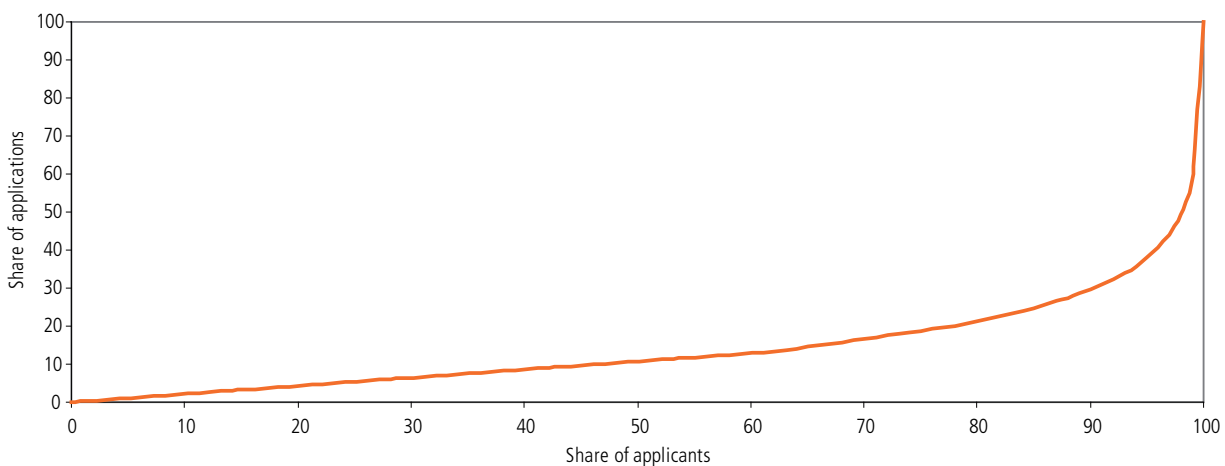
## PCT APPLICANTS

This subsection presents the distribution of PCT applicants, the top ranking of all applicants and university applicants and the share of foreign inventors named in PCT applications. For statistical purposes, the PCT applicant is considered to be the first-named applicant in the application and, for technical reasons, only applicants that are not individuals are considered (except for A.11). For confidentiality reasons, statistics on PCT applicants are based on published PCT applications rather than all PCT applications filed. Under the PCT rules, a PCT application should be published promptly after the expiration of 18 months from the priority date. Since most applicants prefer to file PCT applications at the end of the 12-month priority period, the statistics based on publication date have a delay of approximately 6 months compared to those based on international filing date.

### A.7 Distribution of PCT Applicants

Applicants can be companies, universities, government institutions and individuals. In 2010, about 41,900 applicants were mentioned in published PCT applications, representing about 200 applicants fewer compared to 2009. Figure A.7 shows the distribution of PCT applicants in relation to published PCT applications in 2010.

**Figure A.7: Distribution of applicants and published PCT applications**



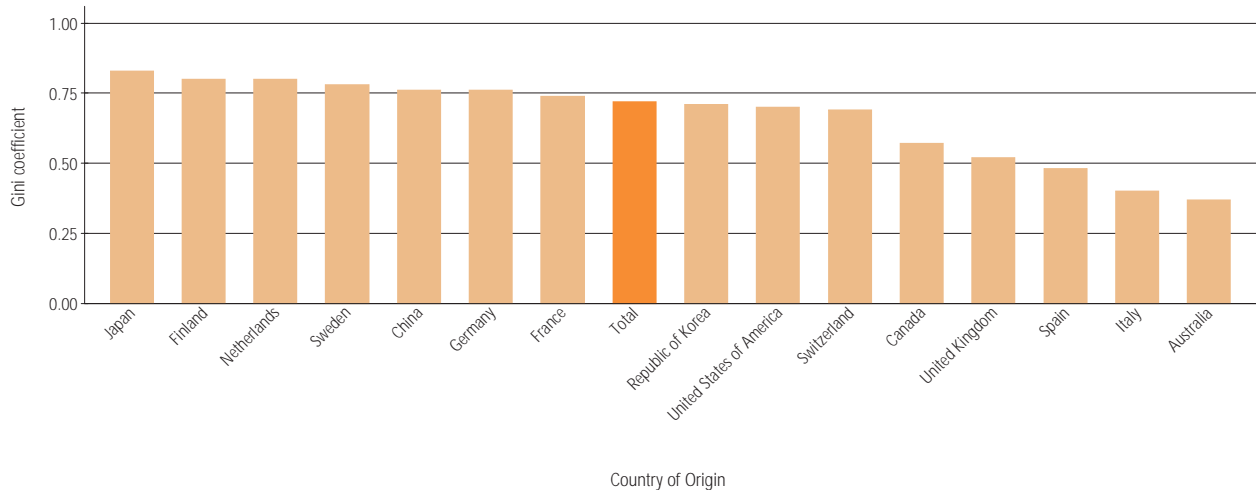
Source: WIPO Statistics Database

- > About half of all PCT applicants owned 10% of all published PCT applications. The so-called Pareto principle applies to the distribution of PCT applicants as 80% of all applicants are responsible for roughly 20% of all applications.
- > The PCT system is intensively used by a small number of filers: 42% of total published PCT applications belong to only 1% of all PCT applicants.

## A.8 Distribution of PCT Applicants by Country of Origin

Figure A.8 depicts the inequality in the distribution of published PCT applications for the top 10 filing countries, as measured by the Gini coefficient of statistical dispersion. A coefficient of 0 indicates perfect equality (all applicants accounting for the same number of applications), and a coefficient of 1 indicates perfect inequality (one applicant accounting for all applications).

**Figure A.8: Gini coefficient of published PCT application distribution**



Source: WIPO Statistics Database

- > Japanese applicants have the highest Gini coefficient, indicating strong filing disparities among applicants.
- > Australia enjoys the most equal distribution of published PCT applications among its applicants, closely followed by Italy.

## A.9 Top PCT Applicants

Table A.9 presents the list of the top 50 PCT applicants in 2010, by number of applications published.

**Table A.9: Top PCT applicants**

2010 Rank	Position Changed	PCT Applicant's Name	Country of Origin	Number of PCT applications published	Change Compared to 2009
1	0	PANASONIC CORPORATION	Japan	2,154	263
2	20	ZTE CORPORATION	China	1,868	1351
3	2	QUALCOMM INCORPORATED	United States of America	1,677	397
4	-2	HUAWEI TECHNOLOGIES CO., LTD.	China	1,528	-319
5	-1	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	1,435	140
6	-3	ROBERT BOSCH GMBH	Germany	1,301	-287
7	0	LG ELECTRONICS INC.	Republic of Korea	1,298	208
8	2	SHARP KABUSHIKI KAISHA	Japan	1,286	289
9	-3	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,149	-92
10	-2	NEC CORPORATION	Japan	1,106	37
11	-2	TOYOTA JIDOSHA KABUSHIKI KAISHA	Japan	1,095	27
12	-1	SIEMENS AKTIENGESSELLSCHAFT	Germany	833	-99
13	0	BASF SE	Germany	818	79
14	5	MITSUBISHI ELECTRIC CORPORATION	Japan	726	157
15	0	NOKIA CORPORATION	Finland	632	-31
16	-2	3M INNOVATIVE PROPERTIES COMPANY	United States of America	586	-102
17	0	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	578	-18
18	2	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	United States of America	564	10
19	-7	FUJITSU LIMITED	Japan	476	-341
20	-4	MICROSOFT CORPORATION	United States of America	469	-175
21	2	E.I. DUPONT DE NEMOURS AND COMPANY	United States of America	452	-57
22	5	INTERNATIONAL BUSINESS MACHINES CORPORATION	United States of America	416	15
23	9	MITSUBISHI HEAVY INDUSTRIES, LTD.	Japan	391	18
24	3	CANON KABUSHIKI KAISHA	Japan	379	-22
25	56	HITACHI, LTD.	Japan	373	183
26	0	BSH BOSCH UND SIEMENS HAUSGERATE GMBH	Germany	371	-42
27	10	THE PROCTER & GAMBLE COMPANY	United States of America	359	18
28	10	SONY CORPORATION	Japan	347	19
29	13	NOKIA SIEMENS NETWORKS OY	Finland	345	32
30	-12	NXP B.V.	Netherlands	320	-273
30	6	SUMITOMO CHEMICAL COMPANY, LIMITED	Japan	320	-26
32	7	KABUSHIKI KAISHA TOSHIBA	Japan	318	-8
33	15	APPLIED MATERIALS, INC.	United States of America	313	17
34	1	THOMSON LICENSING	France	311	-48
35	6	HONDA MOTOR CO., LTD.	Japan	309	-9
36	27	COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	France	308	70
37	-8	BAKER HUGHES INCORPORATED	United States of America	307	-68
38	2	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	United States of America	306	-15
38	20	MURATA MANUFACTURING CO., LTD.	Japan	306	52
40	13	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany	298	33
40	21	NTT DOCOMO, INC.	Japan	298	49
42	-21	MOTOROLA, INC.	United States of America	290	-248
42	8	PIONEER CORPORATION	Japan	290	7
44	-19	SONY ERICSSON MOBILE COMMUNICATIONS AB	Sweden	289	-146
44	2	DOW GLOBAL TECHNOLOGIES INC.	United States of America	289	-15
44	20	MEDTRONIC, INC.	United States of America	289	53
47	-4	EASTMAN KODAK COMPANY	United States of America	284	-27
48	-14	KYOCERA CORPORATION	Japan	279	-83
49	1	ALCATEL LUCENT	France	275	-8
49	5	FUJIFILM CORPORATION	Japan	275	11
49	7	HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN	Germany	275	14

Source: WIPO Statistics Database

- > Panasonic Corporation (Japan) remained at the top of the list. Compared to 2009, the China-based ZTE Corporation surged 20 places to move into second position. Qualcomm (US) gained two places and ranked third.

## A.10 Top PCT Applicants among Universities

Table A.10 shows the top 50 PCT applicants among educational institutions in 2010.

**Table A.10: Top PCT applicants: university sector**

2010 Overall Rank	Position Changed	PCT Applicant's Name	Country of Origin	Number of PCT applications published	Change Compared to 2009
38	2	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	United States of America	306	-15
103	4	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	United States of America	145	0
115	16	BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM	United States of America	130	4
144	0	UNIVERSITY OF FLORIDA	United States of America	107	-4
145	33	THE UNIVERSITY OF TOKYO	Japan	105	11
168	-22	THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	United States of America	91	-19
168	-18	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	United States of America	91	-18
176	16	THE JOHNS HOPKINS UNIVERSITY	United States of America	89	2
183	575	SNU R&DB FOUNDATION	Republic of Korea	86	63
202	112	ARIZONA BOARD OF REGENTS	United States of America	80	25
206	74	THE REGENTS OF THE UNIVERSITY OF MICHIGAN	United States of America	79	18
218	-7	THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA	United States of America	75	-5
242	110	CORNELL UNIVERSITY	United States of America	71	22
287	162	OSAKA UNIVERSITY	Japan	60	22
290	-29	UNIVERSITY OF UTAH RESEARCH FOUNDATION	United States of America	59	-7
290	43	THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS	United States of America	59	7
302	-64	WASHINGTON UNIVERSITY	United States of America	57	-15
341	60	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	52	9
347	-70	THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY	United States of America	51	-11
349	-16	CALIFORNIA INSTITUTE OF TECHNOLOGY	United States of America	50	-2
349	36	PURDUE RESEARCH FOUNDATION	United States of America	50	5
357	92	DUKE UNIVERSITY	United States of America	49	11
368	-102	WISCONSIN ALUMNI RESEARCH FOUNDATION	United States of America	48	-16
376	-94	UNIVERSITY OF SOUTHERN CALIFORNIA	United States of America	47	-13
376	9	KYOTO UNIVERSITY	Japan	47	2
376	264	INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIVERSITY	Republic of Korea	47	20
395	-10	ISIS INNOVATION LIMITED	United Kingdom	45	0
414	116	YISSUM RESEARCH DEVELOPMENT COMPANY OF THE HEBREW UNIVERSITY OF JERUSALEM	Israel	43	10
430	6	TOHOKU UNIVERSITY	Japan	41	2
430	41	THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	United States of America	41	4
443	46	EIDGENOSSISCHE TECHNISCHE HOCHSCHULE ZURICH	Switzerland	40	4
448	-31	UNIVERSITY OF MASSACHUSETTS	United States of America	39	-2
462	-122	INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITY	Republic of Korea	38	-13
462	-93	RAMOT AT TEL AVIV UNIVERSITY LTD.	Israel	38	-9
462	54	KEIO UNIVERSITY	Japan	38	4
462	88	NORTHWESTERN UNIVERSITY	United States of America	38	6
462	119	NATIONAL UNIVERSITY CORPORATION HOKKAIDO UNIVERSITY	Japan	38	8
486	-76	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	United Kingdom	37	-5
486	240	INDIANA UNIVERSITY RESEARCH & TECHNOLOGY CORPORATION	United States of America	37	13
497	84	UNIVERSITY OF MIAMI	United States of America	36	6
497	229	NATIONAL UNIVERSITY CORPORATION OKAYAMA UNIVERSITY	Japan	36	12
526	-77	THE REGENTS OF THE UNIVERSITY OF COLORADO	United States of America	34	-4
526	70	THE UNIVERSITY OF QUEENSLAND	Australia	34	5
526	114	NATIONAL UNIVERSITY CORPORATION NAGOYA UNIVERSITY	Japan	34	7
526	200	EMORY UNIVERSITY	United States of America	34	10
559	-158	THE OHIO STATE UNIVERSITY RESEARCH FOUNDATION	United States of America	32	-11
559	-110	THE RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK	United States of America	32	-6
580	-144	POSTECH FOUNDATION	Republic of Korea	31	-8
580	211	NIHON UNIVERSITY	Japan	31	9
593	47	UNIVERSITY OF MARYLAND, BALTIMORE	United States of America	30	3
593	266	NATIONAL UNIVERSITY OF CORPORATION HIROSHIMA UNIVERSITY	Japan	30	10

Source: WIPO Statistics Database

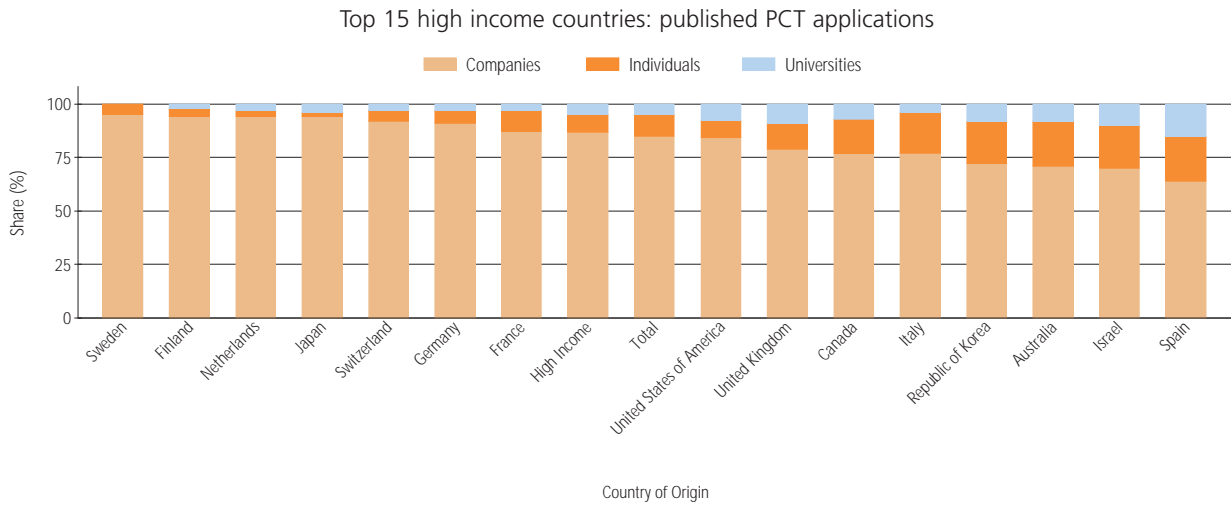
- > The University of California (US) accounted for the largest number of published PCT applications in the category of educational institutions. It is the only applicant in this category that also features in the top 100 list of PCT applicants.
- > Among the top 50 educational institutions, 30 are based in the US, 10 in Japan and 5 in the Republic of Korea. The number of Japanese academic institutions increased from 6 in 2009 to 10 in 2010.



