



WIPO Economics & Statistics Series

# 2012

## PCT Yearly Review

The International Patent System



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Readers are welcome to reproduce the information provided in this Review, but are requested to cite WIPO as the source. Tables and graphs can be downloaded at: [www.wipo.int/ipstats/en/statistics/pct/](http://www.wipo.int/ipstats/en/statistics/pct/)

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## PCT SYSTEM IN 2011

| Number  | Trends <sup>1</sup> | Description                                |
|---------|---------------------|--------------------------------------------|
| 477,500 | +7.7%               | National phase entries <sup>2</sup>        |
| 181,900 | +10.7%              | Applications filed                         |
| 163,670 | +7.7%               | Published applications                     |
| 44,113  | +6.2%               | Applicants <sup>3</sup>                    |
| 2,850   | n.a. <sup>4</sup>   | Patent Prosecution Highway Requests        |
| 144     | +2                  | Member states                              |
| 128     | +4                  | Countries in which applications were filed |

<sup>1</sup> Trends correspond to annual growth rates in percentage or in volume.

<sup>2</sup> The latest available year for PCT national phase entry data is 2010.

<sup>3</sup> PCT applicants refer to the first-named applicants in published PCT applications.

<sup>4</sup> Not applicable. The first PCT-PPH pilot started on January 29, 2010.

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# HIGHLIGHTS

## *International patent filings set a new record in 2011*

International patent filings under the WIPO-administered Patent Cooperation Treaty (PCT) set a new record in 2011 with 181,900 PCT applications – a 10.7% increase on 2010 and the fastest growth since 2005. China, Japan and the United States of America (US) accounted for 82% of total growth.

The two millionth PCT application was filed in 2011 (the one millionth was received in 2004). From the entry into force of the PCT in 1978, it therefore took 26 years to reach the milestone of one million applications, but only took less than 7 further years for the total number of PCT applications to reach the figure of two million PCT applications.

## *United States of America remains the leading country of origin for PCT applications*

The United States of America (US) with 48,596 filings remains the leading country of origin for PCT applications, followed by Japan (38,888), Germany (18,586) and China (16,406). However, Germany and the US each saw a drop in their respective shares, while those of China and Japan increased by more than a percentage point.

There is an ongoing geographical shift in the use of the PCT system - from North America and Europe towards Asia. Applications originating from Asia accounted for 38.8% of total applications in 2011, while applications originating from Europe and North America accounted for 30.9% and 28.3%, respectively. Five years ago, North America, with 35.6% of the total, was the main region of origin for PCT applications.

## *Strong growth in PCT applications from Asia and North America*

Among the top 15 origins, PCT applications originating in China (+33.4%) and Japan (+21%) recorded double-digit growth. 2011 saw the recovery of growth in PCT applications originating in the US, after a three year period of decline (8% growth in 2011, preceded by decreases of 1.4% in 2010, 11.6% in 2009 and 1.4% in 2008).

European countries showed mixed results. Switzerland (+7.3%), France (+5.8%) and Germany (+5.7%) all experienced strong growth, whereas the number of PCT applications fell from applicants based in the Netherlands (-14%), Finland (-2.7%) and Spain (-2.7%).

Four large middle-income countries experienced double-digit growth: Brazil (+17.2%), India (+11.2%), the Russian Federation (+20.8%) and Turkey (+12.7%).

## *Chinese telecommunications giant ZTE files the largest number of PCT applications*

ZTE Corporation of China, with 2,826 published applications, overtook Panasonic Corporation of Japan (2,463) as the top PCT applicant in 2011. Huawei Technologies, Co. of China (1,831) ranked third, followed by Sharp Kabushiki Kaisha (1,755) of Japan and Robert Bosch Corporation (1,518) of Germany.

The majority of the top 50 applicants saw growth in published applications in 2011 compared to 2010. ZTE Corporation of China (with 958 additional publications) and Sharp of Japan (469 additional publications) increased the most.

The University of California, with 277 published applications in 2011, accounted for the largest number of published PCT applications among educational institutions, followed by Massachusetts Institute of Technology (179 published applications) and the University of Texas System (127).

As shown in the Special Theme, the top applicant since the beginning of the PCT system is Koninklijke Philips Electronics N.V. of the Netherlands (24,966 published applications), followed by Panasonic Corporation of Japan (20,661) and Siemens Aktiengesellschaft of Germany (19,719).

*The largest share of total PCT applications relates to digital communication technology*

The largest proportion of PCT applications published in 2011 related to digital communication, with 11,574 published applications (7.1% of the total). Electronic machinery (6.9%), medical technology (6.6%) and computer technology (6.4%) also accounted for a significant share of total applications published.

Most technologies saw a growth in published applications, including 11 fields with double-digit growth. Only four technology fields saw a fall in published applications, including basic communication processes (-5.9%), organic chemistry (-4.1%) and pharmaceuticals (-1.9%).

*PCT national phase entries increased in 2010*

In 2010, about 477,500 PCT national phase entries were made worldwide. This represents annual growth of 7.7% over the previous year. Roughly 54% of non-resident applications were filed via the PCT.

Applicants from the US (with 141,596 national phase entries) filed the most national phase entries, followed by applicants from Japan (90,000) and Germany (55,234). The United States Patent and Trademark Office (USPTO) (90,931) overtook the European Patent Office (EPO) (79,594) and became, for the first time, the office receiving the highest number of national phase entries.

# INTRODUCTION TO THE PATENT COOPERATION TREATY

## HISTORY

The Patent Cooperation Treaty (PCT), an international treaty administered by the World Intellectual Property Organization (WIPO), offers patent applicants an advantageous route for seeking patent protection internationally. Since entering into force in 1978, the PCT has served as an alternative to the Paris Convention for the Protection of Industrial Property (1883) - the Paris Convention - for pursuing the acquisition of patent rights in different countries. Starting with only 18 members, in 2011 there were 144 PCT contracting states.

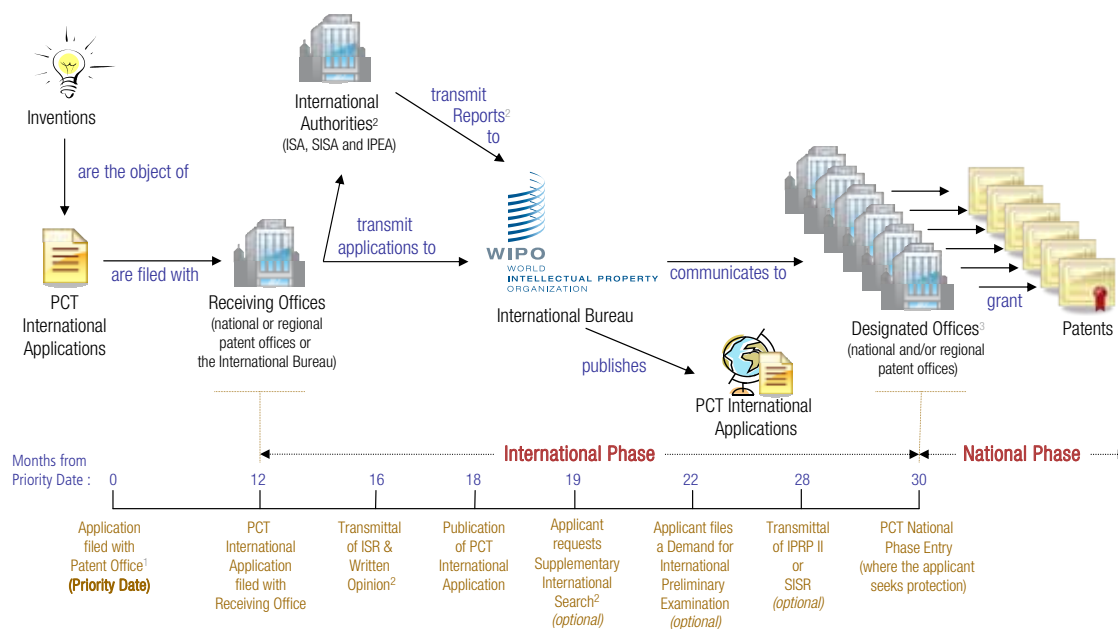
An applicant must file a PCT application with a receiving office (RO) and choose an International Searching Authority (ISA) to provide an International Search Report (ISR) and a written opinion on the potential patentability of

the invention. The International Bureau (IB) of WIPO then publishes the application in its PATENTSCOPE search service. 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) have an international preliminary examination undertaken on this application by 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 prelimi-

## Overview of the PCT System



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

<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 international preliminary examination.

nary examination reports, and centralized international publication. 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 on the markets in which to seek patent protection.

The reports they receive during the international phase concerning relevant prior art and potential patentability of their inventions assist them in making well-informed decisions. The PCT system was designed to reduce unnecessary duplication among patent offices and to support work sharing between those offices; applicants can therefore expect to benefit from time and cost savings, and to receive valuable information.

## INTERNATIONAL PHASE

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

### *Filing PCT Applications*

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

Because the PCT application has legal effect in all PCT contracting states, applicants thereby postpone the need to file separate applications with each national or regional patent office in which they ultimately wish to have 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).

The RO 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 in PATENTSCOPE;
- communicating documents to offices and third parties;

### *International Search*

PCT applications are subject to an international search by one of the 14 functioning ISAs<sup>5</sup> which, identifies the prior art relevant to the patentability of the invention; establishes an ISR; and provides 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>5</sup> The national patent offices of India, Israel and Egypt, although appointed as ISAs, are not yet operating as such.

### *Supplementary International Search*

Since January 1, 2009, the PCT Supplementary International Search (SIS) service has offered applicants the option to request additional searches from ISAs other than the one that carried out the initial search. This service aims to provide applicants with the option of obtaining a more complete overview of the prior art in the international phase, by allowing them to have an additional search performed in an ISA's specialty language. Applicants can request a Supplementary International Search Report (SISR) by a 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/)



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# DATA DESCRIPTION

For figures on the international phase of the PCT system, data are drawn from the WIPO Statistics Database. The numbers of PCT applications for 2011 are estimates due to the delay in transmitting PCT applications to WIPO. These estimates are made using several statistical and econometric models for major PCT filing countries. For other countries, the estimates are made by adjusting actual received applications according to each country's share of the estimated total PCT filings.

For the national phase of the PCT system, statistics are based on data supplied to WIPO by national and regional patent offices, which WIPO often receives six months or more after the end of the year concerned. The latest available year to date is therefore 2010. Data may be missing for some offices or incomplete for certain origins. Data are available for the majority of larger offices. Only a small share of the world total is estimated, as the data supplied to WIPO correspond to 97% of the world total. Missing data are estimated using methods such as linear extrapolation and averaging adjacent data points. Statistics on patent applications filed by country of origin at the office of India in 2009 were used to estimate 2010 patent application data by origin.

The income groups correspond to those used by the World Bank<sup>6</sup> and the groupings by region and subregion are based on the United Nations (UN) definition of regions.<sup>7</sup>

The figures shown in this Review are subject to change.<sup>8</sup>

<sup>6</sup> Available at [data.worldbank.org/about/country-classifications/country-and-lending-groups](http://data.worldbank.org/about/country-classifications/country-and-lending-groups)

<sup>7</sup> Available at [unstats.un.org/unsd/methods/m49/m49regin.htm](http://unstats.un.org/unsd/methods/m49/m49regin.htm). Although the geographical terms used by WIPO may differ slightly from those defined by the UN, the composition of regions and subregions remains identical.

<sup>8</sup> Regular updates are available at [www.wipo.int/ipstats/en/](http://www.wipo.int/ipstats/en/).

# SPECIAL THEME

## TWO MILLION PCT FILINGS

In February 2011, US-based mobile technology company Qualcomm filed international patent application PCT/US2011/026376 for an invention of a method of wireless communication. This filing had special significance for the PCT system, as it was the two millionth application filed since the system became operational in 1978.

After reaching this milestone, it is appropriate to look back and briefly review how the PCT system has grown, how it has changed and how applicants use the system in today's knowledge economy.

### Growing membership

It took 26 years to arrive at the total of one million PCT applications, but slightly less than 7 additional years to reach the milestone of two million applications, attesting to the rapid growth of the system. One driving force behind this growth has been the steadily expanding membership. In 1991, the PCT's 58 members represented 31% of the world's countries; their economies accounted for 72% of global output and 94% of worldwide research and development (R&D) expenditure; and only 10% of all filings abroad used the PCT route (Table 1). By 2011, the number of PCT members had increased to 144, representing 74% of the world's countries, 93% of global output and 99% of worldwide R&D expenditure. More than half (54%) of all non-resident patent applications filed worldwide in 2011 went through the PCT system.

**Table 1: Coverage of PCT membership in 1991, 2001 and 2011**

|                              | 1991 | Year 2001 | 2011 |
|------------------------------|------|-----------|------|
| Countries                    | 31%  | 60%       | 74%  |
| Filings Abroad               | 10%  | 44%       | 54%  |
| Gross Domestic Product (GDP) | 72%  | 89%       | 93%  |
| Population                   | 28%  | 80%       | 87%  |
| R&D Expenditure (R&D)        | 94%  | 99%       | 99%  |

Note: Filings abroad are WIPO estimates. 2011 GDP data refer to 2010. Research and Development (R&D) expenditure was estimated by WIPO based on data from up to 79 countries. R&D data for 1991 refer to 1993 and data for 2011 refer to 2009.

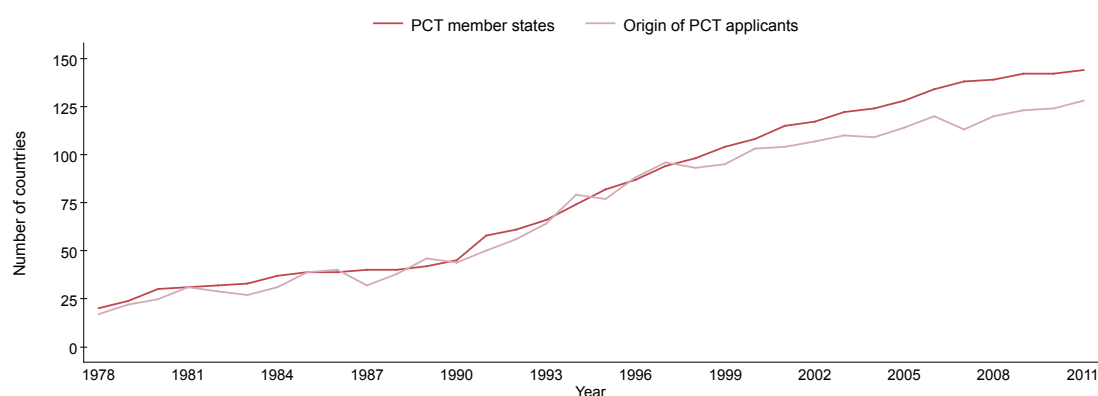
Source: UN Statistics Division, UNESCO Institute for Statistics, WIPO Statistics Database and World Bank, March 2012

Figure 1 illustrates the growth of membership, from 18 states in 1978 to 144 states 33 years later. This corresponds to average growth of 4.4 new members per year. The figure also depicts the number of countries that filed at least one application in a given year. Up to 1997, this number increased in parallel with rising membership. From 1997 onwards, it grew more slowly, but the diversity of origins of PCT applications continued to expand. In 2011, applicants from 128 countries filed at least one PCT application. Since its inception in 1978, applicants from 170 countries have used the PCT system.<sup>9</sup>

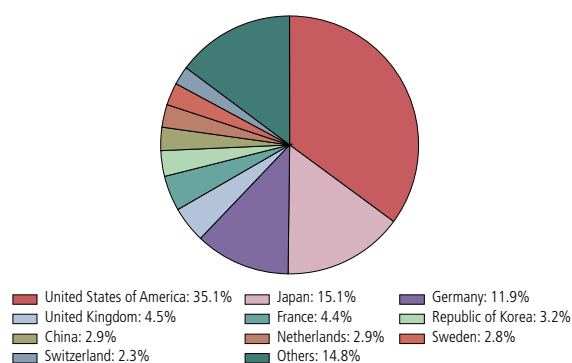
### Origin distribution

Despite the increasing geographical diversity of applicants, a limited number of origins have accounted for the vast majority of PCT applications since the system started in 1978. As shown in Figure 2, applicants from the United States of America (US) have filed 35.1% of all PCT applications. Together, Japanese and US applicants filed more than half of the total (50.2%) – that is, more than one million filings. The eight top countries of origin, combined, filed four-fifths of all PCT applications.