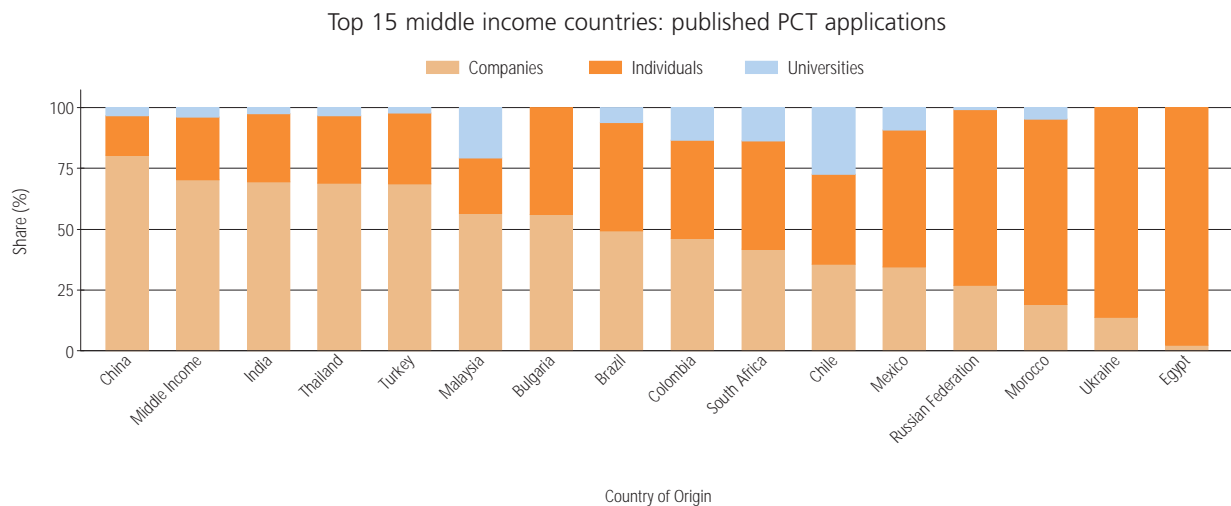
## A.11 Distribution of PCT Applications by Ownership Type

Figure A.11 shows the 2010 distribution of published PCT applications among three ownership types – companies, individuals and universities – for the top 15 high and middle income countries.<sup>8</sup>

**Figure A.11: Distribution of PCT applications by ownership type**



Source: WIPO Statistics Database



Source: WIPO Statistics Database

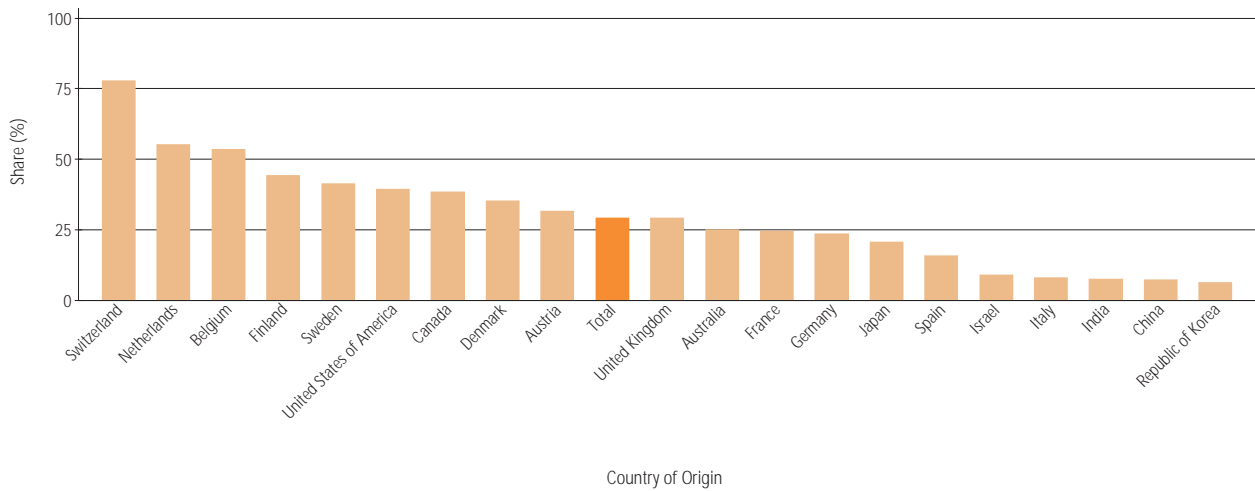
- > The distribution is relatively homogenous among high income countries. Notable exceptions are Spain and the United Kingdom, which both have a comparatively high proportion of university filings.
- > The distribution is more heterogeneous for middle income countries. The share of filings by companies is above 80% for China but below 3% for Egypt. University filings represent between 20% and 30% of total filings in Chile and Malaysia.

<sup>8</sup> The “universities” group includes all educational institutions, whereas the “individuals” group refers to applicants who are physical persons, and the “companies” group includes all other entities, mainly businesses.

## A.12 Foreign Inventors Named in PCT Applications

The graph below indicates the share of PCT applications published in 2010 with at least one named inventor having a nationality different from the country of origin of the first-named applicant.

**Figure A.12: Foreign inventors named in PCT applications, top 20 countries of origin**



Source: WIPO Statistics Database

- > Just over 75% of published PCT applications filed by an applicant based in Switzerland had at least one inventor who did not have Swiss nationality.
- > The share of foreign inventors named in published PCT applications from the Republic of Korea (6.3%), China (7.2%) and India (7.5%) is rather low compared to the total average share (29.2%).

## FIELDS OF TECHNOLOGY OF PCT APPLICATIONS

PCT applications span a wide range of technologies – some emerging, some maturing and others declining. This subsection shows the distribution of PCT applications across fields of technology by year, for the top 10 countries of origin and for the top 10 countries of origin for middle income countries other than China. As in the previous subsection, for confidentiality reasons, statistics are based on the publication rather than the filing date. Statistics based on publication date have a delay of approximately 6 months compared to those based on international filing date. The breakdown of published PCT applications by technology is based on a concordance table between International Patent Classification (IPC) symbols and 35 fields of technology.<sup>9</sup>

### A.13 PCT Applications by Field of Technology

Table A.13 shows the number of PCT applications by field of technology for applications published from 2006 to 2010.<sup>10</sup>

**Table A.13: PCT applications by field of technology**

Technical Field	Publication Year					Change Compared to 2009 (%)
	2006	2007	2008	2009	2010	
<b>I Electrical engineering</b>						
1 Electrical machinery, apparatus, energy	7,000	7,874	8,933	8,972	9,143	1.9
2 Audio-visual technology	4,723	4,893	4,736	4,405	4,245	-3.6
3 Telecommunications	6,401	7,369	8,014	7,331	6,230	-15.0
4 Digital communication	5,972	7,574	8,731	9,022	10,581	17.3
5 Basic communication processes	1,302	1,360	1,462	1,396	1,273	-8.8
6 Computer technology	9,916	11,208	11,708	10,268	9,540	-7.1
7 IT methods for management	1,662	1,963	2,458	2,167	2,058	-5.0
8 Semiconductors	4,339	4,681	5,039	5,612	5,847	4.2
<b>II Instruments</b>						
9 Optics	4,089	4,270	4,548	4,312	4,178	-3.1
10 Measurement	5,947	6,547	6,844	6,746	6,377	-5.5
11 Analysis of biological materials	1,717	1,747	1,800	1,864	1,759	-5.6
12 Control	2,348	2,389	2,526	2,387	2,102	-11.9
13 Medical technology	9,640	10,478	11,069	10,454	10,465	0.1
<b>III Chemistry</b>						
14 Organic fine chemistry	5,976	6,057	6,107	5,677	5,511	-2.9
15 Biotechnology	4,875	5,120	5,287	5,285	5,206	-1.5
16 Pharmaceuticals	8,680	8,797	8,968	8,473	7,843	-7.4
17 Macromolecular chemistry, polymers	2,994	3,064	3,135	3,085	2,812	-8.8
18 Food chemistry	1,582	1,575	1,685	1,525	1,525	0.0
19 Basic materials chemistry	3,897	4,400	4,711	4,676	4,567	-2.3
20 Materials, metallurgy	2,369	2,555	2,798	2,755	2,859	3.8
21 Surface technology, coating	2,595	2,594	2,668	2,466	2,436	-1.2
22 Micro-structural and nano-technology	196	246	305	350	342	-2.3
23 Chemical engineering	3,349	3,464	3,790	3,625	3,564	-1.7
24 Environmental technology	1,700	1,972	2,232	2,216	2,131	-3.8
<b>IV Mechanical engineering</b>						
25 Handling	3,754	3,984	3,900	3,721	3,619	-2.7
26 Machine tools	2,651	2,834	3,202	2,951	2,710	-8.2
27 Engines, pumps, turbines	3,181	3,615	4,132	4,380	4,288	-2.1
28 Textile and paper machines	2,513	2,233	2,300	2,159	1,944	-10.0
29 Other special machines	3,580	3,655	4,086	3,981	3,741	-6.0
30 Thermal processes and apparatus	1,594	1,856	2,129	2,359	2,379	0.8
31 Mechanical elements	3,461	3,852	4,404	4,136	4,002	-3.2
32 Transport	4,814	5,300	5,966	5,834	5,455	-6.5
<b>V Other fields</b>						
33 Furniture, games	3,397	3,653	3,635	3,279	3,078	-6.1
34 Other consumer goods	2,752	2,933	3,161	3,005	3,000	-0.2
35 Civil engineering	3,577	3,847	4,337	4,411	4,354	-1.3

Source: WIPO Statistics Database

<sup>9</sup> Concordance table available at: [www.wipo.int/ipstats/en/statistics/patents/](http://www.wipo.int/ipstats/en/statistics/patents/). In the past, when an application belonged to multiple technical fields, it was counted multiple times but, since 2010, it is being counted as a fraction of one application. As a result, the counts using "fractional counting" are close to the number of PCT applications published.

<sup>10</sup> The 2009 decline in PCT filings resulted in a 2.3% decrease in the number of PCT applications published in 2010, partly explaining the large number of decreases or instances of modest growth observed among the 35 fields of technology.

- > The most significant declines were in the fields of *telecommunications* (-15.0%), *instruments control* (-11.9%) and *textile and paper machines* (-10.0%).
- > Technological fields that saw substantial growth in 2010 include *digital communication* (+17.3%), *semiconductors* (+4.2%) and *materials, metallurgy* (+3.8%).

#### A.14 Top Country of Origin: Fields of Technology

Table A.14 presents the number of published PCT applications per field of technology for each of the top 10 countries of origin.

**Table A.14: Field of technology: top 10 countries**

Technical Field	Country of Origin									
	CH	CN	DE	FR	GB	JP	KR	NL	SE	US
<b>I Electrical engineering</b>										
1 Electrical machinery, apparatus, energy	239	485	1 374	342	235	2 698	468	318	83	2,064
2 Audio-visual technology	46	175	204	146	89	1 788	347	133	65	855
3 Telecommunications	32	784	183	326	97	1 309	1 016	104	337	1,443
4 Digital communication	42	3 119	247	452	143	1 241	777	133	833	2,397
5 Basic communication processes	24	59	80	68	32	345	40	76	38	421
6 Computer technology	86	493	426	400	236	1 757	416	301	221	4,032
7 IT methods for management	21	32	40	57	49	180	212	24	35	1,085
8 Semiconductors	52	122	491	168	73	2 136	406	140	28	1,945
<b>II Instruments</b>										
9 Optics	39	130	288	127	106	1 789	215	130	42	1,049
10 Measurement	220	148	898	420	279	1 275	187	342	124	1,645
11 Analysis of biological materials	47	26	147	106	89	205	64	52	33	728
12 Control	57	61	281	111	92	394	76	64	44	578
13 Medical technology	231	179	851	313	361	1 173	289	433	191	4,817
<b>III Chemistry</b>										
14 Organic fine chemistry	267	173	707	379	268	836	222	103	63	1,597
15 Biotechnology	159	118	394	241	210	549	200	159	39	2,139
16 Pharmaceuticals	335	249	461	365	308	710	280	121	116	3,179
17 Macromolecular chemistry, polymers	66	51	435	131	39	784	95	100	13	797
18 Food chemistry	107	42	86	49	67	240	73	116	14	386
19 Basic materials chemistry	121	101	724	157	155	777	142	170	19	1,667
20 Materials, metallurgy	46	103	381	187	70	842	120	44	44	518
21 Surface technology, coating	53	59	298	109	62	749	77	36	18	700
22 Micro-structural and nano-technology	7	3	31	10	4	33	52	11	4	142
23 Chemical engineering	93	102	522	201	161	497	140	118	80	1,046
24 Environmental technology	46	63	261	144	73	414	102	89	47	523
<b>IV Mechanical engineering</b>										
25 Handling	245	92	453	139	143	519	144	112	54	916
26 Machine tools	58	92	560	108	65	596	107	24	82	584
27 Engines, pumps, turbines	64	133	946	302	156	795	159	47	79	854
28 Textile and paper machines	83	66	288	57	49	466	73	41	29	471
29 Other special machines	110	86	461	218	137	670	147	139	88	882
30 Thermal processes and apparatus	52	141	298	116	71	494	167	34	55	462
31 Mechanical elements	62	107	1 059	199	153	744	100	61	131	856
32 Transport	75	159	1 220	576	183	1 098	180	80	228	839
<b>V Other fields</b>										
33 Furniture, games	90	178	294	100	179	267	243	104	62	889
34 Other consumer goods	58	146	381	171	138	341	369	53	27	666
35 Civil engineering	66	166	402	229	241	235	223	120	85	1,244

Source: WIPO Statistics Database

Note: Two-letter country codes are used for: CH (Switzerland), CN (China), DE (Germany), FR (France), GB (United Kingdom), JP (Japan), KR (Republic of Korea), NL (Netherlands), SE (Sweden) and US (US).

- > Almost half of all published PCT applications originating from China belonged to the *Digital communications* and *Telecommunications* fields. These two fields represent, respectively, more than a third and a quarter of all PCT publications attributed to applicants from Sweden and the Republic of Korea.

### A.15 Top Middle Income Countries: Fields of Technology

Table A.15 presents the number of published PCT applications per field of technology for each of the top 10 middle income countries of origin. The data for China are presented in table A.14 and are not repeated in table A.15.

**Table A.15: Field of technology: top 10 middle income countries**

Technical Field	Country of Origin									
	BR	CL	CO	IN	MX	MY	RU	TR	UA	ZA
<b>I Electrical engineering</b>										
1 Electrical machinery, apparatus, energy	25	1	2	24	10	9	29	19	6	15
2 Audio-visual technology	6			4	3	3	10	6	1	6
3 Telecommunications	8			17		8	8	6	2	4
4 Digital communication	3	1		28	1	31	4	10		7
5 Basic communication processes	2			6		2	2	4		3
6 Computer technology	12	2		38	4	22	23	7	2	17
7 IT methods for management	3			31	2	6	10	12	2	12
8 Semiconductors	1			4	1	2	10			2
<b>II Instruments</b>										
9 Optics	5		1	1		2	8		2	2
10 Measurement	15	2	2	17	7	9	32	8	3	14
11 Analysis of biological materials	2	1	1	5	1	1	3	1		1
12 Control	8		1	17	3	4	14	6		10
13 Medical technology	51	3	3	27	7	14	40	19	8	26
<b>III Chemistry</b>										
14 Organic fine chemistry	23	3	2	227	1	8	12	2	1	5
15 Biotechnology	13	8	2	68	5	15	24	1	2	10
16 Pharmaceuticals	39	8	2	247	14	18	35	30	3	12
17 Macromolecular chemistry, polymers	8	1	1	10	5	3	4	1		1
18 Food chemistry	7	3	2	20	9	7	6	3	2	3
19 Basic materials chemistry	23	5	5	35	9	8	26	2		5
20 Materials, metallurgy	15	1	1	27	14	3	24	5	3	13
21 Surface technology, coating	6	4		7		3	10	2	1	3
22 Micro-structural and nano-technology	1				1		5			
23 Chemical engineering	14	3	5	20	6	5	23	10	5	9
24 Environmental technology	6	3	1	16	2	4	16	1		5
<b>IV Mechanical engineering</b>										
25 Handling	22	4		14	8	8	19	16	2	20
26 Machine tools	5		1	4	5	1	15	7	1	3
27 Engines, pumps, turbines	28	1	1	23	6	10	46	17	6	8
28 Textile and paper machines	7			10	1	3	2	10	1	1
29 Other special machines	15	5	3	10	15	5	17	17	2	10
30 Thermal processes and apparatus	18	1		6	3	2	11	32	3	9
31 Mechanical elements	20	1	3	10	3	2	26	6	1	7
32 Transport	28			25	6	10	30	12	5	17
<b>V Other fields</b>										
33 Furniture, games	25		2	10	11	5	20	20	2	16
34 Other consumer goods	29	1	2	12	7	5	21	90	4	17
35 Civil engineering	22	3	3	9	11	9	58	17	10	32

Source: WIPO Statistics Database

Note: Two-letter country codes are used for: BR (Brazil), CL (Chile), CO (Colombia), IN (India), MX (Mexico), MY (Malaysia), RU (Russian Federation), TR (Turkey), UA (Ukraine) and ZA (South Africa).

- > Most published PCT applications filed by applicants from India belonged to the *Pharmaceuticals* and *Organic fine chemistry* fields.
- > *Medical technology* was the leading field of technology for Brazilian applicants, and *Civil engineering* was the most popular field for Russian and South African applicants.

## PCT NATIONAL PHASE ENTRIES

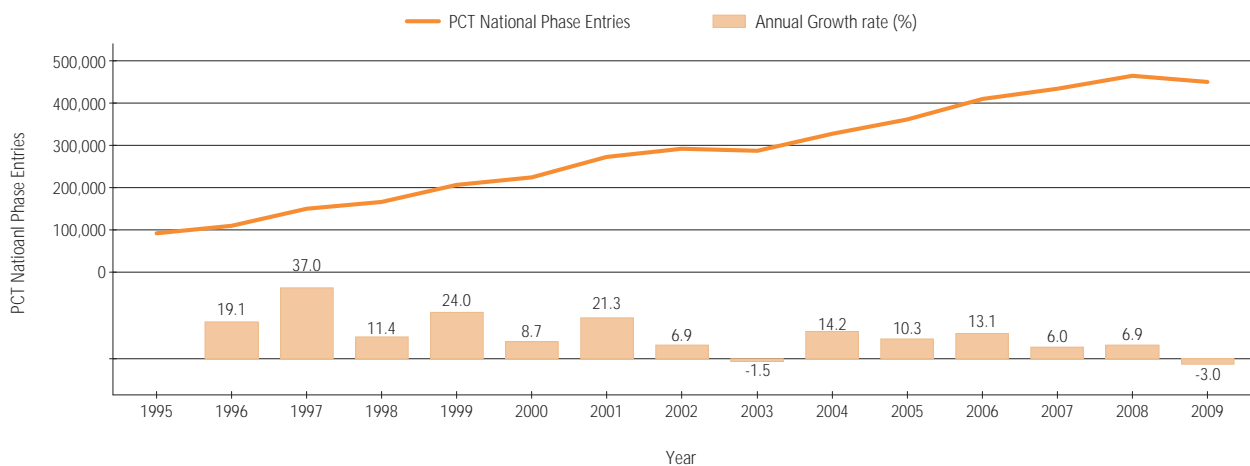
The national or regional patent office at which the applicant enters the PCT national phase initiates the granting procedure according to prevailing national law. Statistics associated with PCT national phase entry offer information on international patenting strategies. Statistics for national phase entry are based on data supplied to WIPO by national and regional patent offices several months after the end of each year. Therefore, the latest available data refer to 2009. Some data shown in this section might be estimated, as not all offices have provided statistics.<sup>11</sup> The national phase entry section briefly describes the global trend before reviewing national phase entries by applicants' country and region of origin and by patent office.

### GLOBAL TREND

#### A.16 PCT National Phase Entry Trend

Figure A.16 depicts the number of PCT national phase entries from 1995 to 2009. Missing data for offices that have not furnished statistics are estimated by WIPO on an aggregate basis in order to present the following figure.

**Figure A.16: PCT national phase entries**



Source: WIPO Statistics Database

- > In 2009, an estimated 450,000 PCT national phase entries were filed at patent offices worldwide, representing a decrease of 3.0% over 2008.
- > Since 1995, the number of PCT national phase entries has decreased only twice, in 2003 and in 2009. The average growth rate over the entire period stood at 12%. The number of PCT national phase entries in 2009 was almost five times higher than in 1995.

<sup>11</sup> For further details, see "Statistical Sources and Methods" in the annex.

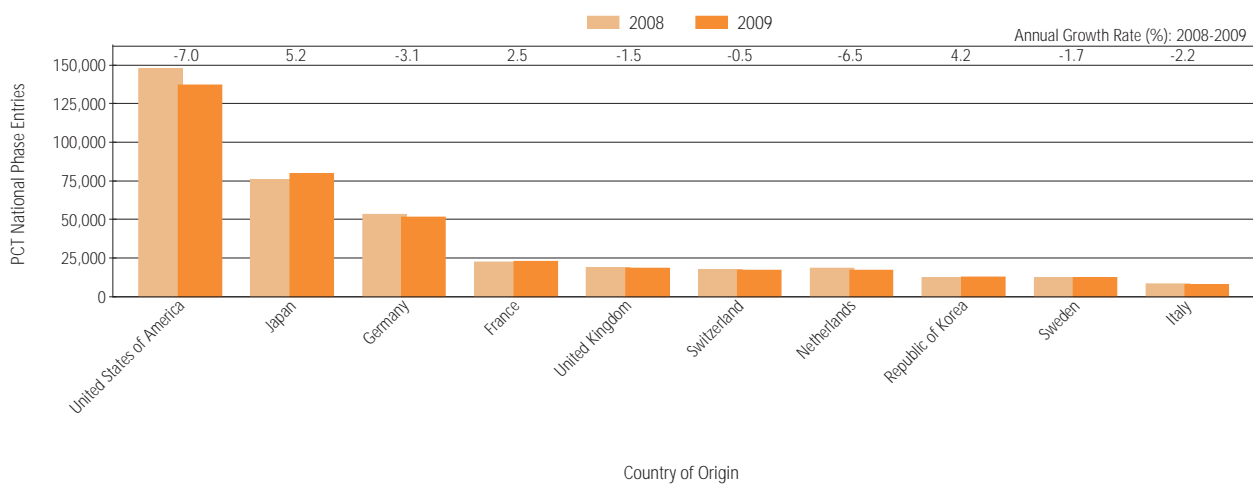
## NATIONAL PHASE ENTRIES BY COUNTRY

This subsection analyzes PCT national phase entries according to the applicant's country and region of origin. It also provides details by income group and compares the use of the PCT system to that of the Paris Convention route. Data by origin may be incomplete.<sup>12</sup> A statistical table listing all countries is provided in the annex.

### A.17 Top Countries: National Phase Entries

Figure A.17 shows the number of PCT national phase entries by applicants' country of origin for the top 10 filing countries in terms of PCT national phase entries in 2008 and 2009.

**Figure A.17: PCT national phase entries by country of origin**



Source: WIPO Statistics Database

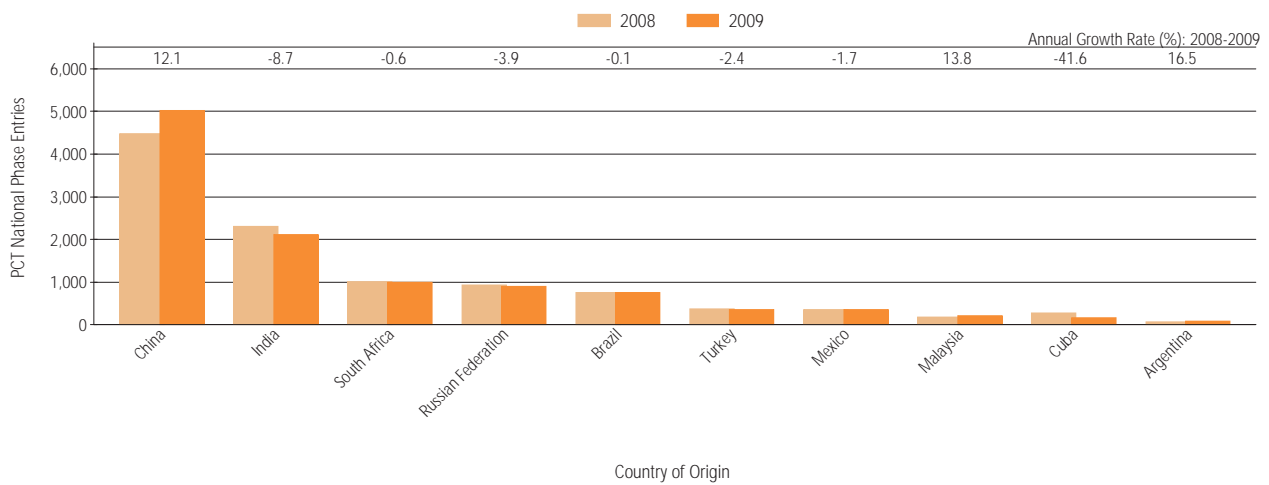
- > Applicants from the US accounted for about 137,200 PCT national phase entries in 2009 worldwide, a decrease of 7% compared to 2008.
- > Applicants from the Netherlands (-6.5%) and from Germany (-3.1%) also saw substantial declines in the number of national phase entries. By contrast, applicants from Japan (+5.2%) and the Republic of Korea (+4.2%) experienced the fastest growth among the top 10 origins.
- > All top 10 countries belong to the high income group.

<sup>12</sup> An estimated 9,700 PCT national entries were initiated in 2009, as well as in 2008, with no indication on the origin of the application or with an invalid country, e.g. the EPO. Data are estimated; see "Statistical Sources and Methods" in the annex for further details.

## A.18 Top Middle Income Countries: National Phase Entries

Figure A.18 shows the number of PCT national phase entries by applicants' country of origin for the top 10 middle income country filers in 2008 and 2009.

**Figure A.18: PCT national phase entries by middle income country of origin**



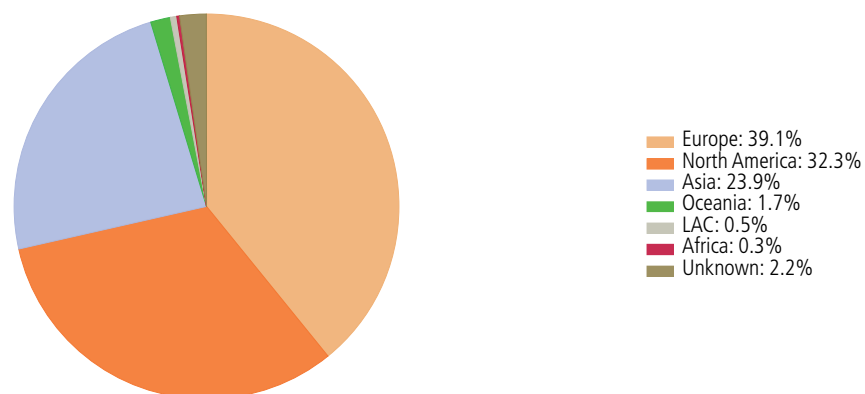
Source: WIPO Statistics Database

- > Applicants from China accounted for about 5,000 PCT national phase entries in 2009 worldwide, an increase of 12.1% compared to 2008.
- > Applicants from all top 10 middle income countries reduced, sometimes drastically so, their national phase entries at offices worldwide compared to 2008; the only three exceptions were Argentina<sup>13</sup>, China and Malaysia.

## A.19 Distribution of National Phase Entries by Region

Figure A.19 shows the 2009 distribution of PCT national phase entries by region.

**Figure A.19: Distribution of PCT national phase entries by region in 2009**



Source: WIPO Statistics Database

- > In 2009, the highest number of PCT national phase entries originated in Europe, followed by North America and Asia. Respectively, they account for 39.1%, 32.3% and 23.9% of the world total, together representing over 95% of all PCT national phase entries worldwide.

<sup>13</sup> Even though Argentina is not a PCT member, their applicants can file PCT applications if at least one applicant is a resident or national of a contracting state.



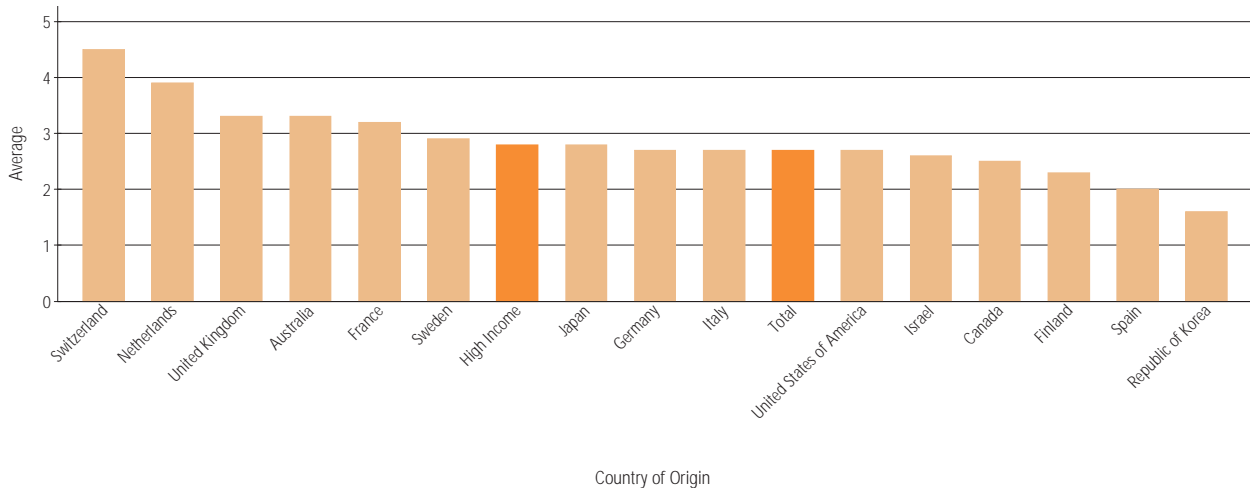
## A.20 National Phase Entries per PCT Application

Figure A.20 depicts the average number of PCT national phase entries per PCT application.<sup>14</sup> In calculating this number, PCT national phase entries are compared with PCT applications filed 12 months earlier (i.e., national phase entries in 2009 are compared with PCT filings in 2008), since most applicants enter the PCT national phase around 18 months after the international filing date.

It should be noted that a PCT national phase entry at a regional patent office may result in several national patents. Thus, the number of national jurisdictions in which applicants seek protection is invariably higher than the number of national phase entries.

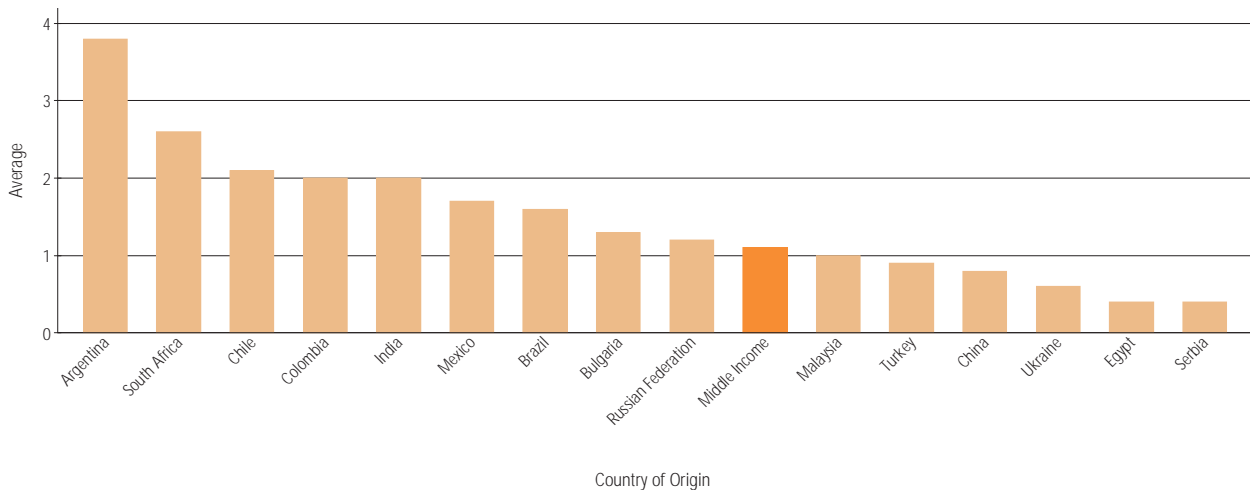
**Figure A.20: Average number of national phase entries per PCT application**

Top 15 high income countries: PCT applications



Source: WIPO Statistics Database

Top 15 middle income countries: PCT applications



Source: WIPO Statistics Database

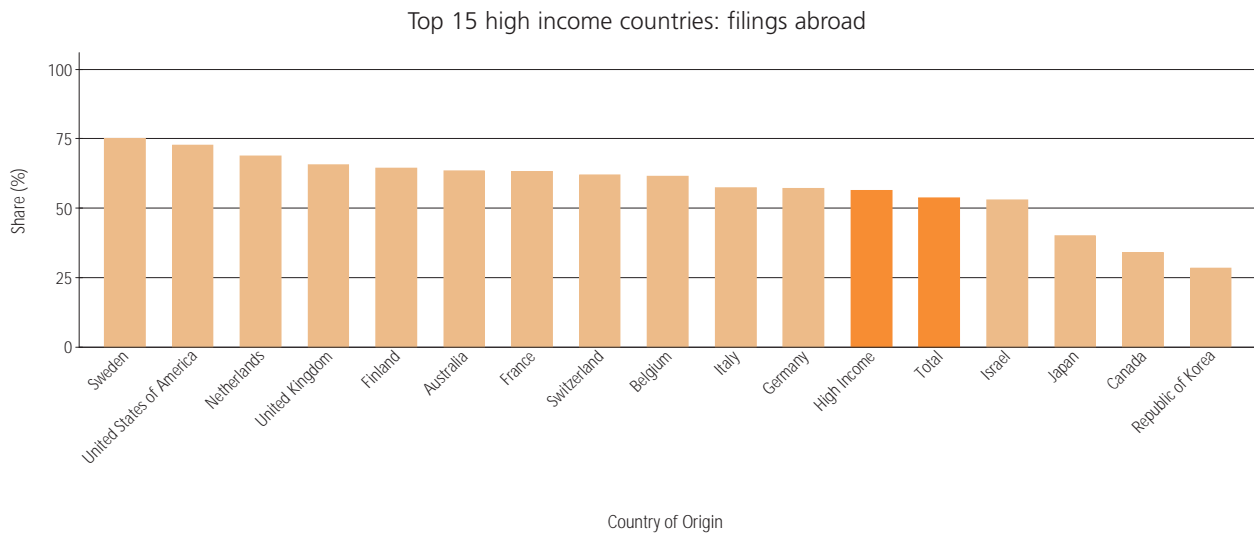
- > On average, for every PCT application filed, applicants using the PCT system entered the national phase in 2.7 patent offices in 2009. The average was slightly higher (2.8) for high income countries and substantially lower (1.1) for middle income countries.
- > Among the high income countries, applicants from Switzerland, the Netherlands and the United Kingdom filed, on average, the most PCT national phase entries per PCT application. For the middle income countries, applicants from Argentina, South Africa and Chile filed the most national phase entries per PCT application. Interestingly, Argentina and Chile were not PCT members in 2008 at the time of the PCT filings.

<sup>14</sup> This indicator also includes PCT applications that do not result in any national phase entry.

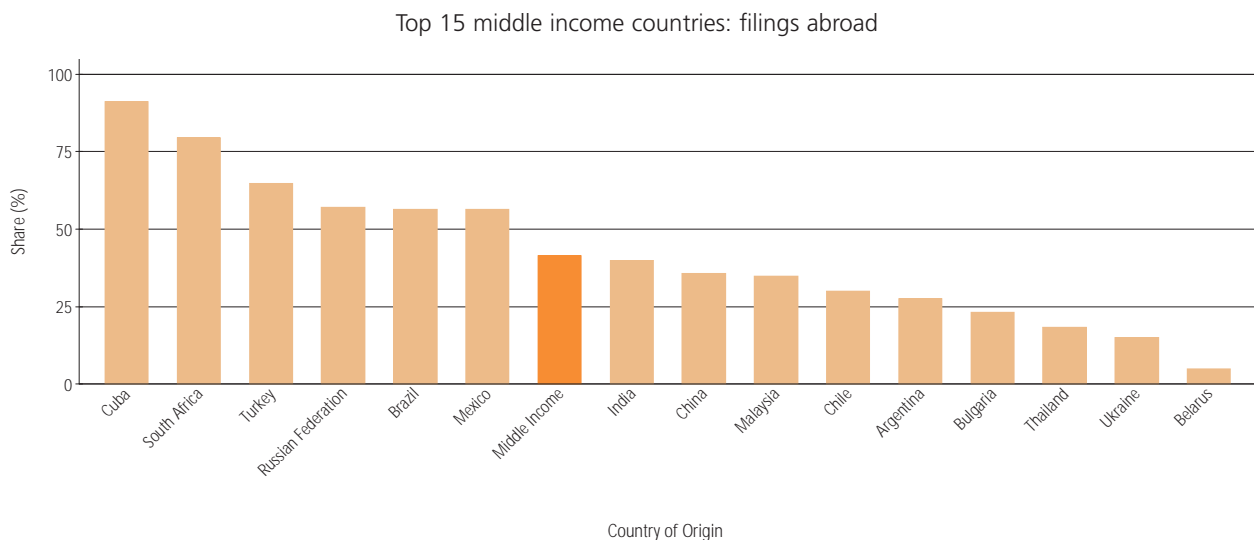
## A.21 Share of PCT National Phase Entries out of Total Filings Abroad

While the PCT system offers several important benefits to patent applicants, some select the Paris Convention route instead for filing applications abroad. Figure A.21 presents the share of PCT national phase entries out of total patents filed abroad. This share reflects the extent to which applicants from different countries rely on the PCT system in seeking patent protection abroad.<sup>15</sup>

**Figure A.21: Share of PCT national phase entries out of total filings abroad**



Source: WIPO Statistics Database



Source: WIPO Statistics Database

- > In 2009, PCT national phase entries accounted for about 54% of patent applications filed abroad. On average, applicants from high income countries (56%) rely to a greater extent on the PCT system for international filings than do applicants from middle income countries (42%).
- > More than 75% of applications filed abroad by applicants from Cuba, South Africa and Sweden were filed via the PCT system.

<sup>15</sup> In this subsection, PCT national phase entries only include entries at patent offices of other countries, i.e., they exclude national phase entries in an applicant's country of residence. However, PCT national phase entries at the EPO by applicants from EPC member countries are included in the calculation of national phase entries.