<sup>9</sup> Under certain conditions, the first-named applicant may reside in a country that is not a member of the PCT, which explains why the number of countries in which PCT applications originated is higher than the number of PCT member states.

**Figure 1: Number of PCT member states and countries of origin**

Source: WIPO Statistics Database, March 2012

**Figure 2: Distribution of top 10 origins, 1978 - 2011**

Source: WIPO Statistics Database, March 2012

Despite the US being the origin of the largest number of applications, no US-based company features in the all-time top 5 filers list. Interestingly, all of the top 5 all-time PCT applicants since 1978 rank in the top 10 applicants list for 2011, except Siemens which ranked 12<sup>th</sup> in 2011 (see Table A.3.4). Conversely, 15 of the top 20 applicants in 2011 are among the all-time top 20 PCT applicants, including all applicants from the 2011 top 10 list. Notwithstanding the consistent top placement of these applicants, shifts in technology and economic geography have enabled several new top applicants to emerge. This is most notably the case for ZTE Corporation and Huawei Technologies of China, which only appeared in the annual top 100 list starting in 2006 and 2004, respectively.

## Top applicants

Table 2 shows that, since 1978, two companies have filed more than 20,000 PCT applications, namely Koninklijke Philips Electronics of the Netherlands (with 24,966 PCT applications) and Panasonic Corporation of Japan (20,621 applications).<sup>10</sup>

Four other companies have each filed more than 10,000 applications: Siemens Aktiengesellschaft of Germany (19,719), Robert Bosch Corporation of Germany (17,197), Telefonaktiebolaget LM Ericsson of Sweden (11,937) and Procter & Gamble Company of the US (10,133).

<sup>10</sup> For reasons of confidentiality, statistics on PCT applicants refer to published PCT applications (rather than PCT applications filed). Data on PCT applicants prior to 1985 are incomplete. For technical reasons, statistics by applicants are based on corporate applicants only (thus excluding applicants being natural persons).

Table 2: Top 50 PCT applicants, 1978 - 2011

| Rank | Applicant's Name                                                     | Country of Origin        | PCT applications |
|------|----------------------------------------------------------------------|--------------------------|------------------|
| 1    | KONINKLIJKE PHILIPS ELECTRONICS N.V.                                 | Netherlands              | 24,966           |
| 2    | PANASONIC CORPORATION                                                | Japan                    | 20,621           |
| 3    | SIEMENS AKTIENGESELLSCHAFT                                           | Germany                  | 19,719           |
| 4    | ROBERT BOSCH CORPORATION                                             | Germany                  | 17,197           |
| 5    | TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)                               | Sweden                   | 11,937           |
| 6    | PROCTER & GAMBLE COMPANY                                             | United States of America | 10,133           |
| 7    | BASF SE                                                              | Germany                  | 9,985            |
| 8    | QUALCOMM INCORPORATED                                                | United States of America | 9,417            |
| 9    | HUAWEI TECHNOLOGIES CO., LTD.                                        | China                    | 9,272            |
| 10   | MOTOROLA, INC.                                                       | United States of America | 9,124            |
| 11   | NOKIA CORPORATION                                                    | Finland                  | 8,609            |
| 12   | E.I. DUPONT DE NEMOURS AND COMPANY                                   | United States of America | 7,871            |
| 13   | TOYOTA JIDOSHA KABUSHIKI KAISHA                                      | Japan                    | 7,238            |
| 14   | 3M INNOVATIVE PROPERTIES COMPANY                                     | United States of America | 7,051            |
| 15   | SHARP KABUSHIKI KAISHA                                               | Japan                    | 6,922            |
| 16   | LG ELECTRONICS INC.                                                  | Republic of Korea        | 6,792            |
| 17   | FUJITSU LIMITED                                                      | Japan                    | 6,668            |
| 18   | mitsubishi electric corporation                                      | Japan                    | 6,345            |
| 19   | SONY CORPORATION                                                     | Japan                    | 6,117            |
| 20   | ZTE CORPORATION                                                      | China                    | 5,910            |
| 21   | NEC CORPORATION                                                      | Japan                    | 5,883            |
| 22   | INTEL CORPORATION                                                    | United States of America | 5,589            |
| 23   | UNIVERSITY OF CALIFORNIA                                             | United States of America | 5,147            |
| 24   | INTERNATIONAL BUSINESS MACHINES CORPORATION                          | United States of America | 5,088            |
| 25   | HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN                              | Germany                  | 5,073            |
| 26   | SAMSUNG ELECTRONICS CO., LTD.                                        | Republic of Korea        | 4,970            |
| 27   | EASTMAN KODAK COMPANY                                                | United States of America | 4,233            |
| 28   | HONEYWELL INTERNATIONAL INC.                                         | United States of America | 4,232            |
| 29   | GENERAL ELECTRIC COMPANY                                             | United States of America | 4,075            |
| 30   | MICROSOFT CORPORATION                                                | United States of America | 4,066            |
| 31   | HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.                            | United States of America | 4,032            |
| 32   | THOMSON LICENSING                                                    | France                   | 3,911            |
| 33   | KIMBERLY-CLARK WORLDWIDE, INC.                                       | United States of America | 3,555            |
| 34   | FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V. | Germany                  | 3,338            |
| 35   | DAIMLER AG                                                           | Germany                  | 3,259            |
| 36   | INFINEON TECHNOLOGIES AG                                             | Germany                  | 3,138            |
| 37   | NOVARTIS AG                                                          | Switzerland              | 3,072            |
| 38   | MINNESOTA MINING AND MANUFACTURING COMPANY                           | United States of America | 3,064            |
| 39   | DAIKIN INDUSTRIES, LTD.                                              | Japan                    | 3,008            |
| 40   | BOSCH-SIEMENS HAUSGERATE GMBH                                        | Germany                  | 2,987            |
| 41   | MEDTRONIC, INC.                                                      | United States of America | 2,883            |
| 42   | HITACHI, LTD.                                                        | Japan                    | 2,753            |
| 43   | COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES       | France                   | 2,708            |
| 44   | ASTRAZENECA AB                                                       | Sweden                   | 2,663            |
| 45   | APPLIED MATERIALS, INC.                                              | United States of America | 2,582            |
| 46   | CANON KABUSHIKI KAISHA                                               | Japan                    | 2,580            |
| 47   | KABUSHIKI KAISHA TOSHIBA                                             | Japan                    | 2,518            |
| 48   | MERCK & CO., INC.                                                    | United States of America | 2,499            |
| 49   | PIONEER CORPORATION                                                  | Japan                    | 2,414            |
| 50   | BAYER AKTIENGESELLSCHAFT                                             | Germany                  | 2,371            |

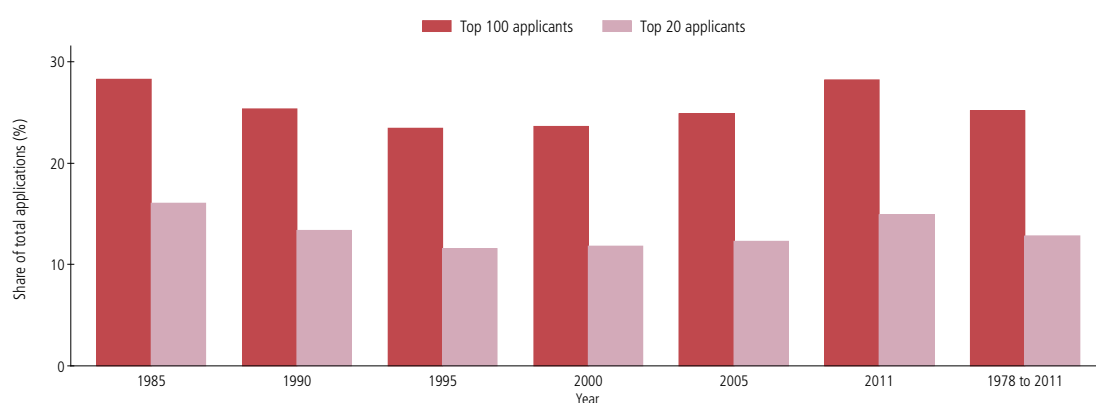
Note: Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

Figure 3 shows that the top 20 PCT applicants accounted for 13% of all applications filed during the period 1978-2011, whereas the top 100 PCT applicants accounted for 25%. These shares are below the equivalent annual shares, reflecting a changing composition of top PCT applicants over the last 34 years. Interestingly, the concentration of applications from top applicants decreased from 1985 to 2000, only to increase again after 2000. In 2011, the top 20 and top 100 applicants accounted for, respectively, 15% and 28% of total applications – similar to the shares in 1985.

The annual top 100 applicants for the years 1992-2001 included a total of 264 different applicants from 15 countries. However, during the next decade – from 2002 to 2011 – the number of these applicants declined to 217 (-18%), while the number of countries increased to 20 (+33%).

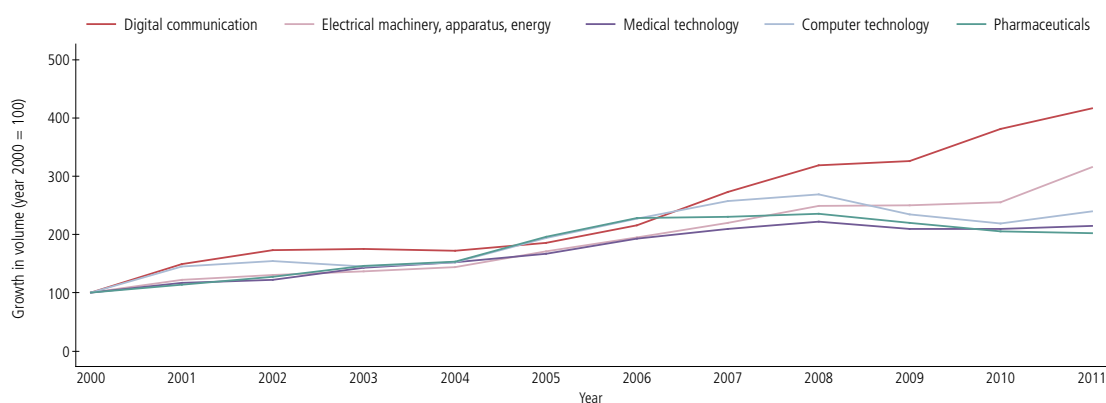
**Figure 3: Share of top applicants in total PCT applications**



Note: Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

**Figure 4: Growth of top five technology fields**



Note: Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

### Technology distribution

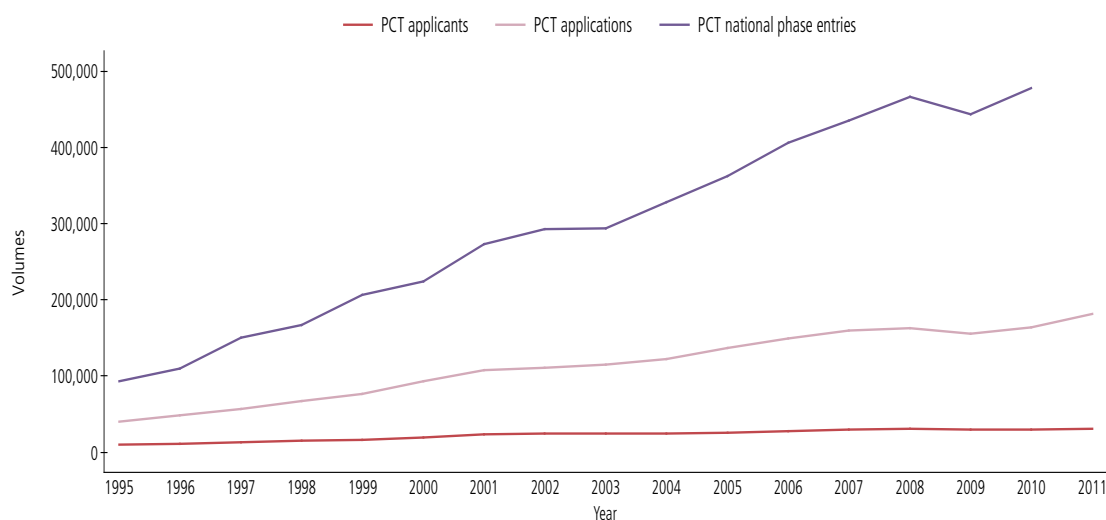
The highest number of PCT applications filed from 1978 to 2011 related to the field of medical technology. However, this accounts for only a relatively small share (6.6%) of all applications, implying widespread use of the PCT system across many technologies. The importance of different technology fields has also varied over time. In 2011, medical technology ranked third in terms of annual applications filed, behind digital communication and electronic machinery. From 2000 to 2011, digital communication saw the fastest growth of the top five technology fields, with applications more than quadrupling during this period (Figure 4). Since 2010, it has remained the top technology field.

### PCT filings and national phase entries per applicant

Since 1978, 408,132 applicants have filed at least one PCT application. On average, each applicant filed almost five PCT applications. In 2011, 45,739 applicants filed one or more PCT applications.

The number of applicants has remained relatively stable since 2007 – growing by only 0.7% per year – compared to 3.2% annual growth in filings and 4.1% in national phase entries. As shown in Figure 5, this reflects a longer-term trend. Since 1995, the number of applicants has grown more slowly than the number of annual filings, which, in turn, has been outpaced by the number of annual national phase entries. The average number of PCT applications per applicant thus grew from 2.4 in 1995 to 4.0 in 2011, and the average number of PCT national phase entries per applicant increased from 6.1 in 1995 to 11.3 in 2010.

**Figure 5: Number of PCT applicants, applications and national phase entries**



Note: PCT applications filed in 2011 and PCT national phase entry data are WIPO estimates. PCT applicants correspond to corporate applicants only (thus excluding natural persons).

Source: WIPO Statistics Database, March 2012

In economic terms, these trends point to an increasing propensity to seek international patent protection and to do so in a greater number of countries. Interestingly, WIPO estimates suggest that the PCT system reached another milestone in 2011, with the number of annual PCT national phase entries likely exceeding, for the first time, the half-million mark.<sup>11</sup>

## Conclusion

Taking into account the PCT system's history, it is perhaps no surprise that a US-based company active in digital communication technology submitted the two millionth PCT application. However, the PCT system's profile has changed significantly over the last 33 years, with a growing number of applicants from a larger set of countries, and will continue to change in the future. While membership is very widespread, technology continues to progress and economic geography to shift, shaping the makeup of applicants and their inventions. The three or four millionth application may well reflect such changes.

<sup>11</sup> 2011 national phase entry statistics will be released in the second half of 2012 in World Intellectual Property Indicators.





# SECTION A

## USE OF THE PCT SYSTEM

### PART I - INTERNATIONAL PHASE: FILING OF PCT APPLICATIONS

The PCT application data presented in the first part of Section A refer to the international phase of the PCT procedure. This section provides a brief overview of the global trend, and then focuses on PCT applications by RO, country of origin and geographical region. It also contains PCT data by type of applicant and by field of technology. Data for selected ROs and origins are included in the report. The statistical annex provides data for all offices and origins.

## A.1

### GLOBAL TREND

#### A.1.1 Trend in PCT applications

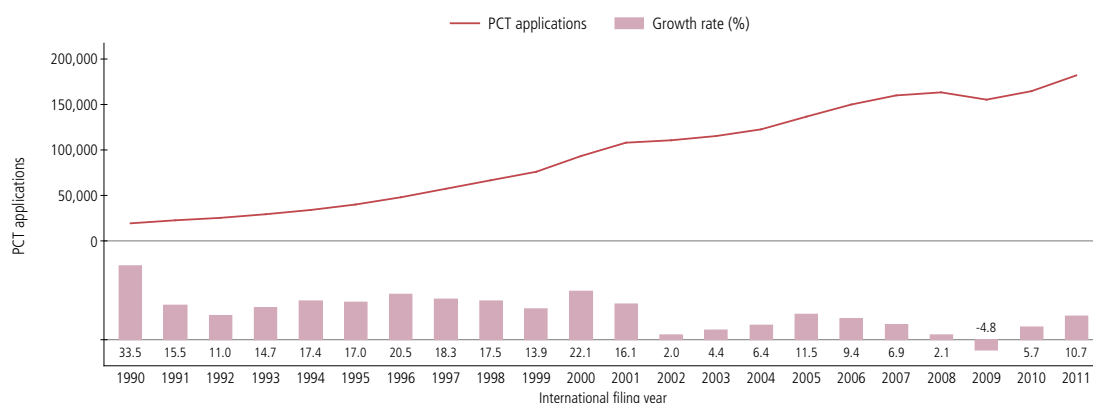
Figure A.1.1 depicts the number of PCT applications filed since 1990 along with annual growth rates.

Despite difficult economic conditions, PCT applications set a new record in 2011 with 181,900 applications – a 10.7% increase on 2010 and the fastest growth since 2005.

The filing of the two millionth PCT application (see Special Theme section) also took place in 2011.

The long-term trend shows that the number of PCT applications grew at a double-digit rate until 2001,<sup>12</sup> followed by a slowdown in growth between 2002 and 2004. Since the system's establishment, 2009 has been the only year in which there was a drop in applications. However, the recovery of PCT application numbers has since gained strength, with 5.7% growth in 2010 and 10.7% in 2011.

**Figure A.1.1: Trend in PCT applications**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

12. The strong growth in PCT applications during the 1990s was partly due to increased use of the PCT system, but also to expanded PCT membership. Starting with only 18 members in 1978, there were 144 PCT member states in 2011.

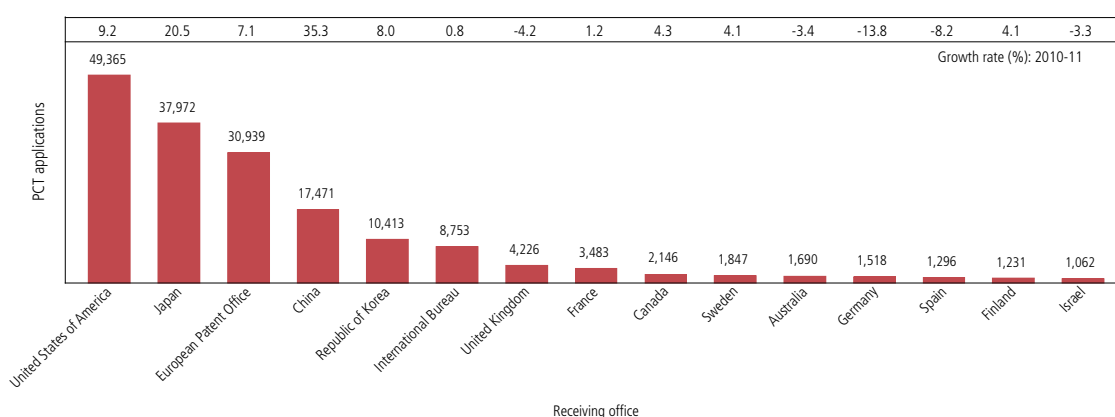
### A.1.2 PCT applications by receiving office

Figure A.1.2 shows the number of PCT applications filed at the top 15 receiving offices (ROs) in 2011. An RO is a patent office, or the International Bureau, with which the PCT application is filed.

The USPTO, acting as an RO, received the largest number of applications in 2011, followed by the Japan Patent Office (JPO) and the EPO. These three offices received 65% of total PCT applications in 2011, a slight increase on 2010.

The majority of the top 15 offices saw growth in PCT applications in 2011 compared to the previous year. The most notable growth occurred in China (+35.3%) and Japan (+20.5%). In contrast, Germany (-13.8%) and Spain (-8.2%) saw a considerable drop in applications.

**Figure A.1.2: PCT applications at top 15 receiving offices, 2011**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

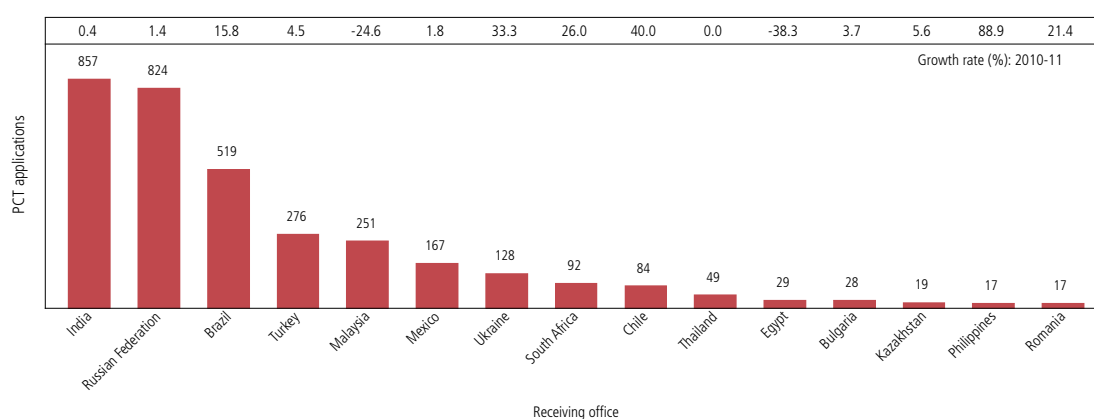
### A.1.3 PCT applications by receiving office of middle-income country

Figure A.1.3 provides the same kind of information as in Figure A.1.2 but for middle-income countries. China is not included in this graph, as it appears in Figure A.1.2 and because there is a significant difference between the number of PCT filings received by China and by the other middle-income countries. This report uses the World Bank income classification based on gross national income per capita to refer to particular country groups. See Statistical Sources and Methods for further information.

In 2011, India and the Russian Federation received 857 and 824 PCT applications, respectively. However, both countries received slightly more PCT applications in 2011 than in the previous year. In contrast, Brazil saw a significant increase in applications in 2011. All offices reported in A.1.3, except Egypt and Malaysia, saw growth in PCT applications in 2011.

Despite double-digit growth, the Philippines and Romania each received fewer than 20 PCT applications in 2011.

**Figure A.1.3: PCT applications at top 15 receiving offices of middle-income countries, 2011**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

## A.2

### PCT APPLICATIONS BY ORIGIN

This subsection provides PCT application data by country and region of origin. Counts are based on the international filing date and country of residence of the first-named applicant. Data for selected origins are reported here, and a statistical table containing all origins is provided in the annex.

#### A.2.1 Trend in PCT applications by country of origin

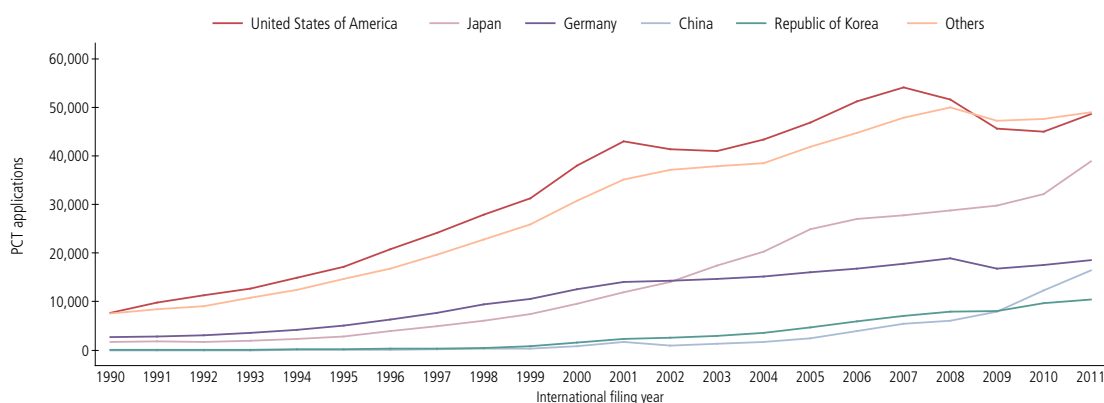
Figures A.2.1.1 and A.2.1.2 describe the trend in PCT filings, both by volume and distribution, for the top five countries of origin.

PCT applications originating in the United States of America (US) grew in number during the periods 1990-2001 and 2004-2007. However, after reaching a peak in 2007, applications of US origin declined from 2008 to 2010. Despite the recovery in 2011, the level of applications originating in the US was below 2007 levels.

PCT applications from Japan and the Republic of Korea grew continuously between 1993 and 2011. China experienced double-digit growth from 2003 onwards and overtook the Republic of Korea as the fourth largest user of the PCT system in 2009. If this trend continues, China will soon overtake Germany as the third largest user of the PCT system.

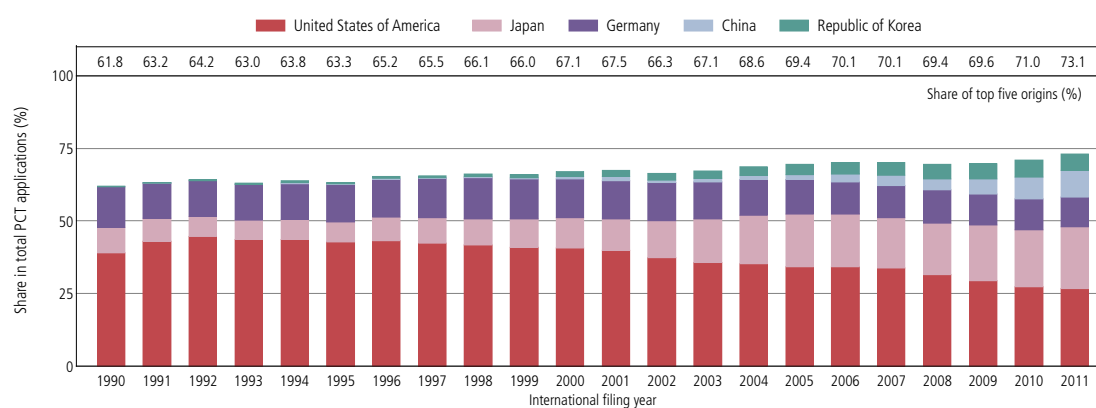
The top five countries accounted for 73.1% of total PCT applications in 2011, representing a considerable increase over the 1990 level (61.8%). However, the shares of the US and Germany have followed a downward trend, while the shares of China, Japan and the Republic of Korea have continued to increase (Figure A.2.1.2).

**Figure A.2.1.1: Trend in PCT applications for top five origins**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

**Figure A.2.1.2: Share of top five origins in total PCT applications**

Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

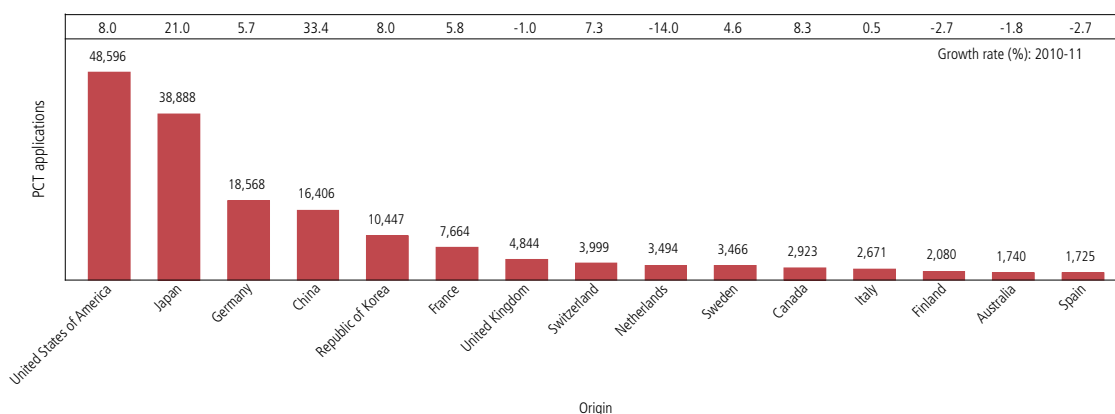
## A.2.2 PCT applications by country of origin

**Table A.2.2: PCT applications for top 15 origins**

| Country of Origin        | Year of Filing |                |                |                |                | 2011 Share (%) | Change compared to 2010 (%) |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|
|                          | 2007           | 2008           | 2009           | 2010           | 2011           |                |                             |
| United States of America | 54,042         | 51,642         | 45,627         | 45,008         | 48,596         | 26.7           | 8.0                         |
| Japan                    | 27,743         | 28,760         | 29,802         | 32,150         | 38,888         | 21.4           | 21.0                        |
| Germany                  | 17,821         | 18,855         | 16,797         | 17,568         | 18,568         | 10.2           | 5.7                         |
| China                    | 5,455          | 6,120          | 7,900          | 12,296         | 16,406         | 9.0            | 33.4                        |
| Republic of Korea        | 7,064          | 7,899          | 8,035          | 9,669          | 10,447         | 5.7            | 8.0                         |
| France                   | 6,560          | 7,072          | 7,237          | 7,245          | 7,664          | 4.2            | 5.8                         |
| United Kingdom           | 5,542          | 5,467          | 5,044          | 4,891          | 4,844          | 2.7            | -1.0                        |
| Switzerland              | 3,833          | 3,799          | 3,672          | 3,728          | 3,999          | 2.2            | 7.3                         |
| Netherlands              | 4,433          | 4,363          | 4,462          | 4,063          | 3,494          | 1.9            | -14.0                       |
| Sweden                   | 3,655          | 4,136          | 3,568          | 3,314          | 3,466          | 1.9            | 4.6                         |
| Canada                   | 2,879          | 2,976          | 2,527          | 2,698          | 2,923          | 1.6            | 8.3                         |
| Italy                    | 2,946          | 2,883          | 2,652          | 2,658          | 2,671          | 1.5            | 0.5                         |
| Finland                  | 2,009          | 2,214          | 2,123          | 2,138          | 2,080          | 1.1            | -2.7                        |
| Australia                | 2,052          | 1,938          | 1,740          | 1,772          | 1,740          | 1.0            | -1.8                        |
| Spain                    | 1,297          | 1,390          | 1,564          | 1,772          | 1,725          | 0.9            | -2.7                        |
| All others               | 12,595         | 13,726         | 12,656         | 13,346         | 14,389         | 7.9            | 7.8                         |
| <b>Total</b>             | <b>159,926</b> | <b>163,240</b> | <b>155,406</b> | <b>164,316</b> | <b>181,900</b> | <b>100</b>     | <b>10.7</b>                 |

Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

**Figure A.2.2: PCT applications for top 15 origins, 2011**

Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

The US, with 48,596 applications, was the largest user of the PCT system in 2011, followed by Japan (38,888), Germany (18,568) and China (16,406). However, the US (-0.7 percentage points) and Germany (-0.5) each saw a drop in their shares of total filings in 2011 compared to 2010. China (+1.5) and Japan (+1.8) each increased their shares by more than a percentage point.