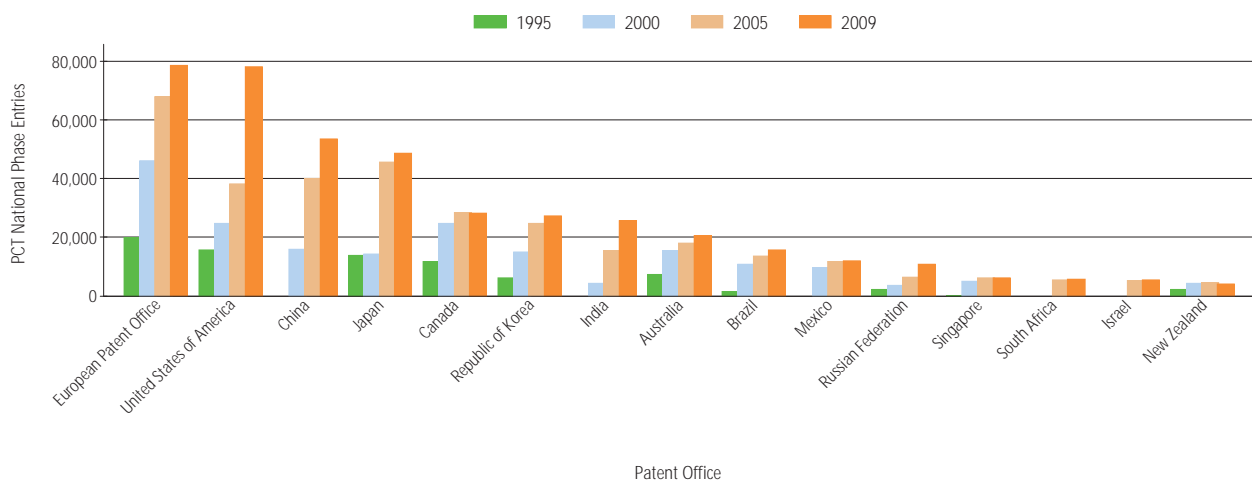
## NATIONAL PHASE ENTRIES BY OFFICE

This subsection analyzes PCT national phase entries according to the patent office in which the applicant seeks to obtain a patent. In particular, it provides information on the destinations of national phase entries, presenting data on national phase entries by office, by office and origin, and gives the share of entries out of total non-resident applications. Data for some offices are estimated or are nonexistent.<sup>16</sup> A statistical table listing all offices is available in the annex.

### A.22 Top 20 Patent Offices: National Phase Entries

Figure A.22 depicts the number of PCT national phase entries by patent office. Among other things, it reflects the commercial attractiveness of the country or region represented by that patent office.

Figure A.22: PCT national phase entries by office



Source: WIPO Statistics Database

- > For all years listed above, the European Patent Office (EPO) was the most preferred destination, reflecting the large number of EPC member states. In 2009, the EPO received about 79,000 PCT national phase entries, followed by the USPTO and the State Intellectual Property Office of the People's Republic of China (SIPO).
- > The number of PCT national phase entries has continuously increased for all offices and all years shown in the above figure, except for the offices of Canada and New Zealand, which each experienced a decrease in entries in 2009 compared to 2005. By contrast, during this period, the number of PCT national phase entries initiated at the USPTO doubled.
- > In 2009, PCT national phase entries at the 15 offices shown accounted for 93.5% of total national phase entries worldwide, indicating that most PCT applicants focus on the largest markets and do not seek universal coverage.

<sup>16</sup> For some offices, such as the National Institute of Industrial Property (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 to obtain patent protection in the countries concerned (e.g., the EPO in the case of France). Accordingly, relevant national phase entries are included in the numbers for regional offices. Data for some offices are estimated; see "Statistical Sources and Methods" in the annex for further details.

### A.23 National Phase Entries by Patent Office and Country of Origin

Table A.23 shows the number of PCT national phase entries at the top 20 patent offices, broken down by the top 10 countries of origin in 2009. This two-dimensional matrix captures the “flow of patents” between countries via the PCT.

**Table A.23: National phase entries by top patent office and country**

Patent Office	Country of Origin												Total
	US	JP	DE	FR	GB	CH	NL	KR	SE	IT	Unknown	Others	
European Patent Office	24,682	11,454	11,399	4,599	3,294	2,610	3,247	2,011	2,547	1,738	206	10,897	78,684
United States of America	11,819	21,573	10,955	4,704	4,960	1,572	2,551	3,348	2,024	1,918	85	12,651	78,160
China	15,687	13,519	6,173	2,297	1,433	1,757	2,345	2,431	1,499	721	115	5,634	53,611
Japan	15,082	12,956	4,925	2,469	1,420	1,632	2,158	2,035	1,146	494	168	4,288	48,773
Canada	13,136	1,746	2,310	1,425	1,161	1,321	617	349	532	431	141	5,000	28,169
Republic of Korea	9,290	8,311	2,490	1,203	535	993	873	328	450	256	96	2,498	27,323
India	9,013	2,259	2,774	1,396	1,084	1,422	1,524	581	1,057	494	115	3,987	25,706
Australia	9,137	1,259	1,332	661	1,119	1,099	548	286	477	304	234	4,067	20,523
Brazil	5,946	1,021	1,952	1,071	538	1,111	786	235	425	377	129	2,048	15,639
Mexico	5,839	577	1,135	586	376	870	432	255	262	213	25	1,485	12,055
Russian Federation	2,835	1,106	1,899	697	296	693	801	252	396	280	16	1,463	10,734
Singapore	2,729	827	400	237	216	400	130	78	133	72	43	990	6,255
Israel	2,494	216	27	137	217	14	36	34	62	18	1,482	813	5,550
New Zealand	1,692	173	291	154	253	241	140	25	144	56	25	988	4,182
Norway	1,447	228	396	220	273	276	217	10	236	72	19	729	4,123
Germany	809	1,204	1,015	31	24	62	17	119	68	2	20	274	3,645
Malaysia	1,209	511	321	122	209	213	275	55	85	22	23	484	3,529
Eurasian Patent Organization	520	81	299	148	146	175	130	11	27	76		636	2,249
Ukraine	582	92	375	135	78	195	59	13	72	51	1	481	2,134
United Kingdom	883	135	46	14	367	11	93	51	31	7	89	310	2,037

Source: WIPO Statistics Database

Note: Two-letter country codes are used for: US (US), JP (Japan), DE (Germany), FR (France), GB (United Kingdom), CH (Switzerland), NL (Netherlands), KR (Republic of Korea) SE (Sweden) and IT (Italy). Unknown origin also refers to invalid countries, i.e. when the EPO has been indicated as an origin. Only offices for which a breakdown by origin is available are shown in the table.

- > Among the 78,684 PCT national phase entries at the EPO, applicants from the US accounted for 24,682 of the total, whereas applicants from Japan and Germany accounted for 11,454 and 11,399, respectively.
- > It should be noted that a PCT applicant seeking protection in an EPC member state (see list of “PCT Contracting States” in the annex) can choose between entering the national phase at the national office (provided the “national route” is not closed) or at the EPO. As a result, the number of PCT national phase entries at some European national patent offices is lower than would otherwise be expected from the size of that particular country’s economy. This does not directly reflect the demand for patents via the PCT in those countries.

## A.24 National Phase Entries by Patent Office and Middle Income Country of Origin

Table A.24 shows the number of PCT national phase entries at the top 20 patent offices, broken down by top 10 middle income countries of origin in 2009. This two-dimensional matrix captures the “flow of patents” between countries, with a focus on applications from middle income countries.

**Table A.24: National phase entries at patent offices by top middle income country**

Patent Office	Country of Origin (Middle Income)											Total
	CN	IN	ZA	RU	BR	TR	MX	MY	CU	AR	Others	
United,States,of,America	1,049	477	186	198	187	32	58	47	27	33	128	2,422
European,Patent,Office	1,247	281	122	136	137	116	49	24	9	14	107	2,242
China	640	122	79	86	58	33	18	33	8	3	53	1,133
Japan	498	119	49	41	49	10	17	16	5	6	49	859
India	308	237	74	61	49	6	20	23	20	3	35	836
Canada	180	118	48	39	47	5	31	5	10	4	62	549
Australia	170	135	96	10	36	7	12	13	20	6	30	535
Republic of Korea	298	92	26	22	24	9	12	8	6	1	22	520
Brazil	128	88	57	16	42	5	24	4	14	9	33	420
Russian Federation	143	36	20	54	9	19	11	1	5	1	24	323
Mexico	53	55	28	7	53	2	48	2	5	4	35	292
Eurasian Patent Organization	16	23	6	75	2	17	1				15	155
Singapore	64	32	8	7	6	1	2	13	4	1	14	152
Colombia	4	23	79	1	15		17		4	1	6	150
Malaysia	35	31	7	3	3		3	13	14	1	8	118
New Zealand	14	58	17	4	3	2	2	3	2	1	5	111
Ukraine	11	10	7	54	2	8	4		1		10	107
Turkey	8	4	2	1	3	73			1		2	94
African Regional Intellectual Property Organization	5	27	28	1	1		1	2			3	68
Egypt	12	16	18	3		7	3	1		1	7	68

Source: WIPO Statistics Database

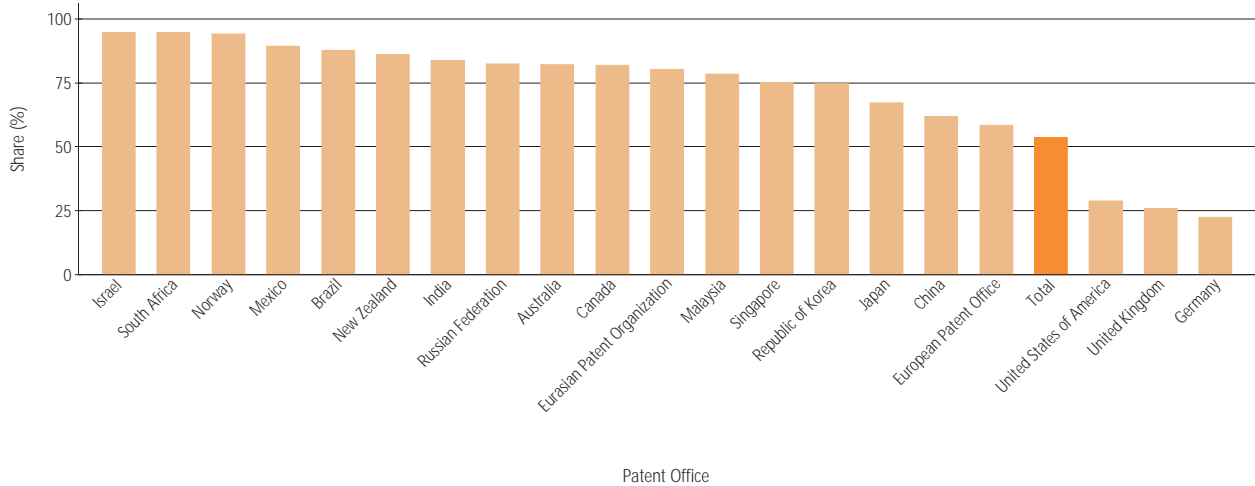
Note: Two-letter country codes are used for: CN (China), IN (India), ZA (South Africa), RU (Russian Federation), BR (Brazil), TR (Turkey), MX (Mexico), MY (Malaysia), CU (Cuba) and AR (Argentina). Only offices for which a breakdown by origin is available are shown in the table. Totals may be incomplete as some patent offices do not report the origins of all applications.

- > The USPTO attracted the largest number of PCT national phase entries from middle income countries, closely followed by the EPO. Among the middle income countries, applicants from China and India filed the most entries at these two offices.
- > About 56% of the entries at SIPO by applicants from middle income countries originated from Chinese applicants, and 78% of such entries at the Turkish patent office originated from Turkish applicants.

## A.25 Share of PCT National Phase Entries out of Total Non-Resident Filings

Figure A.25 depicts the share of PCT national phase entries out of total non-resident filings received by offices in 2009.<sup>17</sup> Like Figure A.21, this indicator reflects the extent to which applicants rely on the PCT system rather than the Paris Convention route in seeking patent protection abroad. Unlike Figure A.21, however, this information is presented from the perspective of patent offices selected by applicants for national phase entry, rather than the applicant's country of origin.

**Figure A.25: Share of PCT national phase entries out of total non-resident filings**



Source: WIPO Statistics Database

Note: The above figure shows the 20 offices having received the most non-resident filings in 2009.

- > PCT national phase entries accounted for the majority of non-resident patent filings in 2009 (54%).
- > The share of PCT national phase entries out of total non-resident filings exceeded 90% for the offices of Israel, Norway and South Africa. By contrast, PCT applicants seeking patent protection in EPC member states seem to prefer entering the national phase at the EPO rather than at national patent offices, as suggested by the low shares for Germany and the United Kingdom.
- > The relatively low share of PCT national phase entries at the USPTO (29%) can be partly explained by the higher share of non-resident applications from Canada, Japan and the Republic of Korea, whose applicants prefer direct filings at foreign patent offices rather than the PCT route (see Figure A.21).

<sup>17</sup> These PCT national phase entries only include entries by non-resident applicants. However, PCT national phase entries at the EPO by applicants residing in EPC member states are included in the calculation of national phase entries.

## SECTION B – PERFORMANCE OF THE PCT SYSTEM

### RECEIVING OFFICES

A PCT application is filed with a receiving office (RO), which may be a national or regional patent office, or the IB. There are 112 ROs responsible for recording PCT applications, examining their compliance with PCT requirements and transmitting them to the IB for further processing.

#### B.1 Top 15 Receiving Offices

Table B.1 presents PCT filings by the top 15 ROs over the past five years. In principle, a PCT application is filed with the national patent office of the applicant's country of residence or with a regional patent office acting on that country's behalf. PCT applications may alternatively be filed with the IB, a competent RO for applicants from all PCT contracting states.

**Table B.1: PCT filings by receiving office**

Receiving Offices	2006	2007	2008	2009	2010	2010 Share (%)	Changed compared to 2009 (%)
United States of America	51,850	54,594	52,050	46,045	45,093	27.4	-2.1
Japan	26,421	26,935	28,027	29,291	31,555	19.2	7.7
European Patent Office	23,382	26,061	29,494	27,360	29,032	17.7	6.1
China	3,827	5,400	6,081	8,000	12,918	7.9	61.5
Republic of Korea	5,918	7,060	7,911	8,025	9,639	5.9	20.1
International Bureau	8,688	9,184	9,050	8,692	8,721	5.3	0.3
United Kingdom	5,188	5,548	5,272	4,627	4,431	2.7	-4.2
France	3,862	3,810	3,805	3,771	3,459	2.1	-8.3
Canada	2,143	2,370	2,299	1,895	2,064	1.3	8.9
Sweden	2,123	2,246	2,318	2,045	1,783	1.1	-12.8
Germany	2,327	2,308	2,189	1,954	1,771	1.1	-9.4
Australia	2,010	2,004	1,921	1,710	1,757	1.1	2.7
Spain	924	984	1,052	1,243	1,396	0.8	12.3
Finland	1,014	1,028	943	1,157	1,188	0.7	2.7
Israel	1,511	1,631	1,704	1,238	1,103	0.7	-10.9
All others	8,453	8,763	9,120	8,346	8,390	5.1	0.5
Total	149,641	159,926	163,236	155,399	164,300	100.0	5.7

Source: WIPO Statistics Database

- > For the third consecutive year, the USPTO in its capacity of RO saw a decline in PCT filings. From 2006 to 2010, the share of PCT applications filed with the USPTO out of the total count decreased from 34.7% to 27.4%.
- > With respective annual growth figures of 61.5% and 20.1%, the RO of China and the Republic of Korea became the fourth and fifth top ROs in 2010, both overtaking the IB in its role as a RO.

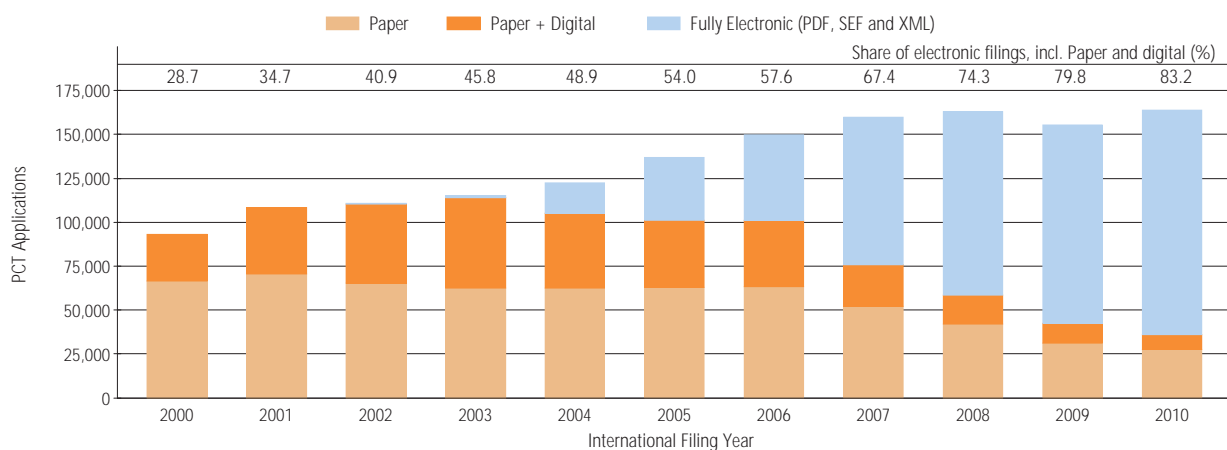
## INTERNATIONAL BUREAU

In addition to its role as a RO, the IB is responsible for certain functions in the international phase of the PCT system. These include formality examination, translation of abstracts and patentability reports, and publication of PCT applications. This subsection first shows the distribution of methods and languages of filing across all ROs and languages of publication; it then highlights the latest developments in the handling of PCT applications by the IB, providing information on electronic processing and translation and terminology work; finally, it presents performance indicators such as publication timeliness and unit cost of processing of a PCT application through to publication.

### B.2 Filings by Medium of Filing

A PCT applicant can choose from among different filing methods and formats when filing an application. The three methods available are: (i) filing on paper; (ii) filing on paper along with a digital storage medium (with the application being prepared electronically using WIPO-provided software); and (iii) using fully electronic media in different formats, such as PDF or XML. Electronic filing offers benefits to both applicants and patent offices and is thus encouraged by the PCT system through related fee reductions.

**Figure B.2: PCT filings by method of filing across all receiving offices**



Source: WIPO Statistics Database

- > The share of electronic filings (including paper and digital filings) continued to increase in 2010, representing 83.2% of total filings.
- > Fully electronic filings accounted for almost 78% of total filings in 2010, whereas the share of paper plus digital filings has decreased year on year since fully electronic filings were made available.



### B.3 Electronic Filing and Processing of PCT Applications

The main developments affecting the processing of PCT applications by the IB in 2010 were:

**Test environment for new "ePCT" system.** The IB is developing a new system, provisionally referred to as "ePCT", to allow pre-publication access for applicants and/or their agents to the IB's files containing documents and up-to-date bibliographic data relating to PCT applications filed on or after January 1, 2009. Deployment of a fully functional test version of ePCT was completed in December 2010, enabling the launch of a pilot scheduled in January 2011 with the participation of a group of experienced PCT users.

**PCT Online Document Upload Service.** Following the PCT Online Document Upload service pilot phase in 2009, this service became fully operational for all PCT users in January 2010, allowing PCT applicants and/or their agents to submit to the IB post-filing documents relating to PCT applications by uploading them via a web interface. The main advantages of this service are the quick and efficient submission of post-filing electronic documents to the IB, avoiding costs and delays related to paper mailing, as well as overcoming the image quality problems that can result from fax transmission or paper scanning. In July 2010 the service was expanded to enable applicants to upload post-filing documents destined for the IB in its capacity as ROs.

**PCT Automated Document Ordering System (PADOS).** In 2010, the IB completed the development and internal testing of an upgraded system to replace PCT Communication On Request (COR), one of the systems used by offices to order PCT documents. PADOS will be subjected to external user testing by a number of pilot offices starting in early 2011.

**Priority Document Access Service (DAS).** On January 1, 2010, it became possible for the IB to retrieve priority documents through DAS in processing PCT applications. This service enables a PCT applicant to request that the IB retrieve a copy of an earlier application from DAS, for use as a priority document (as long as certain conditions are met), instead of having to provide a certified copy. The service provided for under PCT Rule 17.1(b), whereby the RO with which the applicant has filed the priority application prepares a copy of the priority document and sends it directly to the IB, continues to apply and is not affected by this additional service.<sup>18</sup>

**Secure Online PCT E-Payment System.** In July 2010, the IB launched a new PCT E-Payment Service, which allows applicants to pay certain fees by credit card via a secure online e-payment facility. The facility is available for the payment of fees to the IB as RO in respect of new PCT applications filed therewith, and also, irrespective of the RO with which the PCT application was filed, for the payment of fees to the IB for filing a request for supplementary international search. Applicants are therefore no longer required to supply credit card details to the IB on separate forms but can instead carry out online credit card transactions in a secure and confidential environment. Other PCT fees due to the IB will gradually become payable via this service.

**Search copies transmitted electronically.** The search copies produced by the IB in its role as RO (RO/IB) are now transmitted electronically to the EPO in its capacity as ISA. The EPO is the recipient of the highest volume of RO/IB search copies, representing 76% of total search copies transmitted.

**Receiving offices prepared to receive and process PCT applications in electronic form.** On March 1, 2010, the Icelandic Patent Office began receiving and processing PCT applications in electronic form, bringing the number of ROs that accept such filings to 22.

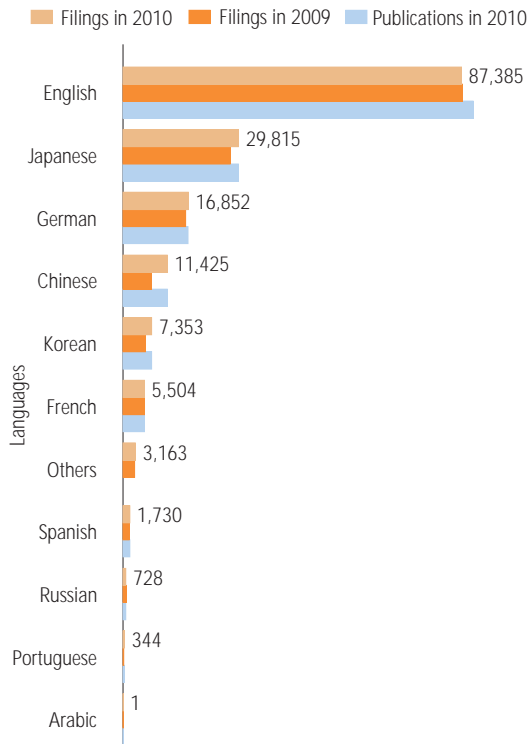
**PCT-SAFE updates.** Updates to PCT-SAFE software were issued in January, April, July and October 2010, enabling filers to take advantage of new PCT services, particularly the DAS service and E-Payment system described above.

<sup>18</sup> Further information is available at: [www.wipo.int/patentscope/en/priority\\_documents/](http://www.wipo.int/patentscope/en/priority_documents/)

## B.4 Languages of Filing and Publication

Figure B.4 presents the distribution of PCT applications according to language of filing and language of publication. 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.

**Figure B.4: Distribution of filing and publication languages**



Source: WIPO Statistics Database

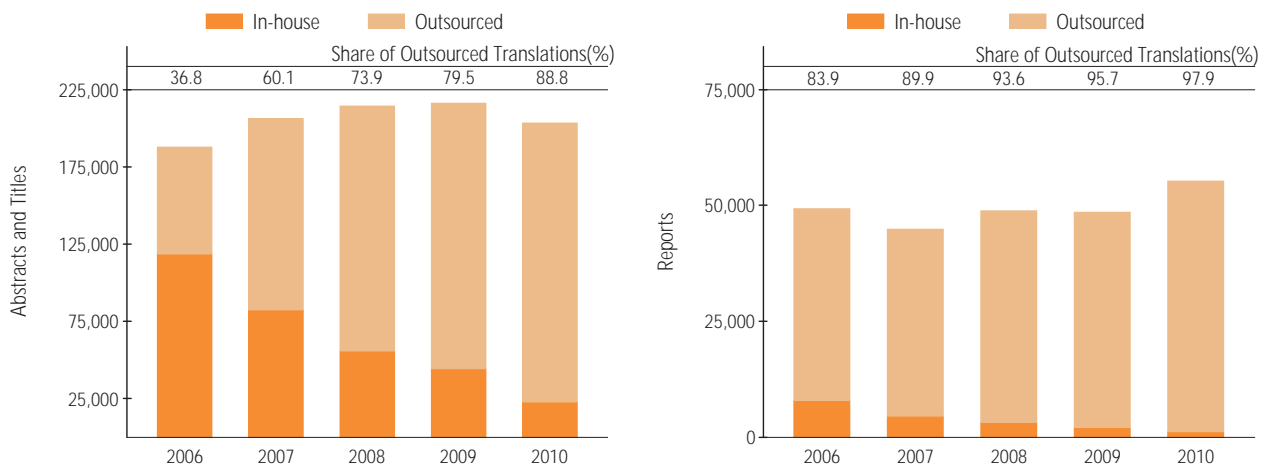
- > English was the most frequently used language of filing and publication in 2010. In both cases, English was used more frequently than all other languages combined.
- > The languages of filing with the most increased use in 2010 compared to 2009 were Portuguese (+100%), Chinese (+58%) and Korean (+27%).

## B.5 Translation

The goal of the IB's translation service is 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. In order to meet that objective, the IB translates all abstracts and titles of PCT applications into English and French, and all preliminary search and examination reports into English.

The IB started outsourcing translation work in 2006. The great majority of all translations are now outsourced (see figure below), a process involving numerous translation agencies and external translators.

**Figure B.5: Distribution of translation work**



Source: WIPO Statistics Database

- > The translation of 89% of titles and abstracts and 98% of reports was outsourced in 2010.
- > With about 203,500 translations in 2010, the number of abstracts and titles translated decreased by 6% compared to the previous year, reflecting the decrease in both PCT filings in 2009 as well as PCT publications in 2010.

Other important developments in 2010 include:

- > The IB launched a pilot project to ascertain the viability of using computer-assisted translation/workflow tools to make the overall translation process more efficient, enable the reuse of past translations and simplify the process of distributing vast numbers of translations. The pilot project is now ready to integrate software for managing the flow of the translations through WIPO's internal document management system.
- > A new round of bids for contracts (worth around 14 million Swiss francs per year) for translation of European language texts into English and French and for translation of Chinese and Japanese texts into English is currently in progress and is being promoted extensively worldwide. This is expected to lead to more effective quality control and to higher quality translations at a more competitive price.

## B.6 Terminology

In 2010 the IB continued to develop terminology databases aimed at improving the quality of internally and externally produced translations. During 2010, 6,901 new terms were added to the PCT terminology database across all 10 PCT publication languages, and 8,248 terms were validated. At the end of 2010, the database contained 47,901 terms.

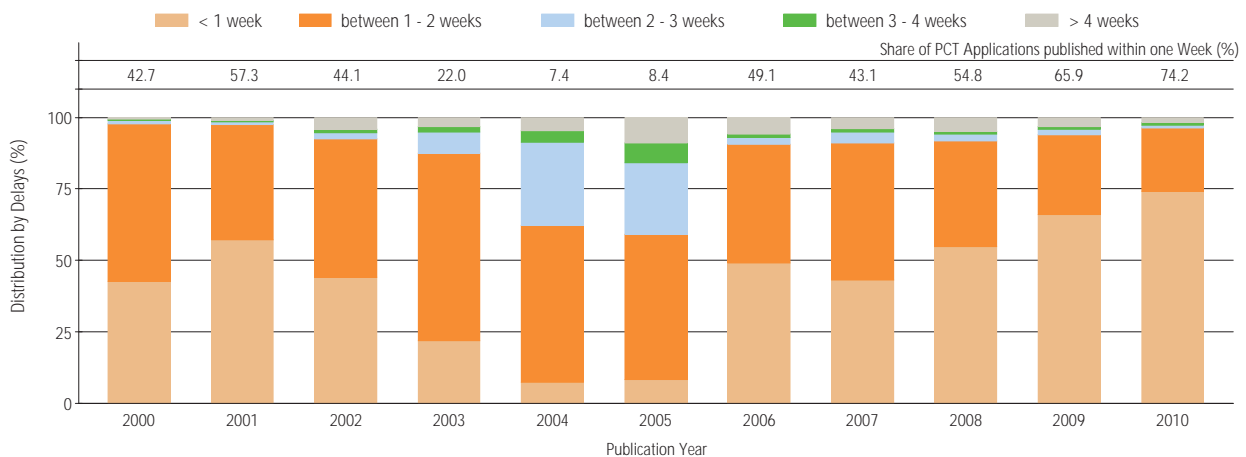
The main objective for 2011 will be to validate all previously unvalidated terms in the database to ensure the quality and reliability of this resource. The IB also plans to increase the number of terms available in certain languages that are currently underrepresented in the database, and to seek partnerships with external institutions that could assist with the validation of highly technical terminology.

In addition, a number of new functionalities were added to PATENTSCOPE in 2010 with a view to improving keyword-based information retrieval. These are described in subsection C.1.

## B.7 Publication Timeliness

The PCT provides that PCT applications and related documents shall 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. Figure B.7 shows actual publication timeliness after the expiration of the 18-month period.

**Figure B.7: Timeliness of publishing PCT applications**



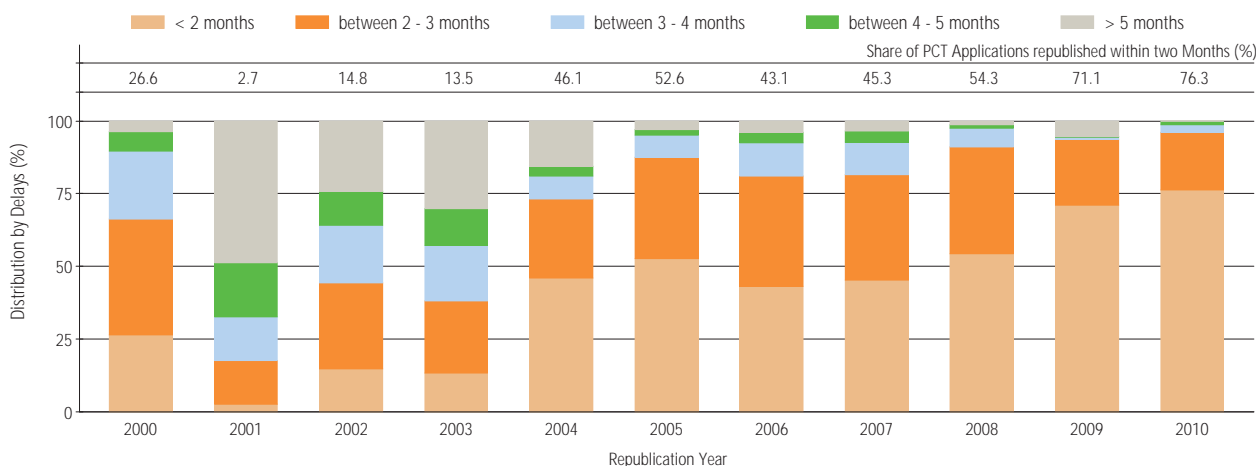
Source: WIPO Statistics Database

- > In 2010, 74.2% of PCT applications were published within the week following the expiration of 18 months from the priority date, and 96.2% were published within two weeks. This represents the shortest figures for timeliness of publication of the past decade.

### B.8 Republication Timeliness

The IB publishes PCT applications even in the absence of an ISR. In such a case, the PCT application is republished along with the ISR after the report is received. Figure B.8 shows the timeliness of republication by the IB of PCT applications with ISRs, calculated from the date of receipt of the ISR by the IB.

**Figure B.8: Timeliness of republishing PCT applications with ISRs**



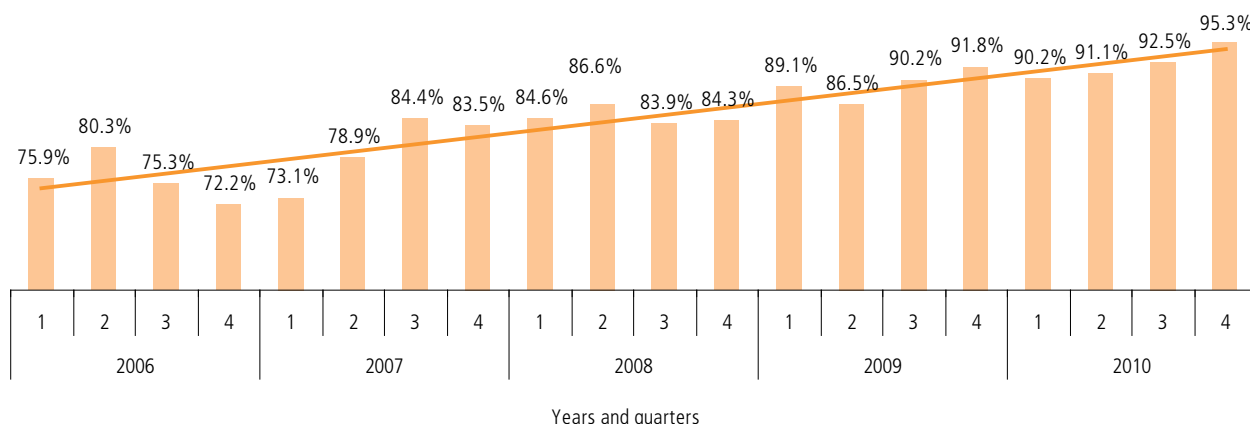
Source: WIPO Statistics Database

> In 2010, 76.3% of republications took place within two months of the IB receiving the ISR and 96.2% within three months. As with publication timeliness, the delay for republishing PCT applications with the ISR was, in 2010, the shortest of the past decade.

### B.9 Quality

In order to measure the quality of the formality examination performed by the IB in a simple and comprehensive way, the IB has developed an aggregate quality index, calculated as the simple average of four lead quality indicators. Three of these indicators are based on the timeliness of key transactions in the PCT system: acknowledgement of receipt of the PCT application, publication and republication. The fourth indicator reflects the number of republications due to corrections of entries in bibliographical data.<sup>19</sup>

**Figure B.9: Quality index of formality examination**



Source: WIPO Statistics Database

> Since 2006, quality as measured by the aggregate index has markedly improved, reaching an unprecedented level of 95.3% in the final quarter of 2010.

<sup>19</sup> Formally, the quality index is the simple average of: (i) percentage of forms PCT/IB/301 (“Notification of receipt of a PCT Application”) sent up to 5 weeks after the IB receives a PCT application; (ii) percentage of PCT applications published up to 6 months and 3 weeks after the international filing date; (iii) percentage of later publications of ISRs within 2 months after the IB receives the ISR; and (iv) percentage of “R5 republications”, i.e., corrections in Section I of the PCT application.

## B.10 Efficiency

The IB's productivity in processing PCT applications can be measured by unit cost of processing, defined as the average total cost of publishing a PCT application. Average total cost is determined by total PCT expenditure, plus a certain share of expenditure on support and management activities.<sup>20</sup> The unit cost thus includes the cost of all PCT activities – including translation, communication, management and others.<sup>21</sup>

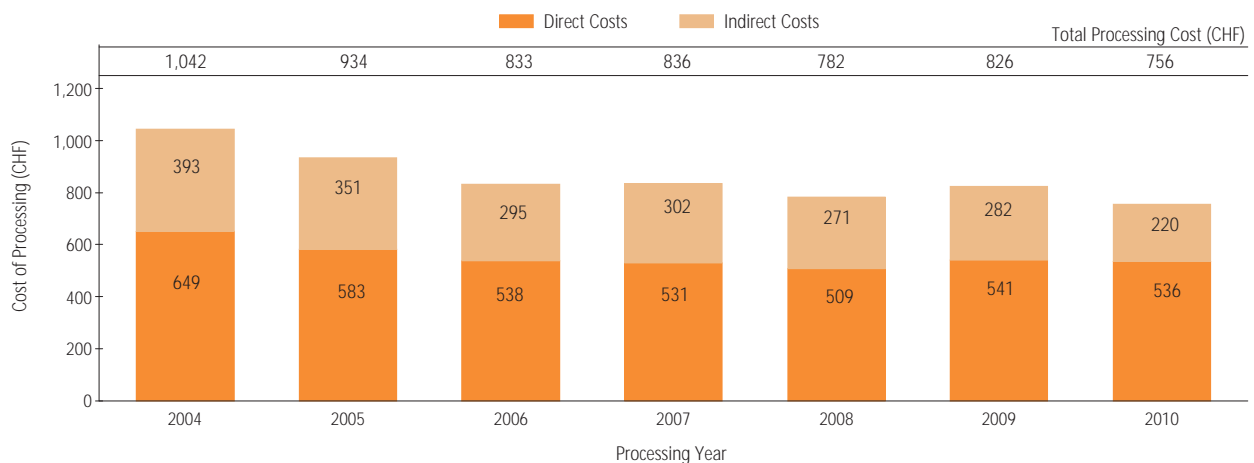
In computing unit cost, the production cost consists of two parts: direct and indirect costs. Direct costs correspond to the expenditure incurred by the IB (for administration of the PCT system and related programs). Indirect costs include expenditure for supporting units (e.g., building, information technology among others). Indirect costs are weighted to take into account only the share attributable to the PCT system. The cost of storing published applications is added to unit cost since the PCT system must store applications for 30 years.