Of the top 15 origins, China (+33.4%), Japan (+21%), Canada (+8.3%), the Republic of Korea (+8%) and the US (+8%) saw the fastest growth in applications in 2011. European countries witnessed mixed performance, with Switzerland (+7.3%), France (+5.8%) and Germany (+5.7%) experiencing growth, while the Netherlands (-14%), Finland (-2.7%) and Spain (-2.7%) saw declines.

### A.2.3 PCT applications by middle-income country of origin

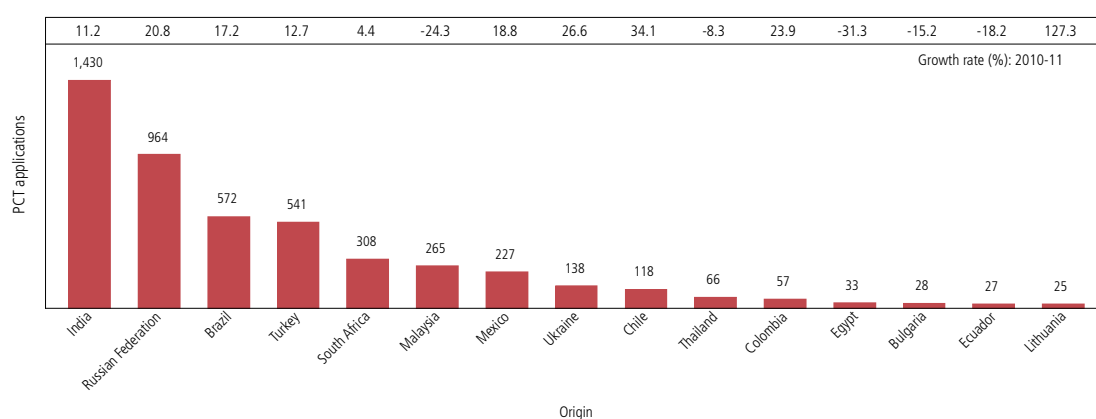
Figure A.2.3 depicts PCT filings in 2011 for the top 15 middle-income origins. China is not included in this graph due to the significant difference between the number of PCT filings from China and from the other middle-income countries. Data for China are available in paragraph A.2.2.

Of the middle-income countries, India (with 1,430 PCT applications) was the second highest country of origin for PCT applicants in 2011,<sup>13</sup> followed by the Russian Federation (964), Brazil (572) and Turkey (541). These four countries recorded double-digit filing growth in 2011.

Most of the reported origins saw growth in applications in 2011. However, Egypt (-31.3%), Malaysia (-24.3%), Ecuador (-18.2%) and Bulgaria (-15.2%) each saw a considerable drop in applications.

There was strong growth in the share of middle-income origins in total PCT applications, which is mostly due to China. However, excluding the data from China yields only modest growth for this group. For example, the share of middle-income origins increased from 4.9% in 2006 to 11.9% in 2011, but without China the share increased only from 2.2% to 2.8% over this period.

**Figure A.2.3: PCT applications for top 15 middle-income origins, 2011**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

13. China, the leading country of origin among middle-income countries for PCT applications, is included in Figure A.2.2.

#### A.2.4 PCT applications by region of origin

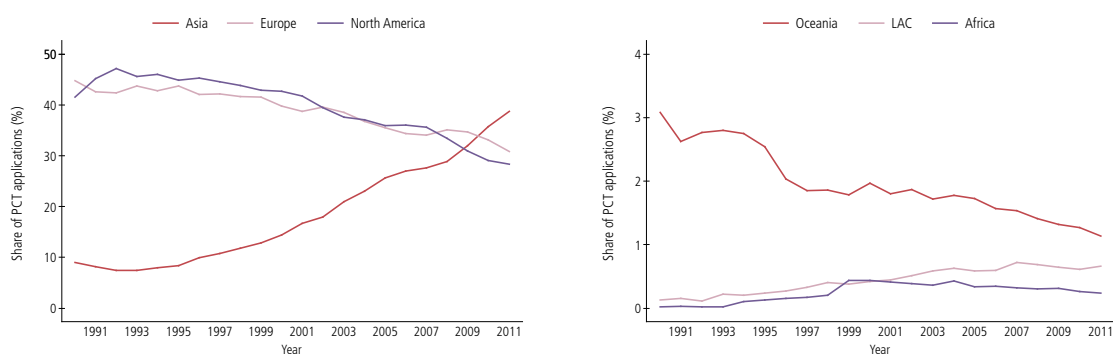
Figure A.2.4 depicts the share of PCT applications originating in each region since 1991. The grouping of PCT data by geographical region and subregion is based on the United Nations (UN) definition of regions.

Between 1991 and 2007, the share of total PCT applications filed by Europe and North America was similar in magnitude – each accounting for around 40% of total applications. However, their shares in total PCT applications each declined over time. The share of total PCT applications filed by Asia grew rapidly from 1991 onwards

and overtook North America in 2009 and Europe in 2010 to become the region filing the largest number of PCT applications.

In 2011, Asia accounted for 38.8% of all PCT applications, around 8 percentage points higher than the second largest region (Europe). The combined share of Africa, Latin America and the Caribbean (LAC) and Oceania was around 2% in 2011. Despite a slight upward trend in PCT applications originating in the LAC region, this share accounted for less than 1% of total PCT applications in 2011.

**Figure A.2.4: Share of PCT applications by region of origin**



Note: LAC: Latin America and the Caribbean. PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012



### A.2.5 PCT applications by subregion of origin

Table A.2.5 shows PCT applications filed from 2007 to 2011 according to the subregion of origin of the applicant.

PCT applications filed are presented by subregion in Table A.2.5. The East Asia region (36%) filed the largest number of applications in 2011, followed by North America (28%)

and Western Europe (20%). Despite difficult economic conditions, the majority of subregions saw growth in PCT applications in 2011. However, the growth rate varied across subregions. For example, overall growth for Asia was 20.1% in 2011, with all subregions experiencing growth, except Southeast Asia which saw a 4.8% decline.

**Table A.2.5: PCT applications by subregion of origin**

| Region                          | Subregion             | International Filing Year |                |                |                |                | 2011 Share (%) | Changed compared to 2010 (%) |
|---------------------------------|-----------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|------------------------------|
|                                 |                       | 2007                      | 2008           | 2009           | 2010           | 2011           |                |                              |
| Africa                          | East Africa           | 20                        | 23             | 19             | 17             | 25             | 0.01           | 47.1                         |
|                                 | Middle Africa         | 1                         | 5              | 10             | 6              | 8              | 0.00           | 33.3                         |
|                                 | North Africa          | 82                        | 75             | 75             | 81             | 64             | 0.04           | -21.0                        |
|                                 | Southern Africa       | 408                       | 393            | 378            | 325            | 328            | 0.18           | 0.9                          |
|                                 | West Africa           | 2                         | 5              | 2              | 6              | 13             | 0.01           | 116.7                        |
|                                 | <b>Total</b>          | <b>513</b>                | <b>501</b>     | <b>484</b>     | <b>435</b>     | <b>438</b>     | <b>0.24</b>    | <b>0.7</b>                   |
| Asia                            | East Asia             | 40,264                    | 42,789         | 45,740         | 54,119         | 65,746         | 36.14          | 21.5                         |
|                                 | South Central Asia    | 934                       | 1,091          | 1,007          | 1,329          | 1,465          | 0.81           | 10.2                         |
|                                 | Southeast Asia        | 667                       | 841            | 870            | 1,109          | 1,056          | 0.58           | -4.8                         |
|                                 | West Asia             | 2,274                     | 2,450          | 2,118          | 2,154          | 2,233          | 1.23           | 3.7                          |
|                                 | <b>Total</b>          | <b>44,139</b>             | <b>47,171</b>  | <b>49,735</b>  | <b>58,711</b>  | <b>70,500</b>  | <b>38.76</b>   | <b>20.1</b>                  |
| Europe                          | Eastern Europe        | 1,295                     | 1,412          | 1,386          | 1,528          | 1,756          | 0.97           | 14.9                         |
|                                 | Northern Europe       | 13,488                    | 14,423         | 13,325         | 12,807         | 12,951         | 7.12           | 1.1                          |
|                                 | Southern Europe       | 4,667                     | 4,730          | 4,735          | 4,886          | 4,809          | 2.64           | -1.6                         |
|                                 | Western Europe        | 35,019                    | 36,793         | 34,497         | 35,142         | 36,618         | 20.13          | 4.2                          |
|                                 | <b>Total</b>          | <b>54,469</b>             | <b>57,358</b>  | <b>53,943</b>  | <b>54,363</b>  | <b>56,134</b>  | <b>30.86</b>   | <b>3.3</b>                   |
| Latin America and the Caribbean | Caribbean             | 436                       | 302            | 147            | 118            | 147            | 0.08           | 24.6                         |
|                                 | Central America       | 206                       | 244            | 216            | 203            | 246            | 0.14           | 21.2                         |
|                                 | South America         | 504                       | 577            | 643            | 684            | 812            | 0.45           | 18.7                         |
|                                 | <b>Total</b>          | <b>1,146</b>              | <b>1,123</b>   | <b>1,006</b>   | <b>1,005</b>   | <b>1,205</b>   | <b>0.66</b>    | <b>19.9</b>                  |
| North America                   | North America         | 56,921                    | 54,618         | 48,154         | 47,706         | 51,519         | 28.32          | 8.0                          |
|                                 | <b>Total</b>          | <b>56,921</b>             | <b>54,618</b>  | <b>48,154</b>  | <b>47,706</b>  | <b>51,519</b>  | <b>28.32</b>   | <b>8.0</b>                   |
| Oceania                         | Australia/New Zealand | 2,452                     | 2,296          | 2,041          | 2,081          | 2,063          | 1.13           | -0.9                         |
|                                 | Melanesia             | 1                         | 0              | 1              | 0              | 0              |                |                              |
|                                 | Micronesia            | 1                         | 0              | 0              | 1              | 0              |                |                              |
|                                 | Polynesia             | 0                         | 5              | 6              | 5              | 2              | 0.00           | -60.0                        |
|                                 | <b>Total</b>          | <b>2,454</b>              | <b>2,301</b>   | <b>2,048</b>   | <b>2,087</b>   | <b>2,065</b>   | <b>1.14</b>    | <b>-1.1</b>                  |
| Unknown                         |                       | 284                       | 168            | 36             | 9              | 39             |                |                              |
| <b>Total</b>                    |                       | <b>159,926</b>            | <b>163,240</b> | <b>155,406</b> | <b>164,316</b> | <b>181,900</b> | <b>100</b>     | <b>10.7</b>                  |

Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

### A.2.6 PCT applications as a share of resident patent applications

Figure A.2.6 reports a hypothetical “conversion ratio” that seeks to reflect the proportion of resident patent applications converted into PCT applications. Formally, the conversion ratio is defined as the total number of PCT applications divided by the total number of resident applications (including regional applications). The resident application data are lagged by one year 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>14</sup> For example, to derive the conversion ratio for Singapore, its 2011 PCT applications (671) are divided by the 2010 resident applications (895), which is equal to 0.75.

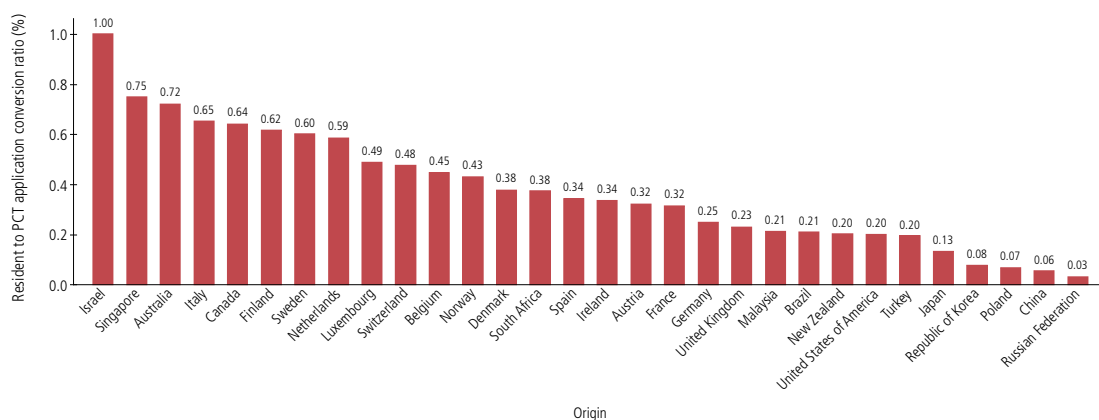
In theory, the conversion ratio should be between zero and one. However, for several countries, the conversion ratio exceeds one due to the fact that certain PCT applications do not have priority claims associated with prior resident filings. For example, an Israeli applicant may

forgo filing an application at the Israeli Patent Office, but opt to file a first application at the USPTO, after which it is converted into a PCT application.

The conversion ratio for the top 30 origins (based on PCT applications filed in 2011) varied from 0.03 to 1.0 in 2011. A high proportion of total resident patent applications for Israel (1.0), Singapore (0.75) and Australia (0.72) are converted into PCT applications. In contrast, less than 10% of total resident patent applications for the China, Poland, the Republic of Korea and the Russian Federation, are converted into PCT applications.

For the majority of reported origins, the 2011 conversion ratio is higher than the 2006 ratio. This means that the proportion of resident applications converted into PCT applications has increased over time. Between 2005 and 2011, Brazil, Canada and Malaysia saw the largest increases, while Belgium, Luxembourg and Norway saw the largest declines.

**Figure A.2.6: Conversion ratio of resident patent applications to PCT applications, 2011**



Note: The ratio is defined as the PCT applications filed in 2011 divided by the resident patent applications (including regional applications) filed in 2010. PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

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

## A.3

### PCT APPLICANTS

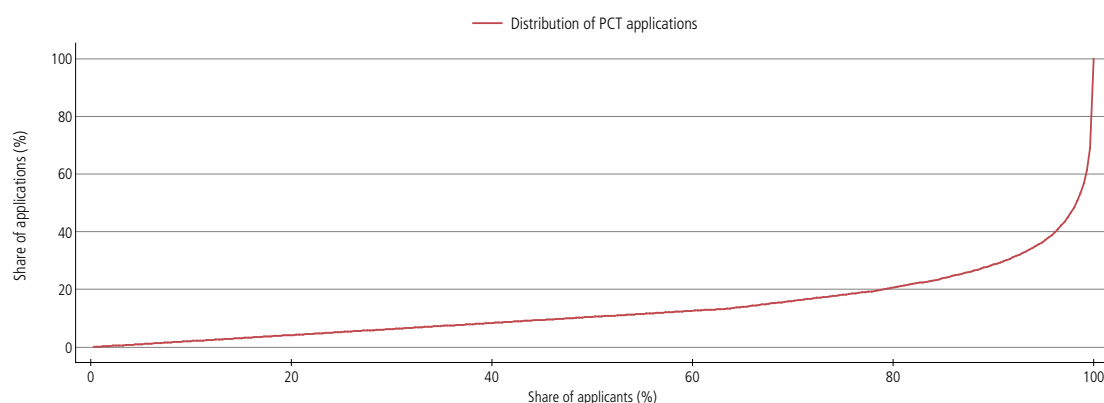
This subsection provides data on the distribution of PCT applicants, PCT applications by ownership type and top PCT applicants. PCT applications by type of applicant are based on international filing date and the country of residence of the first-named applicant. For reasons of confidentiality, the top PCT applicant list is based on the publication date. For the majority of PCT applications, the difference between the international filing date and the publication date is approximately six months.

#### A.3.1 Distribution of PCT applicants

Figure A.3.1 shows the distribution of PCT applicants for published PCT applications. In 2011, 163,670 PCT applications were published belonging to about 44,113 different applicants.

A small number of PCT applicants accounted for the majority of applications – only 5% of applicants accounted for around 63% of total applications. The distribution of PCT applicants has remained more or less stable in recent years (see the Special Theme for further details).

**Figure A.3.1: Distribution of PCT applicants and published PCT applications, 2011**



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

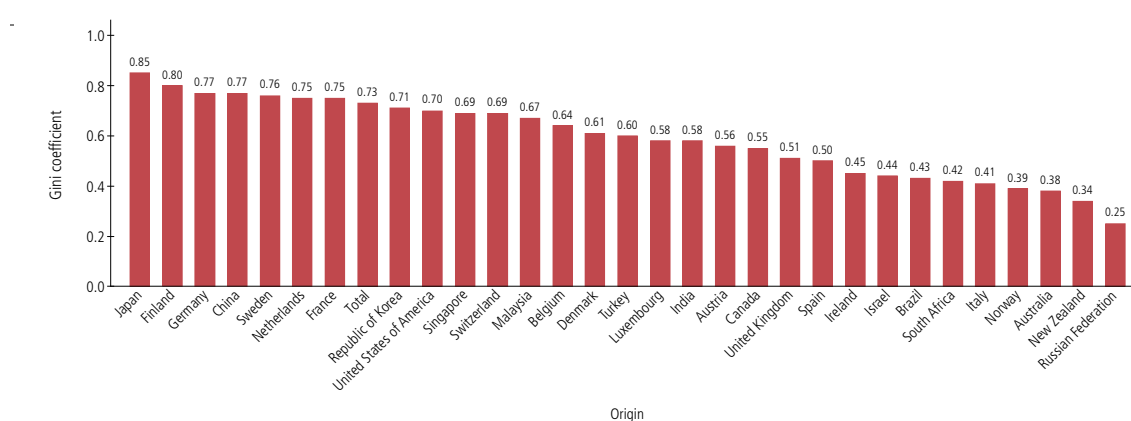
Source: WIPO Statistics Database, March 2012

### A.3.2 Distribution of PCT applicants by country of origin

Figure A.3.2 depicts the inequality in the distribution of published PCT applications for the top 30 origins, as measured by the Gini coefficient of statistical dispersion. A coefficient of zero indicates perfect equality (i.e., where the share of applications is equally distributed among applicants), and a coefficient of one indicates perfect inequality (i.e., where the share of applications is skewed towards one applicant).

For reported origins, Japanese and Finnish applicants have the highest Gini coefficients, indicating that a small number of applicants accounted for a high share of all applications. In contrast, PCT applications originating in the Russian Federation and New Zealand show an equal distribution compared to other countries reported in the figure.

**Figure A.3.2: Distribution of PCT applicants and published PCT applications by origin, 2011**



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

Source: WIPO Statistics Database, March 2012

### A.3.3 Distribution of PCT applications by type of applicant

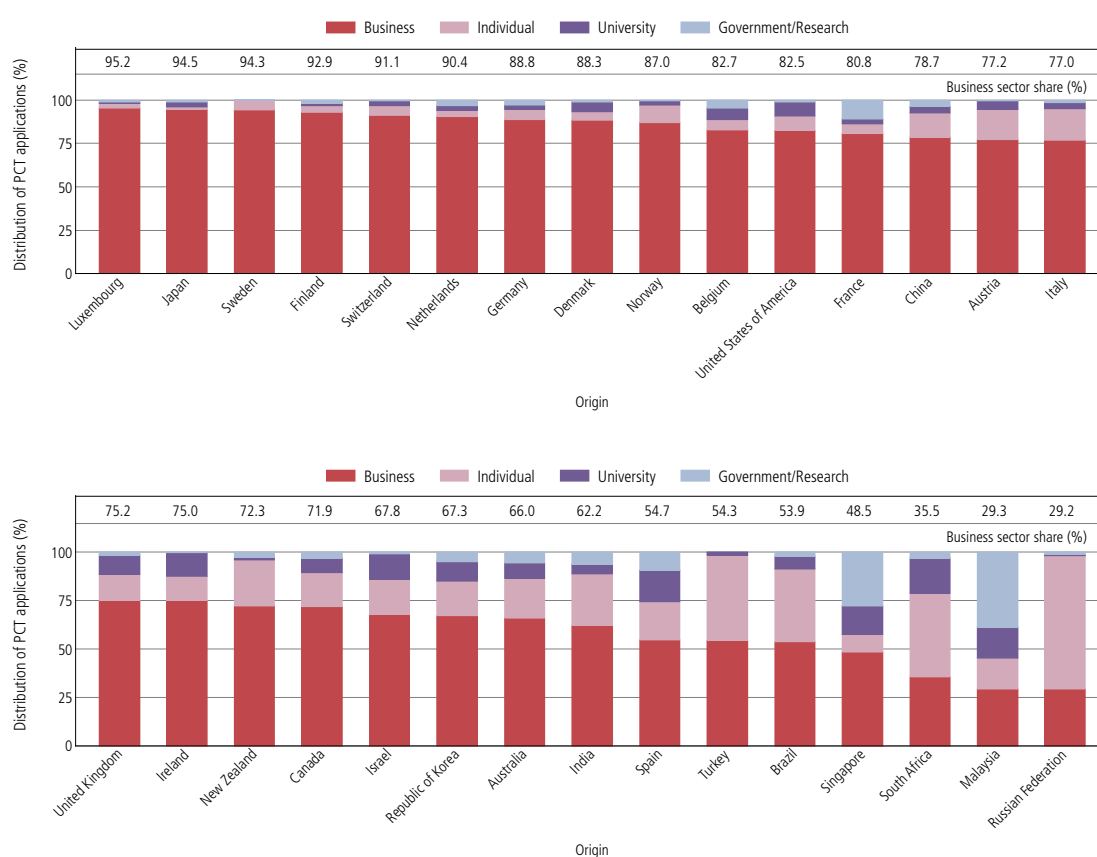
The distribution of PCT applications for the top 30 origins broken down by four types of applicants – businesses, universities, government and research institutions, and individuals – are presented in Figure A.3.3.

Overall, business sector applicants (82.8%) accounted for the majority of published PCT applications, followed by individuals (9.2%), universities (5.3%) and government and research institutions (2.6%). However, the distribution

greatly varies across origins. Businesses accounted for more than 90% of all PCT applications filed by residents of Finland, Japan, the Netherlands, Luxembourg, Sweden and Switzerland. In contrast, businesses accounted for around 30% of all PCT applications filed by residents of Malaysia and the Russian Federation.

Universities accounted for a large share of total applications for South Africa (18.3%), Spain (16.3%) and Malaysia (16.2%). Government and research institutions had a high share in total PCT applications originating in Malaysia (38.6%) and Singapore (27.9%).

**Figure A.3.3: Distribution of PCT applications by type of applicant for top 30 origins, 2011**



Note: Government and research institutions include private non-profit organizations and hospitals. University sector includes all educational institutions. Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

## A.3.4 List of top PCT applicants: businesses

Table A.3.4: Top 50 PCT applicants: businesses

| Rank | Applicant's Name                            | Origin                   | PCT applications |       |       | Change compared to 2010 |
|------|---------------------------------------------|--------------------------|------------------|-------|-------|-------------------------|
|      |                                             |                          | 2009             | 2010  | 2011  |                         |
| 1    | ZTE CORPORATION                             | China                    | 517              | 1,868 | 2,826 | 958                     |
| 2    | PANASONIC CORPORATION                       | Japan                    | 1,891            | 2,153 | 2,463 | 310                     |
| 3    | HUAWEI TECHNOLOGIES CO., LTD.               | China                    | 1,847            | 1,527 | 1,831 | 304                     |
| 4    | SHARP KABUSHIKI KAISHA                      | Japan                    | 997              | 1,286 | 1,755 | 469                     |
| 5    | ROBERT BOSCH CORPORATION                    | Germany                  | 1,588            | 1,301 | 1,518 | 217                     |
| 6    | QUALCOMM INCORPORATED                       | United States of America | 1,280            | 1,675 | 1,494 | -181                    |
| 7    | TOYOTA JIDOSHA KABUSHIKI KAISHA             | Japan                    | 1,068            | 1,095 | 1,417 | 322                     |
| 8    | LG ELECTRONICS INC.                         | Republic of Korea        | 1,090            | 1,297 | 1,336 | 39                      |
| 9    | KONINKLIJKE PHILIPS ELECTRONICS N.V.        | Netherlands              | 1,295            | 1,433 | 1,148 | -285                    |
| 10   | TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)      | Sweden                   | 1,241            | 1,147 | 1,116 | -31                     |
| 11   | NEC CORPORATION                             | Japan                    | 1,069            | 1,106 | 1,056 | -50                     |
| 12   | SIEMENS AKTIENGESELLSCHAFT                  | Germany                  | 932              | 830   | 1,039 | 209                     |
| 13   | MITSUBISHI ELECTRIC CORPORATION             | Japan                    | 569              | 726   | 834   | 108                     |
| 14   | BASF SE                                     | Germany                  | 739              | 817   | 773   | -44                     |
| 15   | SAMSUNG ELECTRONICS CO., LTD.               | Republic of Korea        | 596              | 574   | 757   | 183                     |
| 16   | NOKIA CORPORATION                           | Finland                  | 663              | 632   | 698   | 66                      |
| 17   | INTERNATIONAL BUSINESS MACHINES CORPORATION | United States of America | 401              | 416   | 661   | 245                     |
| 18   | HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.   | United States of America | 554              | 564   | 591   | 27                      |
| 19   | 3M INNOVATIVE PROPERTIES COMPANY            | United States of America | 688              | 586   | 563   | -23                     |
| 20   | HITACHI, LTD.                               | Japan                    | 190              | 372   | 547   | 175                     |
| 21   | KABUSHIKI KAISHA TOSHIBA                    | Japan                    | 327              | 319   | 517   | 198                     |
| 22   | CANON KABUSHIKI KAISHA                      | Japan                    | 401              | 379   | 499   | 120                     |
| 23   | FUJITSU LIMITED                             | Japan                    | 817              | 475   | 494   | 19                      |
| 24   | PROCTER & GAMBLE COMPANY                    | United States of America | 341              | 359   | 488   | 129                     |
| 25   | MITSUBISHI HEAVY INDUSTRIES, LTD.           | Japan                    | 373              | 391   | 480   | 89                      |
| 26   | SONY CORPORATION                            | Japan                    | 328              | 347   | 471   | 124                     |
| 27   | MICROSOFT CORPORATION                       | United States of America | 644              | 470   | 446   | -24                     |
| 27   | SUMITOMO CHEMICAL COMPANY, LIMITED          | Japan                    | 353              | 323   | 446   | 123                     |
| 29   | E.I. DUPONT DE NEMOURS AND COMPANY          | United States of America | 509              | 452   | 424   | -28                     |
| 30   | SCHAEFFLER TECHNOLOGIES GMBH & CO. KG       | Germany                  |                  | 167   | 422   | 255                     |
| 31   | BOSCH-SIEMENS HAUSGERATE GMBH               | Germany                  | 413              | 371   | 421   | 50                      |
| 32   | HONDA MOTOR CO., LTD.                       | Japan                    | 318              | 309   | 418   | 109                     |
| 33   | FUJIFILM CORPORATION                        | Japan                    | 264              | 275   | 414   | 139                     |
| 34   | DOW GLOBAL TECHNOLOGIES INC.                | United States of America | 304              | 288   | 399   | 111                     |
| 35   | SEMICONDUCTOR ENERGY LABORATORY CO., LTD.   | Japan                    | 45               | 76    | 382   | 306                     |
| 36   | KYOCERA CORPORATION                         | Japan                    | 362              | 279   | 356   | 77                      |
| 37   | PANASONIC ELECTRIC WORKS CO., LTD.          | Japan                    | 235              | 206   | 353   | 147                     |
| 38   | BAKER HUGHES INCORPORATED                   | United States of America | 375              | 307   | 336   | 29                      |
| 39   | NOKIA SIEMENS NETWORKS OY                   | Finland                  | 313              | 345   | 332   | -13                     |
| 40   | HUAWEI DEVICE CO., LTD.                     | China                    |                  | 164   | 327   | 163                     |
| 41   | NTT DOCOMO, INC.                            | Japan                    | 249              | 298   | 323   | 25                      |
| 42   | MURATA MANUFACTURING CO., LTD.              | Japan                    | 254              | 305   | 318   | 13                      |
| 43   | INTEL CORPORATION                           | United States of America | 176              | 201   | 309   | 108                     |
| 44   | APPLIED MATERIALS, INC.                     | United States of America | 296              | 313   | 308   | -5                      |
| 45   | THOMSON LICENSING                           | France                   | 359              | 311   | 303   | -8                      |
| 46   | ASAHI GLASS COMPANY, LIMITED                | Japan                    | 177              | 180   | 291   | 111                     |
| 46   | GENERAL ELECTRIC COMPANY                    | United States of America | 307              | 274   | 291   | 17                      |
| 48   | ALCATEL LUCENT                              | France                   | 283              | 275   | 287   | 12                      |
| 49   | SANYO ELECTRIC CO., LTD.                    | Japan                    | 142              | 129   | 285   | 156                     |
| 50   | APPLE COMPUTER, INC.                        | United States of America | 159              | 182   | 269   | 87                      |

Note: Due to confidentiality requirements, the PCT data are based on the publication date. Top applicants are selected according to 2011 total.

Source: WIPO Statistics Database, March 2012

ZTE Corporation of China, with 2,826 published applications, overtook Panasonic Corporation of Japan (2,463) as the top applicant in 2011. Huawei Technologies, Co. of China (1,831) ranked third, followed by Sharp Kabushiki Kaisha of Japan (1,755) and Robert Bosch Corporation of Germany (1,518).

The majority of applicants reported in Table A.3.4 saw a growth in published applications in 2011 compared to 2010. Between 2010 and 2011, ZTE Corporation (+958 applications) and Sharp Kabushiki Kaisha (+469) saw the largest increases in published applications, while Koninklijke Philips Electronics N.V. (-285) and Qualcomm Incorporated (-181) recorded the largest declines in published applications. Japan, with 21 different applicants, had the largest number of applicants ranked among the top 50.