Formally, unit cost is defined as:

$$\text{Unit cost} = \frac{\text{Total cost of production}}{\text{Number of publications}} + \text{Cost of storage}$$

Figure B.10 depicts the evolution of the unit cost of processing from 2004 to 2010, including a breakdown of the contribution of direct and indirect costs.

**Figure B.10: Unit cost of processing a published PCT application**



Source: WIPO Statistics Database

- > Although the number of PCT applications published was 2% lower in 2010 than in 2009, cost reductions in 2010 were such that the unit cost per application was reduced by 8% to reach 756 CHF. The main causes of this decrease are reductions in the indirect costs associated with the processing of applications and staff reductions within WIPO.

<sup>20</sup> The complete methodology is available at [www.wipo.int/edocs/mdocs/govbody/en/a\\_42/a\\_42\\_10-annex3.pdf](http://www.wipo.int/edocs/mdocs/govbody/en/a_42/a_42_10-annex3.pdf).

<sup>21</sup> As of January 2010, the number of PCT applications published is determined based on actual publication date instead of the year indicated in the publication number. As a consequence, processing costs have slightly changed compared to previous editions of the PCT Yearly Review.

## INTERNATIONAL SEARCHING AUTHORITIES

Each PCT application must undergo an international search carried out by one of the ISAs. ROs have entered into agreements with at least one but sometimes several ISAs for the carrying out of international searches. Where a RO has an agreement with multiple ISAs, the PCT applicant must select one of them.

Once the ISA has performed the search, the applicant will receive an ISR that contains a list of documents relevant for assessing the patentability of the invention. In addition, the ISA establishes a written opinion giving a detailed analysis of the potential patentability of the invention.

### B.11 Distribution by ISA

Table B.11 shows the distribution of search reports issued by all ISAs from 2006 to 2010. Since 2009, 17 national patent offices or regional organizations have been acting as ISAs.<sup>22</sup>

**Table B.11: Distribution of ISRs by ISA**

International Searching Authorities	2006	2007	Year 2008	2009	2010	2010 Share (%)	Changed compared to 2009 (%)
Australia	2,752	2,811	2,753	2,666	3,425	2.1	28.5
Austria	1,094	1,168	1,193	1,588	409	0.2	-74.2
Brazil				66	312	0.2	372.5
Canada	2,317	2,529	2,478	2,053	2,209	1.3	7.6
China	3,892	5,492	6,188	8,095	13,298	8.1	64.3
European Patent Office	71,513	75,387	77,908	69,963	69,013	42.0	-1.4
Finland	642	718	660	860	924	0.6	7.4
Japan	25,146	25,947	27,117	28,446	30,968	18.8	8.9
Nordic Patent Institute			102	239	301	0.2	25.9
Republic of Korea	6,673	10,238	19,018	21,708	23,307	14.2	7.4
Russian Federation	807	856	895	849	804	0.5	-5.3
Spain	1,063	1,141	1,201	1,351	1,440	0.9	6.6
Sweden	3,190	3,131	2,339	2,038	2,079	1.3	2.0
United States of America	30,541	30,506	21,380	15,454	15,811	9.6	2.3
<b>Total</b>	<b>149,630</b>	<b>159,924</b>	<b>163,232</b>	<b>155,376</b>	<b>164,300</b>	<b>100.0</b>	<b>5.7</b>

Source: WIPO Statistics Database

- > With 42% of all ISRs issued in 2010, the EPO remains the most selected ISA despite a decrease of 1.4% compared to the previous year.
- > The ISAs that experienced the highest yearly increase in the number of ISRs issued in 2010 were China (+5,203), Japan (+2,522) and the Republic of Korea (+1,599).
- > The high annual growth rate observed for the office of Brazil can be explained by the fact that it started acting as an ISA in 2009. The office of Austria experienced a sharp drop coinciding with a 1,500 Euro increase in its search fee on January 1, 2010.

<sup>22</sup> Fourteen ISAs are currently active. The national patent offices of India, Israel and Egypt, although appointed as ISAs, are not yet operating as such (bringing to 17 the total number of ISAs).

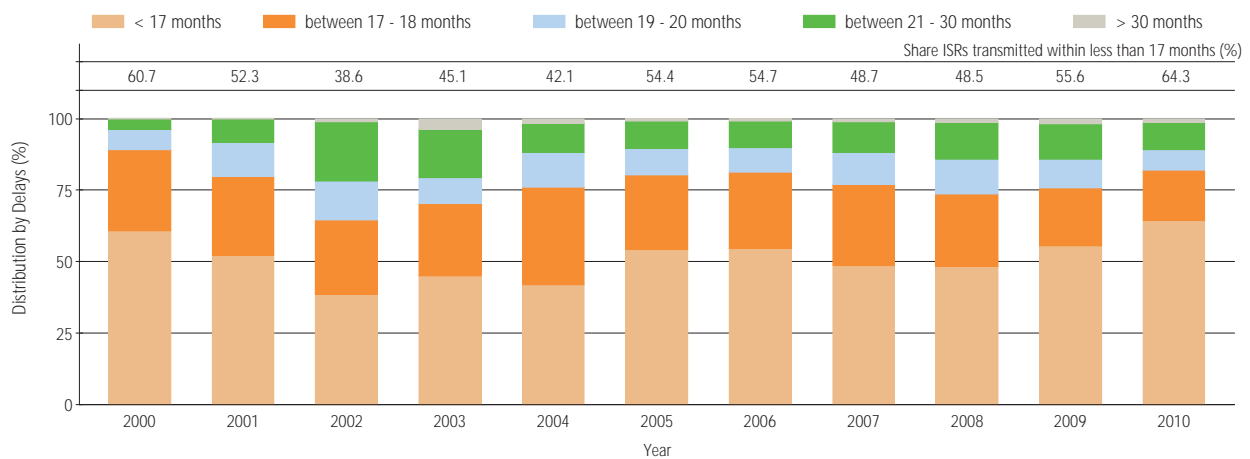
## B.12 Timeliness in transmitting ISRs

In order to ensure that the ISR is published with its corresponding PCT application, the PCT rules set a time limit for establishing the ISR: three months from receipt of the application by the ISA or nine months from the priority date, whichever time limit expires later.

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

Figure B.12a presents information on timeliness in transmitting ISRs to the IB. Timeliness is measured using the transmittal dates recorded in the ISR and thus does not take into account possible postal delays.

**Figure B.12a: Timeliness in transmitting ISRs**



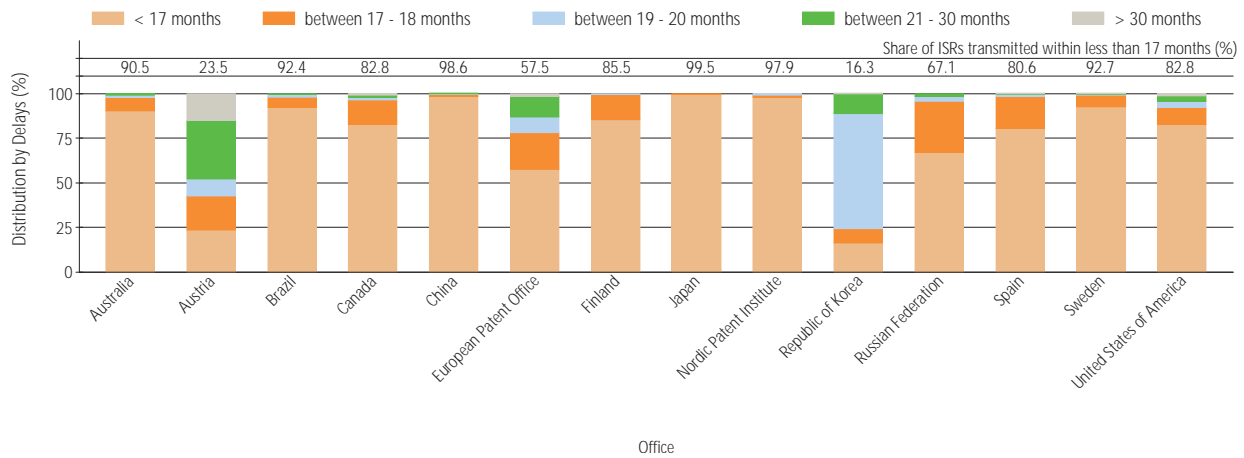
Source: WIPO Statistics Database

- > In 2010, 64.3% of ISRs were established within the 16-month time limit. Reflecting one of the shortest ISR transmittal delays of the decade, the number of republications due to the late arrival of the ISR was 36,865 in 2010, representing a decrease of 27% compared to 2009.



Figure B.12b presents the same timeliness information as the above figure for 2010, but provides a breakdown by ISA.

**Figure B.12b: Timeliness in transmitting ISRs by ISA**



Source: WIPO Statistics Database

- > Heavy workload may be a contributor to the late establishment of search reports. The EPO and the Korean Intellectual Property Office (KIPO) established, respectively, 22% and 76% of ISRs after the publication of the PCT application, resulting in the late publication of a significant number of search reports as they collectively account for 56% of ISRs issued in 2010.
- > In contrast, the Japan Patent Office (JPO) and SIPO established, respectively, 99.5% and 98.6% of ISRs within the 16-month time limit, showing that factors other than workload (both have heavy workloads) are relevant in explaining ISR timeliness.

## SUPPLEMENTARY INTERNATIONAL SEARCHING AUTHORITIES

### B.13 Distribution by SISA

Since 2009, the SIS service has allowed PCT applicants to request searches in additional languages, complementing the searches performed by the applicant's "usual" ISA. In 2010, three offices started acting as SISAs, namely the office of Finland (since January 1, 2010), the EPO (since July 1, 2010) and the office of Austria (since August 1, 2010), bringing the total number of SISAs to six.

**Table B.13: Distribution of SISRs by SISA**

Supplementary International Searching Authorities	Year	
	2009	2010
European Patent Office		3
Nordic Patent Institute		1
Russian Federation	23	35
Sweden	2	2
Total	25	41

Source: WIPO Statistics Database

- > Possibly because of the limited number of SISAs, demand for SISRs has been small. In 2010, there were 41 requests for SISs. The office of the Russian Federation accounted for most of these requests.

## INTERNATIONAL PRELIMINARY EXAMINING AUTHORITIES

PCT applicants can optionally request an International Preliminary Examination (IPE), by filing what is known as a Chapter II Demand with a competent IPEA. The selection of a competent IPEA is based on negotiated agreements between ROs and IPEAs. Once the preliminary examination has been carried out, an IPRP is sent to the applicant, who is then better placed to make an informed decision on whether to enter the PCT national phase. The report is also transmitted to all national offices in their capacity as “elected” office.<sup>23</sup> National offices, in examining the PCT application during the national phase, can take into account the IPRP when considering the patentability of the underlying invention.

### B.14 Distribution by IPEA

Table B.14 shows the distribution of IPRPs issued by all IPEAs from 2006 to 2010. Since 2009, 17 national patent offices or regional organizations have been acting as IPEAs.<sup>24</sup>

**Table B.14: Distribution of IPRPs by IPEA**

International Preliminary Examining Authority	Year					2010 Share (%)
	2006	2007	2008	2009	2010	
Australia	1,024	1,016	826	725	852	5.4
Austria	139	131	100	113	61	0.4
Brazil						0.0
Canada	424	462	419	427	257	1.6
China	325	363	396	425	394	2.5
European Patent Office	12,805	11,247	10,857	9,588	8,278	52.7
Finland	51	138	184	132	139	0.9
Japan	2,754	2,720	2,376	2,175	1,904	12.1
Nordic Patent Institute				11	34	0.2
Republic of Korea	669	598	476	368	310	2.0
Russian Federation	123	105	90	109	62	0.4
Spain	132	126	117	135	110	0.7
Sweden	827	714	724	523	409	2.6
United States of America	7,020	5,195	2,179	2,156	2,884	18.4
Total	26,293	22,815	18,744	16,887	15,694	100

Source: WIPO Statistics Database

- > Since 2004, a written opinion outlining the examiner’s views on the patentability of the subject matter has accompanied each IPRP, leading to a decline in requests for further preliminary examination.
- > The EPO acts as a competent IPEA for most ROs and carried out the largest share of preliminary examinations. The USPTO issued 34% more IPRPs in 2010 than in 2009.

<sup>23</sup> “Elected” offices are national (or regional) patent offices at which the applicant intends to use the results of the international preliminary examination.

<sup>24</sup> Fourteen IPEAs are currently active. The national patent offices of India, Israel and Egypt, although appointed as IPEAs, are not yet operating as such (bringing to 17 the total number of IPEAs).

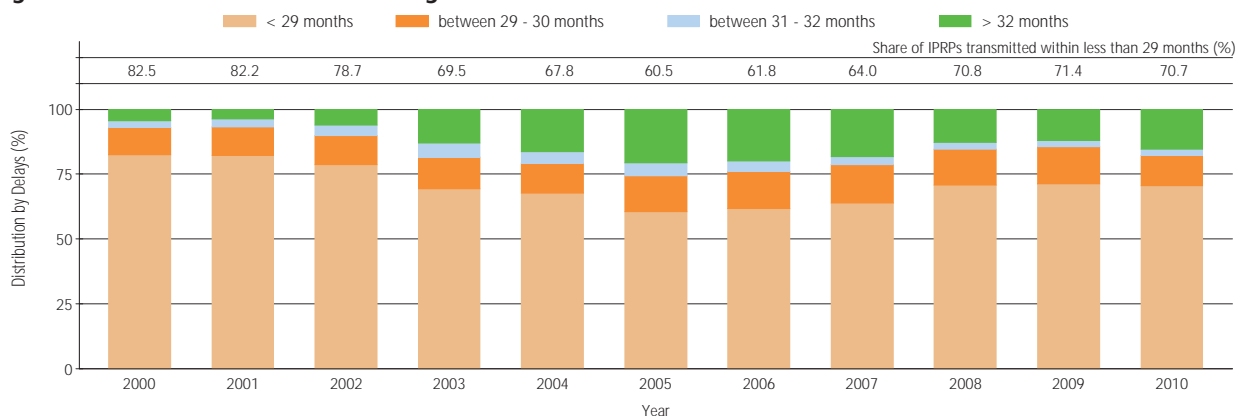
## B.15 Timeliness in transmitting IPRPs

Similar to the establishment of search reports, the PCT rules 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 last.

In practice, most applicants enter the PCT national phase immediately before the expiration of the time limit set by the PCT, that is, 30 months from the priority date. The establishment of IPRPs before 28 months from the priority date therefore leaves applicants two months, in principle, to decide on PCT national phase entry.

Figure B.15a presents information on timeliness in transmitting IPRPs to the IB. Timeliness here is measured using the date the IB receives reports, rather than the date the reports were established. The measurement may thus be influenced by transmittal delays.

**Figure B.15a: Timeliness in transmitting IPRPs**



Source: WIPO Statistics Database

- Timeliness in transmitting IPRPs improved from 2006 to 2009. Whereas the share of IPRPs transmitted within less than 29 months remained almost stable in 2010 compared to the previous year, the share of IPRPs transmitted after 32 months increased by 3.2%.

Figure B.15b presents the same timeliness information as the above figure for 2010, but provides a breakdown by IPEA.

**Figure B.15b: Timeliness in transmitting IPRPs by IPEA**



Source: WIPO Statistics Database

- Delays in transmitting IPRPs vary substantially from office to office. This may be due to a number of contributing factors, such as workload and exchanges between the IPEA and the applicant before establishing the IPRP.

## **SECTION C – WIPO'S PATENT INFORMATION SERVICE**

### **C.1 PATENTSCOPE Search Service**

The PATENTSCOPE search service is the authoritative source of information on published PCT applications. This free service provides access to over 5 million patent documents from the PCT and national/regional collections.

The main developments to the service in 2010 include:

**New multilingual searches.** A new Cross-Lingual Information Retrieval (CLIR) option in the PATENTSCOPE search service became available for public testing in May 2010.<sup>25</sup> This tool allows PATENTSCOPE users to enhance the power of their searches of the PCT and national patent collections. Search queries in one language are translated into several other languages by special software developed by WIPO on the basis of statistical analysis of the terminology in patent application texts. Performing a search based on a multilingual query can lead to more comprehensive search results.

**Machine translation of descriptions and claims of patent documents within PATENTSCOPE.** As a result of improved integration of Google™ Translate in the PATENTSCOPE search service, it became possible, as of August 2010, to view a quick translation of the description and claims of patent documents (published PCT applications as well as national patents in national collections) in all languages supported by Google™ Translate. Combined with the cross-lingual expansion of search queries and the possibility to use machine-translated titles and abstracts in result lists, PATENTSCOPE users now have access to powerful tools for overcoming the language barrier.

**National patent collections.** National patent collections from the following countries were added to the PATENTSCOPE search service in 2010: Argentina, Colombia, Costa Rica, Brazil, Guatemala, Morocco, Panama, Peru, Spain and Uruguay, bringing to 18 the total number of national (or regional) offices whose data are available.

**Availability of search interfaces in other languages.** At the end of 2010, it became possible to access WIPO's "Search International and National Patent Collections" page via Chinese, French, German, Japanese and Portuguese interfaces (in addition to English). Furthermore, at the beginning of 2011, Russian and Spanish interfaces were added.

**Availability of full-text search of PCT applications filed on paper in Japanese with the Japan Patent Office.** All PCT applications filed on paper (including applications filed in PCT-EASY format) in Japanese, with the JPO as RO, and which were published on or after February 11, 2010, are now available in searchable text format in Japanese on PATENTSCOPE.