## A.3.5 List of top PCT applicants: universities

Table A.3.5: Top 50 PCT applicants: universities

| Rank | Applicant's Name                                   | Origin                   | PCT applications |      |      | Change compared to 2010 |
|------|----------------------------------------------------|--------------------------|------------------|------|------|-------------------------|
|      |                                                    |                          | 2009             | 2010 | 2011 |                         |
| 1    | UNIVERSITY OF CALIFORNIA                           | United States of America | 321              | 304  | 277  | -27                     |
| 2    | MASSACHUSETTS INSTITUTE OF TECHNOLOGY              | United States of America | 145              | 146  | 179  | 33                      |
| 3    | UNIVERSITY OF TEXAS SYSTEM                         | United States of America | 126              | 129  | 127  | -2                      |
| 4    | JOHNS HOPKINS UNIVERSITY                           | United States of America | 87               | 89   | 111  | 22                      |
| 5    | KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY | Republic of Korea        | 43               | 51   | 103  | 52                      |
| 6    | SEOUL NATIONAL UNIVERSITY                          | Republic of Korea        | 76               | 97   | 99   | 2                       |
| 7    | UNIVERSITY OF TOKYO                                | Japan                    | 94               | 105  | 98   | -7                      |
| 8    | UNIVERSITY OF MICHIGAN                             | United States of America | 61               | 79   | 96   | 17                      |
| 9    | CORNELL UNIVERSITY                                 | United States of America | 70               | 81   | 88   | 7                       |
| 9    | HARVARD UNIVERSITY                                 | United States of America | 109              | 91   | 88   | -3                      |
| 11   | UNIVERSITY OF FLORIDA                              | United States of America | 111              | 107  | 84   | -23                     |
| 12   | COLUMBIA UNIVERSITY                                | United States of America | 110              | 91   | 82   | -9                      |
| 13   | LELAND STANFORD JUNIOR UNIVERSITY                  | United States of America | 67               | 54   | 79   | 25                      |
| 14   | KYOTO UNIVERSITY                                   | Japan                    | 44               | 47   | 70   | 23                      |
| 15   | UNIVERSITY OF PENNSYLVANIA                         | United States of America | 80               | 76   | 64   | -12                     |
| 16   | ISIS INNOVATION LIMITED                            | United Kingdom           | 45               | 46   | 62   | 16                      |
| 17   | KOREA UNIVERSITY                                   | Republic of Korea        | 17               | 27   | 60   | 33                      |
| 19   | CALIFORNIA INSTITUTE OF TECHNOLOGY                 | United States of America | 52               | 50   | 59   | 9                       |
| 19   | OSAKA UNIVERSITY                                   | Japan                    | 38               | 60   | 59   | -1                      |
| 20   | ARIZONA STATE UNIVERSITY                           | United States of America | 40               | 64   | 55   | -9                      |
| 21   | GWANGJU INSTITUTE OF SCIENCE AND TECHNOLOGY        | Republic of Korea        | 19               | 21   | 52   | 31                      |
| 22   | TOHOKU UNIVERSITY                                  | Japan                    | 39               | 41   | 51   | 10                      |
| 22   | HEBREW UNIVERSITY OF JERUSALEM                     | Israel                   | 33               | 43   | 51   | 8                       |
| 22   | DUKE UNIVERSITY                                    | United States of America | 38               | 48   | 51   | 3                       |
| 25   | NATIONAL UNIVERSITY OF SINGAPORE                   | Singapore                | 32               | 24   | 50   | 26                      |
| 25   | HANYANG UNIVERSITY                                 | Republic of Korea        | 27               | 46   | 50   | 4                       |
| 25   | UNIVERSITY OF UTAH                                 | United States of America | 66               | 59   | 50   | -9                      |
| 28   | UNIVERSITY OF COLORADO                             | United States of America | 38               | 34   | 47   | 13                      |
| 28   | UNIVERSITY OF ILLINOIS                             | United States of America | 52               | 59   | 47   | -12                     |
| 30   | NORTHWESTERN UNIVERSITY                            | United States of America | 32               | 38   | 46   | 8                       |
| 30   | WISCONSIN ALUMNI RESEARCH FOUNDATION               | United States of America | 64               | 47   | 46   | -1                      |
| 32   | TOKYO INSTITUTE OF TECHNOLOGY                      | Japan                    | 29               | 26   | 43   | 17                      |
| 32   | YONSEI UNIVERSITY                                  | Republic of Korea        | 51               | 38   | 43   | 5                       |
| 32   | TEL AVIV UNIVERSITY                                | Israel                   | 47               | 39   | 43   | 4                       |
| 32   | UNIVERSITY OF NORTH CAROLINA                       | United States of America | 38               | 42   | 43   | 1                       |
| 36   | KYUSHU UNIVERSITY                                  | Japan                    | 23               | 27   | 41   | 14                      |
| 36   | HOKKAIDO UNIVERSITY                                | Japan                    | 33               | 38   | 41   | 3                       |
| 36   | PURDUE UNIVERSITY                                  | United States of America | 45               | 50   | 41   | -9                      |
| 39   | STATE UNIVERSITY OF NEW YORK                       | United States of America | 39               | 32   | 40   | 8                       |
| 39   | CAMBRIDGE UNIVERSITY                               | United Kingdom           | 27               | 35   | 40   | 5                       |
| 41   | VANDERBILT UNIVERSITY                              | United States of America | 18               | 18   | 38   | 20                      |
| 41   | UNIVERSITY OF SOUTHERN CALIFORNIA                  | United States of America | 64               | 47   | 38   | -9                      |
| 43   | YALE UNIVERSITY                                    | United States of America | 38               | 24   | 37   | 13                      |
| 44   | DANMARKS TEKNISKE UNIVERSITET                      | Denmark                  | 38               | 24   | 36   | 12                      |
| 44   | TSINGHUA UNIVERSITY                                | China                    | 27               | 24   | 36   | 12                      |
| 44   | UNIVERSITY OF PITTSBURGH                           | United States of America | 29               | 26   | 36   | 10                      |
| 44   | POSTECH FOUNDATION                                 | Republic of Korea        | 39               | 31   | 36   | 5                       |
| 48   | IMPERIAL INNOVATIONS LTD.                          | United Kingdom           | 42               | 37   | 35   | -2                      |
| 48   | UNIVERSITY OF SYDNEY                               | Australia                | 26               | 24   | 35   | 11                      |
| 48   | YEDA RESEARCH AND DEVELOPMENT CO. LTD.             | Israel                   | 46               | 41   | 35   | -6                      |

Note: The university sector includes applications from all types of educational institutions. Due to confidentiality requirements, the PCT data are based on the publication date. Top applicants are selected according to 2011 total.

Source: WIPO Statistics Database, March 2012

The University of California, with 277 published applications in 2011, is the largest filer among educational institutions, followed by Massachusetts Institute of Technology (179) and the University of Texas System (127). Only five educational institutions had more than 100 applications published.

The majority of applicants listed in Table A.3. 5 had more applications published in 2011 than in the previous year. The Korea Advanced Institute of Science and Technology saw the most notable increase in applications (+52), followed by Massachusetts Institute of Technology (+33) and Korea University (+33). The University of Florida (-23) and the University of California (-27) saw the largest drops in applications. The US, with 26 out of 50 institutions, dominates the list of top university applicants.

### A.3.6 List of top PCT applicants: government and research institutions

The Commissariat à l'Énergie Atomique et aux Énergies Alternatives of France accounted for the largest number of PCT applications published in the government and research institutions category. It is the only ap-

plicant with more than 300 applications (Table A.3.6). For the first time, two Chinese filers (China Academy of Telecommunications Technology and the Institute of Microelectronics of Chinese Academy of Sciences) ranked in the top 30 list. There are 14 different origins in the list of top 30 applicants from the government and research institutions category.

**Table A.3.6: Top 30 PCT applicants: government and research institutions**

| Rank | Applicant's Name                                                                                | Origin                   | PCT applications |      |      | change compared to 2010 |
|------|-------------------------------------------------------------------------------------------------|--------------------------|------------------|------|------|-------------------------|
|      |                                                                                                 |                          | 2009             | 2010 | 2011 |                         |
| 1    | COMMISSARIAT A L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES                                  | France                   | 238              | 308  | 371  | 63                      |
| 2    | FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.                            | Germany                  | 265              | 297  | 294  | -3                      |
| 3    | CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)                                             | France                   | 149              | 207  | 196  | -11                     |
| 4    | AGENCY OF SCIENCE, TECHNOLOGY AND RESEARCH                                                      | Singapore                | 148              | 154  | 180  | 26                      |
| 5    | CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC)                                          | Spain                    | 86               | 126  | 120  | -6                      |
| 6    | CHINA ACADEMY OF TELECOMMUNICATIONS TECHNOLOGY                                                  | China                    |                  |      | 119  | 119                     |
| 7    | MIMOS BERHAD                                                                                    | Malaysia                 | 90               | 67   | 108  | 41                      |
| 8    | ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE OF KOREA                                    | Republic of Korea        | 452              | 174  | 104  | -70                     |
| 9    | NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY                                | Japan                    | 109              | 91   | 100  | 9                       |
| 10   | UNITED STATES OF AMERICA, REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES | United States of America | 107              | 113  | 98   | -15                     |
| 11   | INSTITUT NATIONAL DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE (INSERM)                              | France                   | 68               | 83   | 90   | 7                       |
| 12   | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK TNO                    | Netherlands              | 134              | 116  | 82   | -34                     |
| 13   | INSTITUTE OF MICROELECTRONICS OF CHINESE ACADEMY OF SCIENCES                                    | China                    |                  |      | 74   | 74                      |
| 13   | BATTELLE MEMORIAL INSTITUTE                                                                     | United States of America | 49               | 50   | 54   | 4                       |
| 15   | COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH                                                   | India                    | 63               | 56   | 53   | -3                      |
| 16   | MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V.                                   | Germany                  | 50               | 57   | 49   | -8                      |
| 16   | MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH                                              | United States of America | 54               | 60   | 49   | -11                     |
| 18   | COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION                                    | Australia                | 56               | 61   | 48   | -13                     |
| 19   | KOREA RESEARCH INSTITUTE OF BIOSCIENCE AND BIOTECHNOLOGY                                        | Republic of Korea        | 71               | 44   | 45   | 1                       |
| 20   | JAPAN SCIENCE AND TECHNOLOGY AGENCY                                                             | Japan                    | 48               | 51   | 43   | -8                      |
| 21   | KOREA INSTITUTE OF MACHINERY & MATERIALS                                                        | Republic of Korea        | 13               | 15   | 36   | 21                      |
| 22   | KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOLOGY                                                 | Republic of Korea        | 30               | 26   | 35   | 9                       |
| 22   | NATIONAL RESEARCH COUNCIL OF CANADA                                                             | Canada                   | 21               | 45   | 35   | -10                     |
| 24   | NATIONAL INSTITUTE FOR MATERIALS SCIENCE                                                        | Japan                    | 22               | 35   | 34   | -1                      |
| 25   | KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY                                                       | Republic of Korea        | 33               | 37   | 33   | -4                      |
| 25   | RIKEN (THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH)                                         | Japan                    | 44               | 24   | 33   | 9                       |
| 27   | UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY                            | United States of America | 44               | 34   | 31   | -3                      |
| 27   | VALTION TEKILLINEN TUTKIMUSKESKUS                                                               | Finland                  | 34               | 48   | 31   | -17                     |
| 29   | DEUTSCHES KREBSFORSCHUNGSZENTRUM STIFTUNG DES ÖFFENTLICHEN RECHTS                               | Germany                  | 16               | 26   | 30   | 4                       |
| 29   | KOREA INSTITUTE OF INDUSTRIAL TECHNOLOGY                                                        | Republic of Korea        | 12               | 17   | 30   | 13                      |
| 29   | SAINT-GOBAIN CENTRE DE RECHERCHES ET D'ÉTUDES EUROPÉEN                                          | France                   | 29               | 43   | 30   | -13                     |

Note: Government and research institutions include private non-profit organizations and hospitals. Due to confidentiality requirements, the PCT data are based on the publication date. Top applicants are selected according to 2011 total.

Source: WIPO Statistics Database, March 2012



## A.4

### INTERNATIONAL COLLABORATION

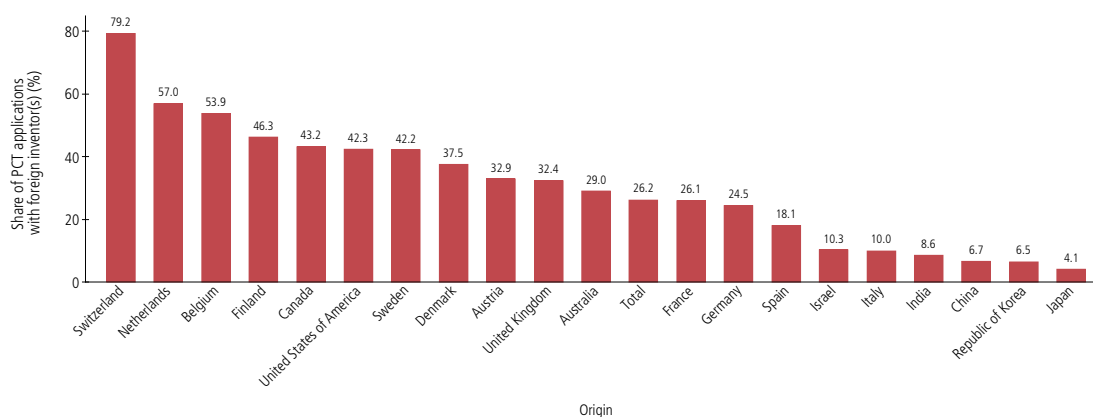
Developing modern technology is an increasingly complex undertaking. Very often, it requires collaboration across countries. Such collaboration involves: (1) joint research projects carried out by institutions from different countries; (2) companies that employ engineers from foreign countries. This section explains how international collaboration affects innovation and, more specifically, PCT filings.

#### A.4.1 Share of PCT applications with foreign inventors

Figure A.4.1 illustrates the share of applications with foreign inventors for the top countries of origin. The data refer to published PCT applications and include only those applications whose first-named applicants are corporations (excluding first-named applicants that are natural persons).

In 2011, around 80% of published PCT applications filed by Swiss companies included at least one foreign inventor. The Netherlands (57%) and Belgium (53.9%) also had high shares of published PCT applications with at least one foreign inventor. In contrast, Japan (4.1%), the Republic of Korea (6.5%), China (6.7%) and India (8.6%) had low shares of published PCT applications with foreign inventors.

**Figure A.4.1: Share of PCT applications with at least one foreign inventor for top 20 origins, 2011**



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

Source: WIPO Statistics Database, March 2012

#### A.4.2 Share of foreign inventors named in PCT applications

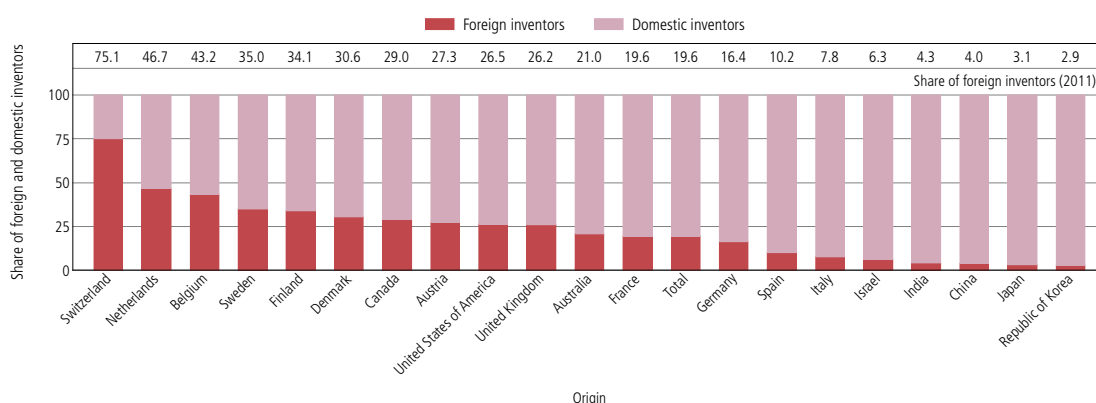
Figure A.4.2 shows the distribution of inventors according to whether they are domestic or foreign. The share of domestic and foreign inventors is calculated using all inventors named in PCT applications published in 2011. The distribution by country of origin is calculated using the origins of all applicants named in PCT applications published in 2011 (not only first-named applicants) that are corporations (excluding applicants that are natural persons).

In 2011, three-quarters of inventors mentioned in PCT applications filed by Swiss applicants were foreigners. Close to half of the inventors indicated in Dutch and Belgian PCT applications came from abroad.

Fewer than 5% of inventors working for Asian applicants were of foreign origin.

Although foreign inventors were named in 42.3% of PCT applications originating from the US (see A.4.1), they accounted for only 26.5% of all inventors named in PCT applications filed by US applicants.

**Figure A.4.2: Share of domestic and foreign inventors for top 20 origins, 2011**



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

Source: WIPO Statistics Database, March 2012

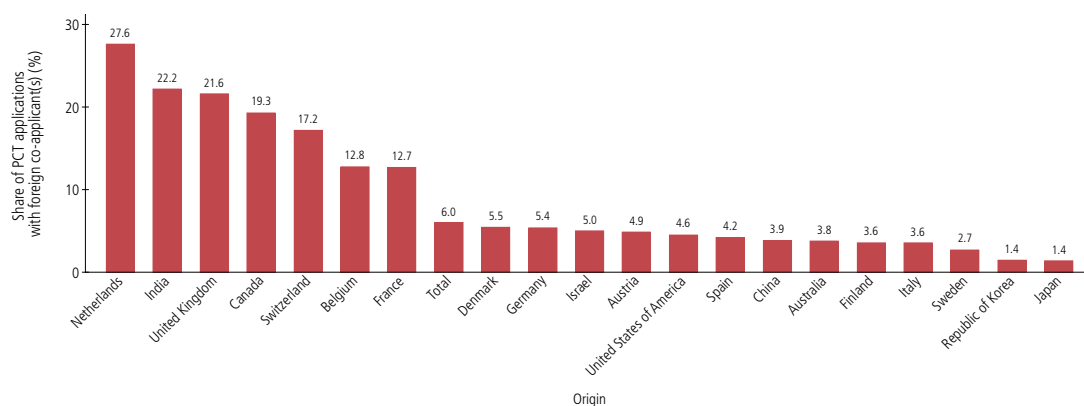
### A.4.3 Share of PCT applications with foreign co-applicants

Figure A.4.3 shows the percentage of PCT applications published in 2011 that were jointly filed by two or more applicants from different countries. The share is calculated based on all applicants named in PCT applications published in 2011 (not only first-named applicants) that are corporations (excluding applicants that are natural persons).

The overall level of international collaboration among applicants from different countries was low. Only 6% of PCT applications in 2011 had at least two joint corporate applicants from different countries.

More than one fifth of PCT applications from India, the Netherlands and the United Kingdom (UK) were filed jointly with foreign applicants. By contrast, just over 1% of PCT applications from Japan and the Republic of Korea had foreign co-applicants.

**Figure A.4.3: Share of PCT applications with at least one foreign co-applicant for top 20 origins, 2011**



Note: Counts are based on corporate applicants only (thus excluding natural persons) and on all applicants named in PCT applications. Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

## A.5

### FIELDS OF TECHNOLOGY OF PCT APPLICATIONS

PCT applications span a wide range of technologies – some emerging, some maturing and others declining. The tendency to file patent applications differs across technologies, as some technologies depend more heavily on the patent system than others. This subsection shows the distribution of PCT applications across fields of technology by year and for the top 10 countries of origin. For reasons of confidentiality, statistics are based on the publication rather than the filing date. Statistics based on publication date have a delay of approximately six months compared to those based on international filing date. The breakdown of published PCT applications by field of technology is based on a concordance table relating the International Patent Classification (IPC) symbols to 35 fields of technology.<sup>15</sup>

#### A.5.1 PCT applications by field of technology

Table A.5.1 shows the number of PCT applications by field of technology for applications published from 2007 to 2011.

Digital communication technology, with 11,574 published PCT applications representing 7.1% of the total, accounted for the largest share of total PCT applications. There were also considerable shares of applications related to electronic machinery (6.9%), medical technology (6.6%) and computer technology (6.4%).

Most fields of technology saw growth in published applications, including 11 fields with double-digit growth. Only four fields saw declines in applications, including basic communication processes (-5.9%), organic fine chemistry (-4.1%) and pharmaceuticals (-1.9%).

15. Concordance table is available at  
[www.wipo.int/ipstats/en/statistics/patents/](http://www.wipo.int/ipstats/en/statistics/patents/)

Table A.5.1: PCT applications by field of technology

|            | Technical Field                         | Year  |        |        |        |        | 2011<br>Share<br>(%) | Change<br>compared<br>to 2010 |
|------------|-----------------------------------------|-------|--------|--------|--------|--------|----------------------|-------------------------------|
|            |                                         | 2007  | 2008   | 2009   | 2010   | 2011   |                      |                               |
| <b>I</b>   | <b>Electrical engineering</b>           |       |        |        |        |        |                      |                               |
| 1          | Electrical machinery, apparatus, energy | 7,877 | 8,943  | 8,986  | 9,168  | 11,296 | 6.9                  | 23.2                          |
| 2          | Audio-visual technology                 | 6,322 | 6,251  | 5,828  | 5,617  | 5,830  | 3.6                  | 3.8                           |
| 3          | Telecommunications                      | 5,912 | 6,397  | 5,856  | 4,877  | 4,967  | 3.0                  | 1.8                           |
| 4          | Digital communication                   | 7,589 | 8,846  | 9,063  | 10,590 | 11,574 | 7.1                  | 9.3                           |
| 5          | Basic communication processes           | 1,358 | 1,463  | 1,392  | 1,277  | 1,202  | 0.7                  | -5.9                          |
| 6          | Computer technology                     | 1,217 | 11,725 | 10,239 | 9,539  | 10,455 | 6.4                  | 9.6                           |
| 7          | IT methods for management               | 1,969 | 2,455  | 2,156  | 2,083  | 2,354  | 1.4                  | 13.0                          |
| 8          | Semiconductors                          | 4,656 | 5,028  | 5,582  | 5,859  | 6,500  | 4.0                  | 10.9                          |
| <b>II</b>  | <b>Instruments</b>                      |       |        |        |        |        |                      |                               |
| 9          | Optics                                  | 4,277 | 4,557  | 4,326  | 4,192  | 4,547  | 2.8                  | 8.5                           |
| 10         | Measurement                             | 6,553 | 6,855  | 6,802  | 6,428  | 6,555  | 4.0                  | 2.0                           |
| 11         | Analysis of biological materials        | 1,750 | 1,800  | 1,885  | 1,789  | 1,783  | 1.1                  | -0.3                          |
| 12         | Control                                 | 2,395 | 2,525  | 2,397  | 2,130  | 2,155  | 1.3                  | 1.2                           |
| 13         | Medical technology                      | 481   | 11,088 | 10,481 | 10,484 | 10,753 | 6.6                  | 2.6                           |
| <b>III</b> | <b>Chemistry</b>                        |       |        |        |        |        |                      |                               |
| 14         | Organic fine chemistry                  | 6,058 | 6,117  | 5,672  | 5,511  | 5,283  | 3.2                  | -4.1                          |
| 15         | Biotechnology                           | 5,118 | 5,293  | 5,313  | 5,219  | 5,232  | 3.2                  | 0.2                           |
| 16         | Pharmaceuticals                         | 8,794 | 8,959  | 8,399  | 7,833  | 7,683  | 4.7                  | -1.9                          |
| 17         | Macromolecular chemistry, polymers      | 3,065 | 3,138  | 3,093  | 2,806  | 3,103  | 1.9                  | 10.6                          |
| 18         | Food chemistry                          | 1,572 | 1,684  | 1,519  | 1,515  | 1,581  | 1.0                  | 4.4                           |
| 19         | Basic materials chemistry               | 4,410 | 4,731  | 4,736  | 4,640  | 4,873  | 3.0                  | 5.0                           |
| 20         | Materials, metallurgy                   | 2,558 | 2,802  | 2,768  | 2,867  | 3,215  | 2.0                  | 12.1                          |
| 21         | Surface technology, coating             | 2,593 | 2,670  | 2,454  | 2,424  | 2,661  | 1.6                  | 9.8                           |
| 22         | Micro-structural and nano-technology    | 246   | 306    | 344    | 347    | 356    | 0.2                  | 2.6                           |
| 23         | Chemical engineering                    | 3,468 | 3,796  | 3,626  | 3,584  | 3,846  | 2.4                  | 7.3                           |
| 24         | Environmental technology                | 1,974 | 2,237  | 2,221  | 2,164  | 2,469  | 1.5                  | 14.1                          |
| <b>IV</b>  | <b>Mechanical engineering</b>           |       |        |        |        |        |                      |                               |
| 25         | Handling                                | 3,985 | 3,902  | 3,721  | 3,647  | 4,063  | 2.5                  | 11.4                          |
| 26         | Machine tools                           | 2,834 | 3,203  | 2,945  | 2,712  | 3,040  | 1.9                  | 12.1                          |
| 27         | Engines, pumps, turbines                | 3,615 | 4,136  | 4,387  | 4,302  | 5,029  | 3.1                  | 16.9                          |
| 28         | Textile and paper machines              | 2,234 | 2,300  | 2,164  | 1,958  | 1,976  | 1.2                  | 0.9                           |
| 29         | Other special machines                  | 3,656 | 4,086  | 3,992  | 3,761  | 4,221  | 2.6                  | 12.2                          |
| 30         | Thermal processes and apparatus         | 1,856 | 2,128  | 2,369  | 2,445  | 2,562  | 1.6                  | 4.8                           |
| 31         | Mechanical elements                     | 3,854 | 4,402  | 4,152  | 4,050  | 4,437  | 2.7                  | 9.6                           |
| 32         | Transport                               | 5,303 | 5,973  | 5,834  | 5,489  | 6,250  | 3.8                  | 13.9                          |
| <b>V</b>   | <b>Other fields</b>                     |       |        |        |        |        |                      |                               |
| 33         | Furniture, games                        | 3,655 | 3,636  | 3,277  | 3,098  | 3,194  | 2.0                  | 3.1                           |
| 34         | Other consumer goods                    | 2,934 | 3,165  | 3,008  | 2,999  | 3,154  | 1.9                  | 5.2                           |
| 35         | Civil engineering                       | 3,848 | 4,343  | 4,424  | 4,359  | 4,808  | 2.9                  | 10.3                          |

Note: Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

## A.5.2 PCT applications by field of technology and country of origin

Table A.5.2: PCT applications by field of technology for top 10 origins, 2011

|     |                                         | Origin |       |       |     |     |       |     |     |     |       |
|-----|-----------------------------------------|--------|-------|-------|-----|-----|-------|-----|-----|-----|-------|
|     | Technical Field                         | CH     | CN    | DE    | FR  | GB  | JP    | KR  | NL  | SE  | US    |
| I   | Electrical engineering                  |        |       |       |     |     |       |     |     |     |       |
| 1   | Electrical machinery, apparatus, energy | 184    | 503   | 1,115 | 270 | 178 | 2,413 | 504 | 222 | 62  | 1,472 |
| 2   | Audio-visual technology                 | 49     | 279   | 176   | 175 | 78  | 1,592 | 459 | 73  | 74  | 781   |
| 3   | Telecommunications                      | 27     | 488   | 103   | 150 | 65  | 724   | 610 | 46  | 179 | 721   |
| 4   | Digital communication                   | 35     | 2,513 | 174   | 323 | 87  | 885   | 654 | 58  | 559 | 1,562 |
| 5   | Basic communication processes           | 19     | 45    | 63    | 49  | 15  | 263   | 33  | 9   | 26  | 247   |
| 6   | Computer technology                     | 70     | 505   | 329   | 258 | 161 | 1,315 | 363 | 182 | 161 | 2,935 |
| 7   | IT methods for management               | 12     | 31    | 45    | 34  | 39  | 166   | 150 | 12  | 27  | 816   |
| 8   | Semiconductors                          | 39     | 164   | 371   | 102 | 52  | 1,873 | 341 | 89  | 11  | 1,234 |
| II  | Instruments                             |        |       |       |     |     |       |     |     |     |       |
| 9   | Optics                                  | 27     | 114   | 194   | 97  | 58  | 1,441 | 209 | 108 | 26  | 684   |
| 10  | Measurement                             | 128    | 178   | 603   | 250 | 173 | 911   | 162 | 212 | 73  | 1,201 |
| 11  | Analysis of biological materials        | 34     | 19    | 112   | 65  | 66  | 136   | 46  | 42  | 18  | 488   |
| 12  | Control                                 | 41     | 95    | 225   | 55  | 61  | 258   | 74  | 42  | 25  | 360   |
| 13  | Medical technology                      | 188    | 172   | 628   | 206 | 235 | 919   | 288 | 279 | 141 | 3,265 |
| III | Chemistry                               |        |       |       |     |     |       |     |     |     |       |
| 14  | Organic fine chemistry                  | 172    | 139   | 517   | 314 | 130 | 572   | 130 | 89  | 27  | 1,057 |
| 15  | Biotechnology                           | 102    | 108   | 261   | 198 | 121 | 425   | 167 | 100 | 39  | 1,461 |
| 16  | Pharmaceuticals                         | 200    | 222   | 316   | 239 | 202 | 508   | 233 | 85  | 58  | 2,087 |
| 17  | Macromolecular chemistry, polymers      | 47     | 56    | 324   | 91  | 29  | 657   | 86  | 68  | 4   | 577   |
| 18  | Food chemistry                          | 80     | 27    | 48    | 37  | 33  | 202   | 78  | 71  | 5   | 291   |
| 19  | Basic materials chemistry               | 83     | 115   | 473   | 127 | 97  | 590   | 144 | 124 | 11  | 1,331 |
| 20  | Materials, metallurgy                   | 35     | 108   | 268   | 137 | 55  | 689   | 128 | 36  | 19  | 399   |
| 21  | Surface technology, coating             | 39     | 57    | 220   | 73  | 37  | 636   | 79  | 22  | 12  | 478   |
| 22  | Micro-structural and nano-technology    | 2      | 6     | 18    | 11  | 4   | 30    | 47  |     | 4   | 82    |
| 23  | Chemical engineering                    | 51     | 128   | 388   | 129 | 113 | 392   | 108 | 59  | 51  | 749   |
| 24  | Environmental technology                | 39     | 53    | 199   | 105 | 50  | 327   | 98  | 37  | 26  | 412   |
| IV  | Mechanical engineering                  |        |       |       |     |     |       |     |     |     |       |
| 25  | Handling                                | 204    | 103   | 334   | 109 | 93  | 403   | 103 | 63  | 43  | 735   |
| 26  | Machine tools                           | 37     | 90    | 473   | 93  | 42  | 482   | 97  | 38  | 43  | 434   |
| 27  | Engines, pumps, turbines                | 42     | 149   | 777   | 202 | 112 | 718   | 124 | 31  | 48  | 666   |
| 28  | Textile and paper machines              | 58     | 62    | 198   | 35  | 27  | 310   | 40  | 22  | 27  | 320   |
| 29  | Other special machines                  | 76     | 110   | 403   | 160 | 86  | 518   | 145 | 105 | 59  | 646   |
| 30  | Thermal processes and apparatus         | 35     | 116   | 269   | 85  | 34  | 371   | 118 | 31  | 31  | 311   |
| 31  | Mechanical elements                     | 39     | 106   | 817   | 149 | 98  | 652   | 92  | 43  | 104 | 535   |
| 32  | Transport                               | 59     | 142   | 931   | 429 | 138 | 915   | 231 | 50  | 160 | 606   |
| V   | Other fields                            |        |       |       |     |     |       |     |     |     |       |
| 33  | Furniture, games                        | 67     | 166   | 202   | 81  | 130 | 213   | 200 | 67  | 40  | 595   |
| 34  | Other consumer goods                    | 74     | 109   | 283   | 112 | 113 | 268   | 268 | 36  | 16  | 459   |

Note: CH (Switzerland), CN (China), DE (Germany), FR (France), GB (United Kingdom), JP (Japan), KR (Republic of Korea), NL (Netherlands), SE (Sweden) and US (United States of America). Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012

China shows a high concentration in digital communication technologies, with around one-third of all Chinese applications published in 2011 relating to this field. Applications from the Republic of Korea (9.6%) and Sweden (24.8%) are also highly concentrated in the digital technology field.

Around 10% of total published applications originating in the Netherlands and the US related to medical technology. Similarly, around 10% of total applications filed by residents of Germany and Japan were in the electrical machinery field.