**Full-text search available in Chinese and English for PCT applications filed in XML format.** As of July 2010, the PATENTSCOPE search service started supporting keyword searches in Chinese and English for PCT applications filed electronically in XML format with SIPO as RO. The searchable text data include the descriptions and claims of PCT applications filed on or after January 1, 2010.

**New online tool to facilitate green technology patent searches.** On September 16, 2010, WIPO launched the IPC Green Inventory, an online tool linked to the IPC system that facilitates searches for patent information relating to environmentally-sound technologies, as defined by the United Nations Framework Convention on Climate Change (UNFCCC). In addition to the link to the IPC system, the IPC Green Inventory is hyperlinked to the PATENTSCOPE search service for automatic search and display of all "green" PCT applications. The IPC Green Inventory can help in identifying existing and emerging green technologies, as well as potential partners for further research and development (R&D) and commercial exploitation.

<sup>25</sup> Available at: [www.wipo.int/patentscope/search/en/clir/clir.jsp](http://www.wipo.int/patentscope/search/en/clir/clir.jsp)

## C.2 New Internet Resources on PCT Website

During 2010, in addition to the regular updating of existing materials, the following new resources were made available to PCT users:

**PCT Time Limit Calculator supports additional languages.** The web-based PCT Time Limit Calculator is now available in Chinese, English, French, German, Korean, Japanese, Portuguese, Russian and Spanish. The Calculator assists applicants in computing essential PCT time limits and provides full explanations of all time limits, as well as references to relevant PCT articles or rules. By selecting “summary”, all calculated time limits are shown together on one practical reference page. Using the Calculator does not require any prior registration and is available free of charge.

**Practical web page on PCT-Patent Prosecution Highway (PCT-PPH) Pilot.** This web page<sup>26</sup> brings together details and forms for use in the fast-track examination procedures now available at certain offices. It indicates which offices have entered into bilateral agreements concerning the accelerated processing of PCT applications, based on positive results obtained by other PCT authorities offering this option.<sup>27</sup> This resource is currently available in English but will become available in Chinese, French, German, Korean, Japanese, Portuguese, Russian and Spanish in the course of 2011.

**Directives for new equivalent amounts of certain fees.** A new web page containing the revised procedures for establishing equivalent amounts in different currencies for the international filing fee, the search fee, the supplementary search fee and the handling fee, as approved by the PCT Assembly, is available in English and French.<sup>28</sup> These revised procedures entered into force on July 1, 2010.

**Archive of PCT Assembly documents online.** A historical archive of PCT Assembly documents from, 1978 to 1996, containing all documents issued for particular meetings, has been made available on the PCT website in order to expand the archives of PCT documents available on the Internet.<sup>29</sup> These documents provide insight into and perspective on the early beginnings and development of the PCT system. Additional historical collections of PCT documents will progressively be added.

**New Frequently Asked Questions on PCT Articles 19 and 34.** A comprehensive set of guidelines on filing amendments to claims under PCT Articles 19 and 34 has been published in English and French and will be made available in Chinese, German, Korean, Japanese, Portuguese, Russian and Spanish in 2011.

## C.3 Special Access to Information for Developing Countries

Following the launch in 2009 of the Access to Research for Development and Innovation (aRD*i*) program, in 2010 WIPO launched a second program, called Access to Specialized Patent Information (ASPI), that aims to provide intellectual property (IP) offices, universities and research institutes in least developed countries (LDCs) with free access and certain developing countries with very low-cost access to technology databases. Both programs aim to support least developed and developing countries in effectively leveraging the valuable information contained in patents, as well as in scientific and technical journals.

**The aRD*i* program** provides access to over 50 scientific and technical journals in partnership with 12 prominent publishers for 107 developing and least developed countries.<sup>30</sup>

**The ASPI program**, in cooperation with six of the world’s leading commercial patent database vendors, provides access to commercial patent databases offering sophisticated tools and services for retrieving and analyzing patent data for 115 developing and least developed countries.<sup>31</sup>

Access to these databases and services is underpinned by training and awareness-raising activities within the framework of WIPO’s project to establish Technology and Innovation Support Centers (TISCs) in developing countries.

<sup>26</sup> Available at: [www.wipo.int/pct/en/filing/pct\\_pph.html](http://www.wipo.int/pct/en/filing/pct_pph.html)

<sup>27</sup> See subsection D.2 for further information on the PCT-PPH pilot.

<sup>28</sup> Available at: [www.wipo.int/pct/en/fees/equivalent\\_amounts.html](http://www.wipo.int/pct/en/fees/equivalent_amounts.html)

<sup>29</sup> Available at: [www.wipo.int/meetings/en/topic.jsp?group\\_id=135](http://www.wipo.int/meetings/en/topic.jsp?group_id=135)

<sup>30</sup> See further details at [www.wipo.int/ard/en/](http://www.wipo.int/ard/en/)

<sup>31</sup> See further details at [www.wipo.int/patentscope/en/programs/aspi/index.html](http://www.wipo.int/patentscope/en/programs/aspi/index.html)

## C.4 Patent Economics and Statistics

The main achievements in the area of economics and statistics in 2010 were:

**Miscellaneous economics publications.** These publications are the result of special research projects and academic conferences organized or supported by WIPO. Among these publications, WIPO released, in January 2011, a survey conducted in 2010 to better understand how PCT applicants had fared under the difficult economic conditions in 2009 and how they responded to the incipient economic recovery in 2010.

**World Intellectual Property Indicators (WIPI) 2010.** The second edition of the WIPI publication was released in September 2010 and includes statistics on the PCT system. In addition to the WIPO-administered IP filing and registration systems, WIPI also reviews national activity in the area of patents, utility models, trademarks, industrial designs and microorganisms.

**Release of the 2009 world IP data.** In 2010 WIPO collected the 2009 aggregated IP data from IP offices worldwide, through its annual IP statistics questionnaires. Among other data, statistics on PCT national phase entries are collected through this means. The data collected were published in January 2011.

Further information, publications and statistical data are available on WIPO's Economics and Statistics website.<sup>32</sup> These pages are updated on a regular basis.

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<sup>32</sup> At: [www.wipo.int/econ\\_stat/en/](http://www.wipo.int/econ_stat/en/)

## **SECTION D – LEGAL DEVELOPMENTS**

### **D.1 Changes to the Legal Framework**

#### **Amendments and modifications that entered into force in 2010**

Amendments to the PCT regulations adopted by the Assembly of the PCT Union in September 2009 entered into force on July 1, 2010. They include changes concerning:

- (a) clarification of the extent to which SISAs may define the scope of the SIS to be offered (PCT Rule 45bis.9);
- (b) the form of amendments requiring applicants to indicate the basis for amendments in the application filed (PCT Rules 46.5, 66.8 and 70.2);
- (c) the process for establishing equivalent amounts of certain PCT fees in different currencies (PCT Rules 15.2, 16.1 and 57.2). Corresponding changes to the directives of the PCT Assembly relating to the establishment of equivalent amounts of certain fees also entered into force on the same date.

Modifications to the Administrative Instructions under the PCT were made with effect from January 1, 2010, in order to implement provisions of the PCT regulations that allow the applicant to request that priority documents be obtained from digital libraries. Also, minor modifications were made with effect from July 1, 2010, which were consequential to amendments of the regulations under the PCT adopted by the PCT Assembly in October 2009.

#### **Amendments agreed in 2010 that enter into force in 2011**

Amendments adopted by the PCT Assembly in September 2010, which will enter into force on July 1, 2011, consist of minor changes and clarifications relating to the following:

- (a) how corrections of obvious mistakes authorized by the IPEA are made available to designated offices and the public;
- (b) the translations that may be required in relation to amendments under PCT Articles 19 and 34 and accompanying letters;
- (c) the sanction that may be applied by an IPEA for failing to provide a letter indicating the basis for an amendment; and
- (d) the sheets that should be included as annexes to the IPRP.

### **D.2 Other Developments**

#### **Fast-track procedures for the examination of patent applications in the national phase**

**PCT-Patent Prosecution Highway pilots.** On January 29, 2010, the first of a number of PCT-PPH pilots started in respect of PCT applications that had received a positive written opinion from either the ISA or IPEA, or where a positive IPER was issued within the framework of the PCT by one of the participating offices. Use of the PCT-PPH enables applicants, where the necessary requirements are met, to fast-track patent examination procedures in the national phase. This first pilot involved the Trilateral Offices: the EPO, the JPO and the USPTO. Similar PCT-PPH pilot programs followed during the course of the year between:

- > the USPTO and KIPO;
- > the Austrian Patent Office and the National Board of Patents and Registration of Finland;
- > the Austrian Patent Office and the USPTO;
- > the JPO and the National Board of Patents and Registration of Finland;
- > the Federal Service on Intellectual Property, Patents & Trademarks of Russia and the USPTO;
- > the JPO and the Spanish Patent and Trademark Office; and
- > the Spanish Patent and Trademark Office and the USPTO.

**Other fast-track procedures.** In May 2010, the United Kingdom Intellectual Property Office started an independent fast-track procedure for the accelerated examination of patent applications in the United Kingdom national phase, called PCT (UK) Fast Track. Under this procedure, patent applicants can, where the necessary requirements are met, request accelerated examination in the United Kingdom national phase if their PCT application has received a positive search report or IPRP, regardless of which authority issued it.

### Supplementary international search

The National Board of Patents and Registration of Finland (on January 1, 2010), the EPO (on July 1, 2010) and the Austrian Patent Office (on August 1, 2010) started providing a SIS service that gives PCT applicants the option of requesting additional language-based searches during the international phase, in addition to the main ISR established by the ISA. This service is intended to provide a more complete overview of the prior art in the international phase.

### Regional patents

**African Regional Intellectual Property Organization (ARIPO) patents.** Following the entry into force, on March 24, 2010, of the Harare Protocol on Patents and Industrial Designs within the framework of ARIPO with respect to Liberia, any PCT application filed on or after that date includes the designation of that state for an ARIPO patent as well as for a national patent. Furthermore, as from that date, nationals and residents of Liberia are able to file PCT applications with ARIPO as RO, in addition to their national RO or the IB.

**European patents.** An agreement between the EPO and the government of Montenegro on the extension of European patents to Montenegro, which entered into force on March 1, 2010, provides for the extension to Montenegro of the protection conferred by European patent applications and patents. The extension procedure is also available, where the necessary requirements are met, via the PCT.

**Albania became bound by the EPC** on May 1, 2010, and Serbia became bound by the EPC on October 1, 2010, with the result that any PCT application filed on or after May 1, 2010, in the case of Albania, or on or after October 1, 2010, in the case of Serbia, includes the designation of those states for a European patent, in addition to a national patent. Furthermore, as from those dates, nationals and residents of those states will be able to file PCT applications with the EPO as RO, in addition to their national RO or the IB. As a consequence of these accessions, the extension agreements between Albania and the EPO and Serbia and the EPO terminated with effect from the above-mentioned dates.



## **SECTION E – PCT TRAINING**

### **E.1 Seminars**

In 2010, the IB organized and participated in 110 PCT promotional activities in the following 22 countries: Australia, Chile, China, Denmark, Finland, France, Germany, Israel, Japan, Mali, Mexico, Norway, Peru, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, US and Zimbabwe. The activities were presented in Chinese, English, French, Spanish, German and Japanese.

### **E.2 Webinars**

Fourteen webinars were broadcast in 2010. Broadcasts were made in all 10 PCT publication languages, and 1,072 participants from 65 countries participated in the webinars. The recordings and accompanying PowerPoint presentations are available on the PCT website.<sup>33</sup>

### **E.3 Distance Learning**

The PCT distance learning course launched in 2009, entitled “Introduction to the PCT”, became available in all 10 publication languages in 2010. In 2010, 4,122 participants followed the course via the Internet in 142 countries.

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<sup>33</sup> Available at: [www.wipo.int/pct/en/seminar/webinars/index.html](http://www.wipo.int/pct/en/seminar/webinars/index.html)

## **SECTION F – MEETINGS**

### **F.1 Meeting of International Authorities under the PCT**

The 17th session of the Meeting of International Authorities under the PCT was held in Rio de Janeiro, from February 9 to 11, 2010. The session primarily focused on the need to ensure that the work carried out by international authorities meets the necessary level of quality. The authorities noted the results of a PCT user survey and the reports made by each authority on their quality management systems. They set up a subgroup to review a variety of issues and to develop proposals on how best to take this area of work forward. The meeting also gave some preliminary input on matters to be discussed by the PCT Working Group regarding “The Future of the PCT”. In addition, the meeting reaffirmed the need to find a satisfactory way of supporting the amendment of PCT applications by paragraph, to enable the full-text processing of PCT applications.

### **F.2 PCT Working Group**

The third session of the PCT Working Group was held in Geneva from June 14 to 18, 2010. The Working Group endorsed a series of recommendations, based on a study by the IB entitled “The Need for Improving the Functioning of the PCT System”, that cover a variety of actions which should be undertaken by the IB, applicants, contracting states and national offices to make the PCT system more effective both for processing patent applications and for supporting technology transfer and technical assistance for developing countries. Many of the proposals related to improving the quality of international search and preliminary examination reports sought to build on efforts already under way by offices acting as international authorities to improve their ability to search prior art from a wide range of sources and in a large number of languages, and to share the results of those searches with other offices. The Working Group also recommended some minor changes to the PCT regulations, which were adopted by the PCT Assembly as set out under subsection D.1, above.

### **F.3 PCT Assembly**

The 41st session of the Assembly of the PCT Union was held in Geneva during the period from September 20 to 29, 2010, 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, 2011, as outlined under “Changes to the Legal Framework”, above, and also noted reports on the work being undertaken by the PCT Working Group and the PCT Meeting of International Authorities.

## **ANNEXES**

### **STATISTICAL SOURCES AND METHODS**

For the international phase of the PCT system, data are drawn from the WIPO statistical database. The numbers of PCT applications for 2010 are estimated due to the transmittal delay of PCT applications to WIPO. The estimates are made based on several statistical and econometric models for major PCT filing countries. For other countries, the estimates are made by adjusting actual received applications according to countries' 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 to date is therefore 2009. In some cases, PCT national phase entry data provided by the PATENTSCOPE search service have been used. Data may be missing for some offices or may be incomplete for some countries of origin. WIPO has estimated missing data wherever possible. The total number of PCT national phase entries in 2009 was estimated by applying the 2008-2009 growth rate of PCT national phase entry data provided by offices to the 2008 total. The data supplied to WIPO correspond to more than 80% of the world total. For PCT national phase entries by office or by origin, where an office has not provided to WIPO its number of PCT national phase entries for 2009, the 2008 or 2007 data have been used.

Patent data for the following offices refer to 2007 instead of 2008 and 2009 data: African Intellectual Property Organization (OAPI), Algeria, Brazil, Colombia, Cuba, Ecuador, Samoa, Sweden and Uganda.

Patent data for the following offices refer to 2008 instead of 2009 data: African Regional Intellectual Property Organization (ARIPO), Australia, Belize, Bosnia and Herzegovina, India, Kazakhstan, Kyrgyzstan, Malaysia, Morocco, Norway, Papua New Guinea, Sri Lanka and the Former Yugoslav Republic of Macedonia.

The income groups correspond to those used by the World Bank<sup>34</sup> and the groupings by region and subregion are based on the United Nations definition of regions.<sup>35</sup>

The figures shown in this review are subject to change.<sup>36</sup>

<sup>34</sup> Available at: <http://data.worldbank.org/about/country-classifications/country-and-lending-groups>

<sup>35</sup> Available at: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>. Even though the geographical terms used by WIPO might slightly differ from those defined by the UN, composition of regions and subregions remain identical.

<sup>36</sup> Regular updates are available at [www.wipo.int/ipstats/en/](http://www.wipo.int/ipstats/en/).

## STATISTICAL TABLE

The following table shows the number of PCT applications filed in 2010 and the number of PCT national phase entries in 2009 by office and by country (or territory) of origin.<sup>37</sup>

A PCT applicant seeking protection in any of the EPC member states can generally choose to enter the national phase at the relevant national office or at the EPO.<sup>38</sup> 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 (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 (such as the EPO).

The following example may help in understanding the table below: the Bulgarian Office received 27 PCT applications in 2010 and 20 PCT national phase entries in 2009, whereas applicants residing in Bulgaria accounted, worldwide, for 32 PCT applications in 2010 and 35 PCT national phase entries in 2009.

Name	Code	PCT International Phase Filings in 2010		PCT National Phase Entries in 2009	
		At Receiving Office	By Country of Origin	At Designated / Elected Office	By Country of Origin
African Intellectual Property					
Organization	OA	2	n.a.	--	n.a.
African Regional Intellectual					
Property Organization	AP	0	n.a.	410a	n.a.
Albania	AL	1	1	12	3
Algeria	DZ	1	3	734b	2
Andorra	AD	n.a.	11	n.a.	20
Angola	AO	IB	1	--	0
Antigua and Barbuda	AG	0	1	--	1
Argentina	AR	n.a.	16	n.a.	92
Armenia	AM	4	5	7	4
Australia	AU	1,757	1,776	20,523a	6,482
Austria	AT	493	1,140	--	2,900
Azerbaijan	AZ	2	2	--	11
Bahamas	BS	n.a.	20	n.a.	110
Bahrain	BH	0	1	--	2
Bangladesh	BD	n.a.	1	n.a.	0
Barbados	BB	IB	85	--	488
Belarus	BY	12	15	--	14
Belgium	BE	88	1,057	EP	4,667
Belize	BZ	0	1	54a	6
Bermuda	BM	0	0	--	108
Bolivia (Plurinational State of)	BO	n.a.	0	n.a.	2
Bosnia and Herzegovina	BA	7	13	9a	5
Botswana	BW	0	1	--	0
Brazil	BR	449	492	15,639b	754
Brunei Darussalam	BN	n.a.	0	n.a.	17
Bulgaria	BG	27	32	20	35
Cameroon	CM	OA	2	OA	6
Canada	CA	2,064	2,721	28,169	7,436

<sup>37</sup> Some figures are estimated. See the note on “Statistical Sources and methods” in the annex.

<sup>38</sup> See EPC member states in the “PCT Contracting States” table in the annex.

Name	Code	PCT International Phase Filings in 2010		PCT National Phase Entries in 2009	
		At Receiving Office	By Country of Origin	At Designated / Elected Office	By Country of Origin
Chad	TD	OA	1	OA	0
Chile	CL	59	88	--	57
China	CN	12,918	12,295	53,611	5,018
Colombia	CO	0	47	1,747b	73
Congo	CG	OA	0	OA	2
Costa Rica	CR	2	3	--	4
Côte d'Ivoire	CI	OA	1	OA	0
Croatia	HR	39	51	52	86
Cuba	CU	5	5	210b	164
Cyprus	CY	0	43	EP	175
Czech Republic	CZ	134	139	52	343
Democratic People's Republic of Korea	KP	3	4	55	25
Denmark	DK	539	1,173	45	4,501
Dominican Republic	DO	3	3	--	0
Ecuador	EC	2	33	794b	7
Egypt	EG	47	49	1,375	16
Estonia	EE	18	46	14	64
Eurasian Patent Organization	EA	10	n.a.	2,249	n.a.
European Patent Office	EP	29,032	n.a.	78,684	n.a.
Fiji	FJ	n.a.	0	n.a.	1
Finland	FI	1,188	2,145	46	5,176
France	FR	3,459	7,288	EP	22,778
Gabon	GA	OA	2	OA	0
Georgia	GE	5	5	186	7
Germany	DE	1,771	17,558	3,645	51,341
Greece	GR	57	92	EP	230
Grenada	GD	0	0	--	2
Guatemala	GT	2	2	297	9
Guinea	GN	OA	1	OA	0
Hong Kong (SAR), China	HK	0	0	--	132
Hungary	HU	151	174	14	610
Iceland	IS	26	58	18	201
India	IN	833	1,313	25,706a	2,113
Indonesia	ID	9	16	--	10
International Bureau	IB	8,721	n.a.	--	n.a.
Iran (Islamic Republic of)	IR	n.a.	6	n.a.	5
Ireland	IE	79	448	EP	1,675
Israel	IL	1,103	1,488	5,550	4,888
Italy	IT	530	2,658	EP	7,805
Jamaica	JM	n.a.	0	n.a.	4
Japan	JP	31,555	32,180	48,773	79,599
Jordan	JO	n.a.	0	n.a.	25
Kazakhstan	KZ	17	19	135a	24
Kenya	KE	2	4	--	2
Kuwait	KW	n.a.	0	n.a.	1
Kyrgyzstan	KG	1	1	2a	0

Name	Code	PCT International Phase Filings in 2010		PCT National Phase Entries in 2009	
		At Receiving Office	By Country of Origin	At Designated / Elected Office	By Country of Origin
Lao People's Democratic Republic	LA	IB	7	--	0
Latvia	LV	17	26	EP	86
Lebanon	LB	n.a.	4	n.a.	5
Libyan Arab Jamahiriya	LY	0	1	--	1
Liechtenstein	LI	CH	73	CH	188
Lithuania	LT	3	11	9	8
Luxembourg	LU	0	254	--	637
Macao (SAR), China	MO	0	0	--	3
Madagascar	MG	IB	0	36	0
Malaysia	MY	335	354	3,529a	215
Malta	MT	0	21	EP	89
Marshall Islands	MH	n.a.	1	n.a.	3
Mauritius	MU	n.a.	2	n.a.	38
Mexico	MX	165	193	12,055	354
Monaco	MC	0	17	EP	37
Morocco	MA	16	14	767a	11
Namibia	NA	AP	28	--	1
Netherlands	NL	1,083	4,078	EP	17,182
Netherlands Antilles	AN	0	0	--	17
New Zealand	NZ	253	299	4,182	1,007
Nicaragua	NI	0	1	--	0
Niger	NE	OA	0	OA	2
Nigeria	NG	IB	2	--	7
Norway	NO	492	706	4,123a	2,193
Oman	OM	IB	4	--	0
Pakistan	PK	n.a.	1	n.a.	1
Panama	PA	n.a.	5	n.a.	78
Papua New Guinea	PG	0	0	41	0
Peru	PE	0	7	--	2
Philippines	PH	9	14	--	20
Poland	PL	167	201	51	215
Portugal	PT	67	117	17	320
Qatar	QA	n.a.	7	n.a.	2
Republic of Korea	KR	9,639	9,668	27,323	12,555
Republic of Moldova (the)	MD	1	0	3	0
Romania	RO	4	10	13	25
Russian Federation	RU	662	735	10,734	894
Saint Kitts and Nevis	KN	0	2	--	4
Saint Vincent and the Grenadines	VC	IB	2	--	5
Samoa	WS	n.a.	5	n.a.	1
San Marino	SM	1	5	--	9
Saudi Arabia	SA	n.a.	81	n.a.	186
Senegal	SN	OA	0	OA	1
Serbia	RS	16	19	40	14
Serbia and Montenegro (formerly Yugoslavia)	YU	n.a.	0	n.a.	1

Name	Code	PCT International Phase Filings in 2010		PCT National Phase Entries in 2009	
		At Receiving Office	By Country of Origin	At Designated / Elected Office	By Country of Origin
Seychelles	SC	0	10	--	20
Sierra Leone	SL	AP	2	--	0
Singapore	SG	493	642	6,255	1,364
Slovakia	SK	27	44	45	68
Slovenia	SI	76	127	EP	212
South Africa	ZA	73	297	5,595	1,001
Spain	ES	1,396	1,752	91	2,804
Sri Lanka	LK	IB	10	264a	2
Swaziland	SZ	AP	0	AP	4
Sweden	SE	1,783	3,314	21b	11,989
Switzerland	CH	333	3,728	61	17,196
Syrian Arab Republic	SY	12	12	--	1
T F Y R of Macedonia	MK	2	2	406a	2
Tajikistan	TJ	0	0	1	0
Thailand	TH	49	73	--	33
Trinidad and Tobago	TT	1	1	--	23
Tunisia	TN	7	9	--	14
Turkey	TR	263	483	182	366
Uganda	UG	AP	0	1b	0
Ukraine	UA	96	109	2,134	55
United Arab Emirates	AE	IB	30	--	33
United Kingdom	GB	4,431	4,908	2,037	18,304
United Republic of Tanzania	TZ	AP	0	--	1
United States of America	US	45,093	44,890	78,160	137,192
Uruguay	UY	n.a.	5	n.a.	12
Uzbekistan	UZ	3	4	151	0
Venezuela	VE	n.a.	1	n.a.	9
Viet Nam	VN	5	9	--	1
Yemen	YE	n.a.	3	n.a.	0
Zambia	ZM	0	1	--	0
Zimbabwe	ZW	0	0	--	1
Unknown		n.a.	23	2,836	12,538
World Total		164,300	164,300	450,000	450,000

Source: WIPO Statistics Database

Note: a 2008 data; b 2007 data; -- unknown data; n.a. not applicable; AP, EP, IB, OA competent designated, elected or receiving office

## LIST OF ACRONYMS

DO	Designated Office
EO	Elected Office
EPC	European Patent Convention
EPO	European Patent Office
GDP	Gross Domestic Product
IB	International Bureau of WIPO
IP	Intellectual Property
IPC	International Patent Classification
IPE	International Preliminary Examination
IPEA	International Preliminary Examining Authority
IPRP	International Preliminary Report on Patentability
ISA	International Searching Authority
ISR	International Search Report
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
PCT	Patent Cooperation Treaty
R&D	Research and Development
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



## GLOSSARY

**Applicant:** An individual or legal entity that files a patent application. There may be more than one applicant in an application. In PCT statistics, the name of 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 then examines the application and decides whether to grant a patent or reject the application.

**Authority specified for Supplementary Search (SISA):** An International Searching Authority (ISA) that provides supplementary international search service. Also known as "Supplementary International Searching Authority (SISA)".

**Chapter I of the PCT:** The provisions in the PCT that regulate the filing of PCT applications, establishment of international searches and written opinions by ISAs, international publication of PCT applications, and provides 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 PCT application.

**Designated Office (DO):** 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, at which 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 the home country at a patent office of a foreign country. For example, a patent application filed by an applicant residing in France at the USPTO is considered a "filing abroad" from the perspective of France. A "filing abroad" is the mirror concept to a "non-resident filing", which describes a patent application by a resident of a foreign country from the perspective of the home country.

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

**International Bureau (IB):** In the context of the PCT, the International Bureau of the World Intellectual Property Organization acts as a Receiving Office for PCT applications from all Contracting States. It also handles certain processing tasks with respect to all PCT applications filed with all Receiving Offices worldwide.

**International Filing Date.** The date on which the Receiving Office received the PCT application (provided certain formality requirements are met).

**International Patent Classification (IPC):** An internationally recognized patent classification system. IPC has a hierarchical structure of language-independent symbols that consists of sections, classes, subclasses and groups. IPC symbols are assigned according to technical features in the patent applications. One patent application can be assigned multiple IPC symbols, as it may relate to multiple technical features.

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

1. the filing of a PCT application by the applicant and its processing by the Receiving Office;
2. the establishment of an ISR and written opinion by an ISA;
3. the publication of the PCT application and related documents, as well as their communication to designated and elected offices by the IB;
4. the optional establishment of a SISR by a SISA; and
5. the optional establishment of an IPRP by an IPEA.

**International Preliminary Examining Authority (IPEA):** 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 the IPEA on the request of the applicant, on whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), and to be industrially applicable. Prior to January 1, 2004, this report was known as the "International Preliminary Examination Report".

**International Search Report (ISR):** A report established by the ISA containing citations of documents (prior art) considered to be 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 (ISA):** National patent office or intergovernmental organization appointed by the PCT Assembly to carry out international searches. ISA establishes ISRs and written opinions on PCT applications.

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

**National Phase Entry:** When the PCT applicant enters the national phase before a national or regional patent office it is referred to as national phase entry. It consists of the payment of fees and, where necessary, the submission of the translated PCT application. It must take place within 30 months from the priority date of the application (longer time periods are allowed by some offices).

**National Phase of PCT:** This follows the international phase of the PCT procedure, and consists of the processing of the application before each national or regional patent office in which the applicant seeks protection for his invention.

**Non-Resident Filing:** For statistical purposes, a patent application filed with the patent office of the home country by an applicant from a foreign country. For example, a patent application filed at 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 mirror concept to a filing abroad, which describes a patent application filed by a home country resident at a foreign patent office. "Non-resident filing" is also known as "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 others, the "right of priority" which enables

a patent applicant, when filing an application in countries other than the original country of filing, to claim priority of up to 12 months for this filing.

**Patent:** A patent is an exclusive rights granted by law to the applicant for the invention for a limited period of time (generally 20 years from filing). The patent holder has the exclusive right to commercially exploit 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 the invention. The patent system is designed to balance the interests of applicants (exclusive rights) and the interests of society (disclosure of invention). Patents are granted by national or regional patent offices and are limited to the jurisdiction of the issuing authority. Patent rights can be obtained through the filing of an application at the relevant national or regional office(s), or by the filing a PCT application.

**Patent Cooperation Treaty (PCT):** An international treaty administered by the World Intellectual Property Organization. The PCT allows applicants to seek patent protection for an invention simultaneously in a large number of countries (PCT Contracting States) by filing a single "PCT international application". The decision on whether to grant patent rights remains at the discretion of the national or regional patent offices.

**PATENTSCOPE Search Service:** The PATENTSCOPE search service allows access, free of charge, to all PCT applications published. 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 Patent Cooperation Treaty (PCT). PCT application is also known as a PCT international application.

**Prior Art:** All information that has been disclosed to the public in any form about an invention before a given date. The prior art information 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:** Priority date is 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, the application is not published. An applicant can request an early publication of the PCT application.

**Receiving Office (RO):** A patent office or the IB with which the PCT application is filed. The role of the Receiving Office is to check and process the application in accordance with the PCT and its regulations.

**Resident Filing:** For statistical purposes, an application filed at a patent office by an applicant having residence in the same country. For example, a patent application filed at the Japan Patent Office by a resident of Japan is considered a resident filing for Japan Patent Office. "Resident filing" is also known as "domestic filing".

**Supplementary International Searching Authority (SISA):** See "Authority specified for Supplementary International Search".

**Supplementary International Search Report (SISR):** A report, similar to the ISR, established during the supplementary international search. Supplementary international search permits 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 (WIPO):** WIPO is a specialized agency of the United Nations. It is dedicated to developing a balanced and accessible international intellectual property (IP) system, which 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 the questions whether the claimed invention appears to be novel, to involve an inventive step and to be industrially applicable.

## PCT CONTRACTING STATES

In 2010, the PCT system counted 142 contracting states.

AE United Arab Emirates	DZ Algeria	Democratic Republic	PT Portugal (EP)
AG Antigua and Barbuda	EC Ecuador	LC Saint Lucia	RO Romania (EP)
AL Albania (EP) <sup>1,2</sup>	EE Estonia (EP)	LI Liechtenstein (EP)	RS Serbia (EP) <sup>2</sup>
AM Armenia (EA)	EG Egypt	LK Sri Lanka	RU Russian Federation (EA)
AO Angola	ES Spain (EP)	LR Liberia (AP) <sup>4</sup>	SC Seychelles
AT Austria (EP)	FI Finland (EP)	LS Lesotho (AP)	SD Sudan (AP)
AU Australia	FR France (EP) <sup>3</sup>	LT Lithuania (EP)	SE Sweden (EP)
AZ Azerbaijan (EA)	GA Gabon (OA) <sup>3</sup>	LU Luxembourg (EP)	SG Singapore
BA Bosnia and Herzegovina <sup>2</sup>	GB United Kingdom (EP)	LV Latvia (EP) <sup>3</sup>	SI Slovenia (EP) <sup>3</sup>
BB Barbados	GD Grenada	LY Libyan Arab Jamahiriya	SK Slovakia (EP)
BE Belgium (EP) <sup>3</sup>	GE Georgia	MA Morocco	SL Sierra Leone (AP)
BF Burkina Faso (OA) <sup>3</sup>	GH Ghana (AP)	MC Monaco (EP) <sup>3</sup>	SM San Marino (EP) <sup>6</sup>
BG Bulgaria (EP)	GM Gambia (AP)	MD Republic of Moldova (EA)	SN Senegal (OA) <sup>3</sup>
BH Bahrain	GN Guinea (OA) <sup>3</sup>	ME Montenegro <sup>2</sup>	ST Sao Tome and Principe
BJ Benin (OA) <sup>3</sup>	GQ Equatorial Guinea (OA) <sup>3</sup>	MG Madagascar	SV El Salvador
BR Brazil	GR Greece (EP) <sup>3</sup>	MK The former Yugoslav	SY Syrian Arab Republic
BW Botswana (AP)	GT Guatemala	Republic of Macedonia (EP) <sup>5</sup>	SZ Swaziland (AP) <sup>3</sup>
BY Belarus (EA)	GW Guinea-Bissau (OA) <sup>3</sup>	ML Mali (OA) <sup>3</sup>	TD Chad (OA) <sup>3</sup>
BZ Belize	HN Honduras	MN Mongolia	TG Togo (OA) <sup>3</sup>
CA Canada	HR Croatia (EP)	MR Mauritania (OA) <sup>3</sup>	TH Thailand
CF Central African	HU Hungary (EP)	MT Malta (EP) <sup>3</sup>	TJ Tajikistan (EA)
Republic (OA) <sup>3</sup>	ID Indonesia	MW Malawi (AP)	TM Turkmenistan (EA)
CG Congo (OA) <sup>3</sup>	IE Ireland (EP) <sup>3</sup>	MX Mexico	TN Tunisia
CH Switzerland (EP)	IL Israel	MY Malaysia	TR Turkey (EP)
CI Côte d'Ivoire (OA) <sup>3</sup>	IN India	MZ Mozambique (AP)	TT Trinidad and Tobago
CL Chile	IS Iceland (EP)	NA Namibia (AP)	TZ United Republic of
CM Cameroon (OA) <sup>3</sup>	IT Italy (EP) <sup>3</sup>	NE Niger (OA) <sup>3</sup>	Tanzania (AP)
CN China	JP Japan	NG Nigeria	UA Ukraine
CO Colombia	KE Kenya (AP)	NI Nicaragua	UG Uganda (AP)
CR Costa Rica	KG Kyrgyzstan (EA)	NL Netherlands (EP) <sup>3</sup>	US United States of America
CU Cuba	KM Comoros	NO Norway (EP)	UZ Uzbekistan
CY Cyprus (EP) <sup>3</sup>	KN Saint Kitts and Nevis	NZ New Zealand	VC Saint Vincent and
CZ Czech Republic (EP)	KP Democratic People's	OM Oman	the Grenadines
DE Germany (EP)	Republic of Korea	PE Peru	VN Viet Nam
DK Denmark (EP)	KR Republic of Korea	PG Papua New Guinea	ZA South Africa
DM Dominica	KZ Kazakhstan (EA)	PH Philippines	ZM Zambia (AP)
DO Dominican Republic	LA Lao People's	PL Poland (EP)	ZW Zimbabwe (AP)

<sup>1</sup> Only PCT applications filed on or after May 1, 2010, include the designation of this state for a European patent.

<sup>2</sup> Extension of European patent possible; in the case of Albania and Serbia, only for PCT applications filed before May 1, 2010, and October 1, 2010, respectively

<sup>3</sup> May only be designated for a regional patent (the "national route" via the PCT has been closed).

<sup>4</sup> Only PCT applications filed on or after March 24, 2010, include the designation of this state for an ARIPO patent.

<sup>5</sup> Only PCT applications filed on or after January 1, 2009, include the designation of this state for a European patent.

<sup>6</sup> Only PCT applications filed on or after July 1, 2009, include the designation of this state for a European patent.

Where a state can be designated for a regional patent, the two-letter code for the relevant regional patent office is indicated in parentheses (AP = ARIPO patent; EA = Eurasian patent; EP = European patent; OA = OAPI patent).

## PCT Contracting States in 2009



## ADDITIONAL RESOURCES

The following patent resources are available on the WIPO website:

**PATENTSCOPE** – WIPO’s gateway to patent services and activities.

[www.wipo.int/patentscope/en/](http://www.wipo.int/patentscope/en/)

**Information on the PCT System**

[www.wipo.int/pct/en/](http://www.wipo.int/pct/en/)

**PATENTSCOPE search service** – Search PCT international applications and view/download complete patent applications and related documentation.

[www.wipo.int/pctdb/en/](http://www.wipo.int/pctdb/en/)

**PCT Statistics** – monthly, quarterly and yearly statistics on the PCT System, including a comparative list of applicants and details of the indicators included in this report.

[www.wipo.int/ipstats/en/statistics/pct/](http://www.wipo.int/ipstats/en/statistics/pct/)

**Law of Patents** – includes current and emerging issues related to patents, information on WIPO-administered treaties, access to national/regional patent laws, patent law harmonization.

[www.wipo.int/patent/law/en/](http://www.wipo.int/patent/law/en/)

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