### A.5.3 Relative Specialization Index

Another way to illustrate the distribution of PCT applications by field of technology and origin is to use the Relative Specialization Index (RSI). RSI corrects for the effects of country size and focuses on the concentration in specific technology fields. In particular it seeks to capture whether a given country tends to have a lower or higher propensity to file in certain technology fields. RSI is calculated using the following formula:

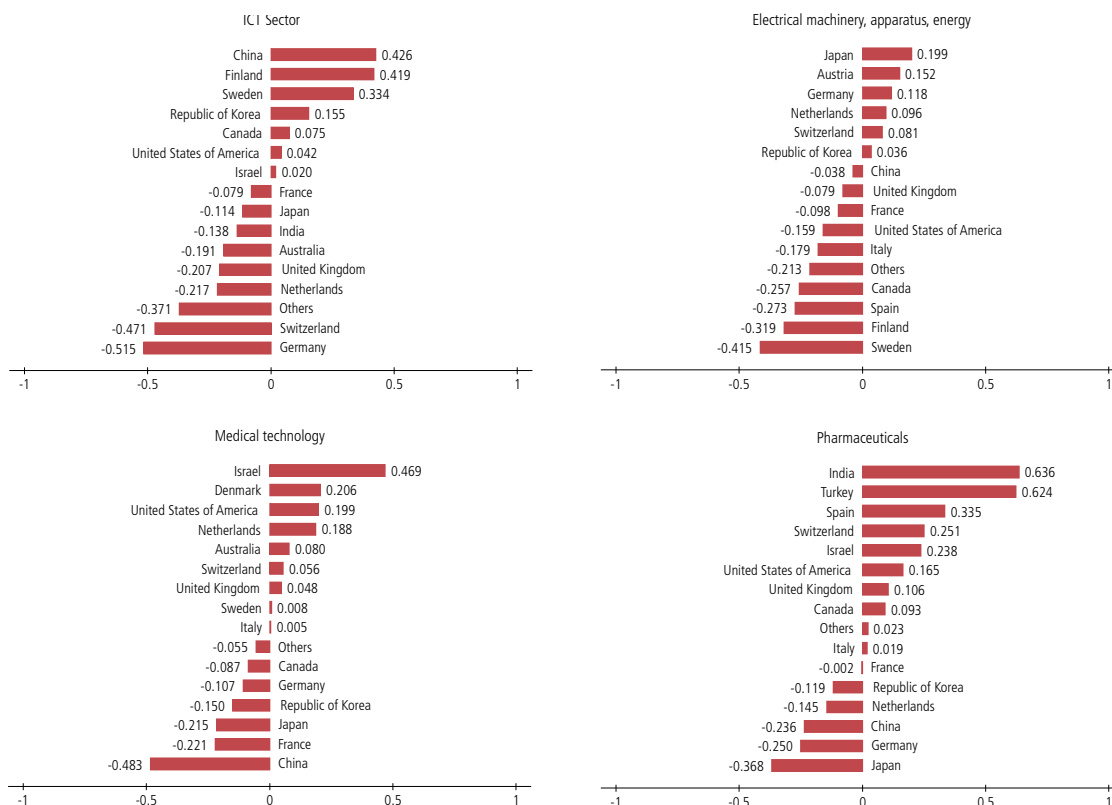
$$RSI = \text{Log}\left(\frac{F_{CT} \sum F_{CT}}{\sum F_C \sum F_T}\right)$$

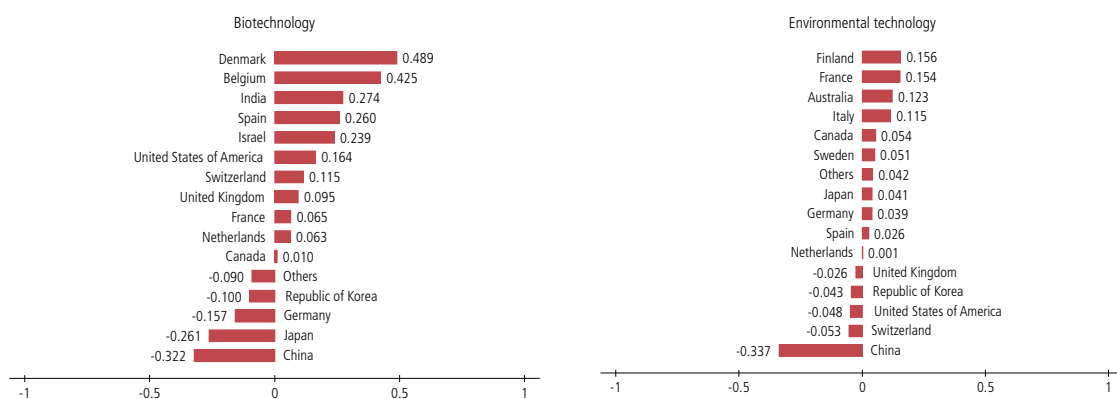
$F_C$  and  $F_T$  denote filings from country C and in the technological field T, respectively. A positive RSI value for a given technology indicates that a particular country has a relatively high share of filings related to that field of technology.

China, Finland and Sweden show a high concentration of applications in the ICT sector, whereas Austria, Germany and Japan have higher shares of applications in the field of electrical machinery.

Israel has the highest RSI value for medical technology, while India and Turkey show an above average concentration in pharmaceuticals. Belgium and Denmark filed the largest shares of their total applications in biotechnology. The RSI values for environmental technology are more evenly distributed.

**Figure: A.5.3 Relative Specialization Index (RSI) for selected fields of technology, 2011**





Note: Information and communications technology (ICT) sector includes the following fields of technology: telecommunications, digital communication, basic communication processes, computer technology and IT methods for managements. Due to confidentiality requirements, the PCT data are based on the publication date.

Source: WIPO Statistics Database, March 2012



## PART II - PCT NATIONAL PHASE ENTRIES

The PCT process starts with the international phase and concludes with the national phase (for further details, see Introduction to the Patent Cooperation Treaty). The national or regional patent office before which an applicant enters the PCT national phase initiates the granting procedure according to prevailing national law. PCT national phase entry (NPE) data provide information on international patenting strategies. The NPE data reported here 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 2010. Not all offices supplied NPE data to WIPO, and for some offices NPE data reported are WIPO estimates. This subsection briefly describes the global trend, as well as NPEs by origin and office.

## A.6

### GLOBAL TREND

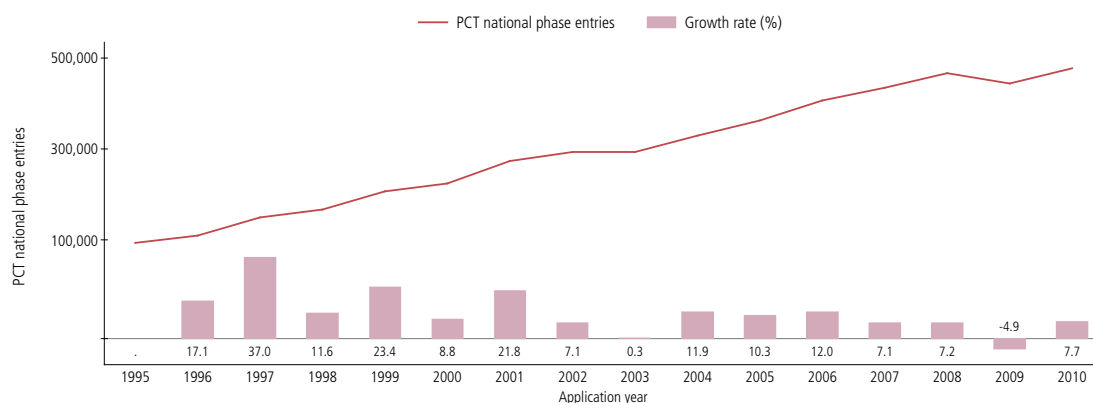
#### A.6.1 Trend in PCT national phase entries

Figure A.6.1 depicts the number of NPEs from 1995 to 2010. Missing data for offices that do not provide statistics have been estimated by WIPO on an aggregate basis in order to present the following figure.

In 2010, the number of PCT NPEs totaled 477,500, representing a 7.7% increase on 2009. The 2010 total also saw NPEs return to their long-term trend, following a decline in 2009.

The long-term trend shows strong year-on-year growth in NPEs for all years between 1995 and 2010, except 2003 and 2009. Growth in NPEs partly reflects the increasing trend of protecting inventions abroad, as well as the larger PCT membership which has made the PCT system more attractive to its users.

**Figure A.6.1: Trend in PCT national phase entries**



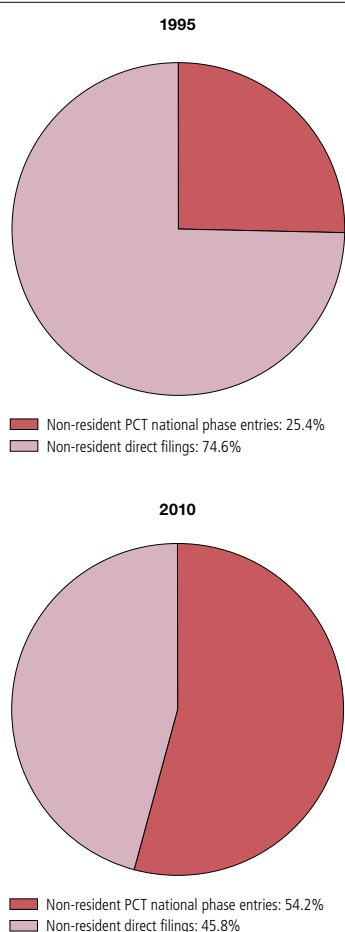
Note: WIPO estimates.

Source: WIPO Statistics Database, March 2012

### A.6.2 Share of PCT national phase entries in non-resident filings

To file an application abroad (for patent protection in a foreign country), applicants can decide to use either the “Paris route” (direct applications) or “PCT route” (NPEs). Figure A.6.2 provides information on the use of the two routes for non-resident applications.

**Figure A.6.2: Share of non-resident applications by filing route**



In 2010, the majority (54%) of all non-resident applications received by offices were filed via the PCT route. This represents a 0.9% increase in the share of NPEs in the total over 2009, and is the fourth year in a row that this share in total non-resident applications has exceeded 50%.

Overall, the share of NPEs in total non-resident filings more than doubled between 1995 and 2010. The proportion increased steadily from 1995 until 2002, after which it remained stable at around 47% up to 2006. In 2006, the share of NPEs increased by 1.6 percentage points. Even in 2009, with total NPEs declining by 4%, their share in total non-resident filings increased by 0.6%, highlighting the increased usage of the PCT system.

Note: WIPO estimates.

Source: WIPO Statistics Database, March 2012

## A.7

### NATIONAL PHASE ENTRIES BY ORIGIN

This subsection analyzes NPEs according to applicant's country and region of origin. The origin is the residence or nationality of the first-named applicant. The data presented also provide details by income group and compare the use of the PCT system to that of the Paris Convention route. Data by origin may be incomplete.<sup>16</sup> A statistical table listing all countries is provided in the annex.

#### A.7.1 PCT national phase entries by country of origin

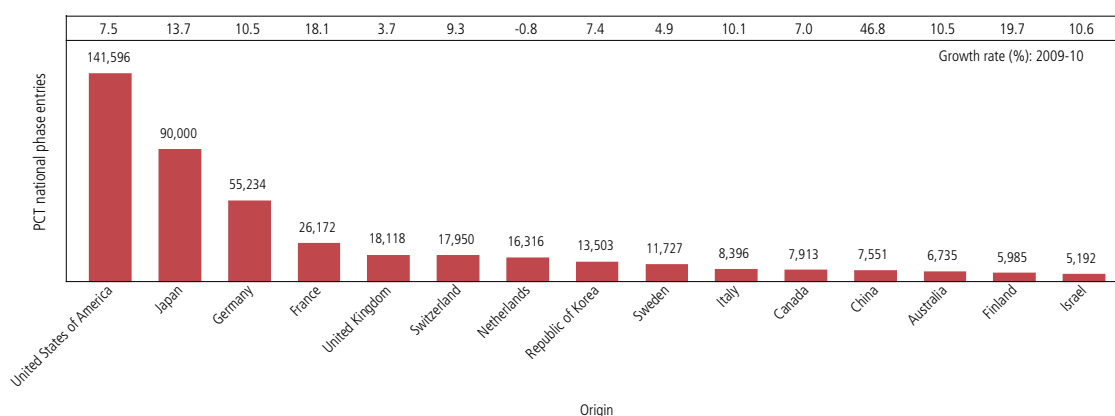
Applicants from the US accounted for about 141,596 PCT NPEs worldwide in 2010, an increase of 7.5% over 2009. However, the 2010 level for the US is still below the pre-economic crisis peak of around 146,000.

Despite recording the highest growth rate of all top 15 origins, the number of NPEs originating in China is far below that of the leading origins. This reflects the fact that the number of filings abroad by Chinese applicants remains relatively small.

Apart from China (with growth of 46.8%), significant increases in NPEs were also recorded for Finland (19.7%), France (18.1%) and Japan (13.7%) from 2009 to 2010. All top 15 origins, except the Netherlands, saw growth in NPEs.

For the past few years, NPEs originating in the Netherlands have declined. This reflects the general downward trend in use of the PCT system by Dutch applicants (see Figure A.2.2).

**Figure A.7.1: PCT national phase entries for top 15 origins, 2010**



Note: WIPO estimates.

Source: WIPO Statistics Database, March 2012

16. An estimated 9,793 PCT national phase entries were initiated in 2010 that either gave no indication of the origin of the application or designated an invalid country, e.g. the EPO. Patent applications filed by origin at the office of India in 2009 were used to estimate 2010 application data by origin.

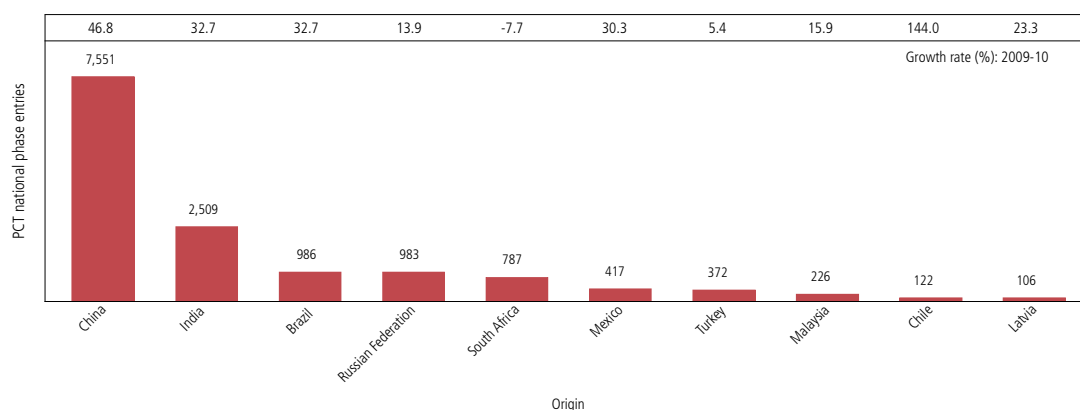
### A.7.2 PCT national phase entries by middle-income country of origin

China had the largest number of PCT NPEs among middle-income countries, with 7,551 filings. This represents an increase of 46.8% over the previous year and is the fastest growth rate for China since 2007. Applicants from India also accounted for a large number of NPEs in 2010. Despite double-digit growth, the total number of NPEs for Brazil and the Russian Federation was below 1,000.

All origins reported in figure A.7.2, except South Africa, saw growth in NPEs from 2009 to 2010. This is in contrast to the situation in 2008-2009, when the majority of top middle-income origins saw declines in NPEs.

The high growth rate for Chile is due to its recent accession to the PCT, in June 2009.

**Figure A.7.2: PCT national phase entries for top 10 middle-income origins, 2010**

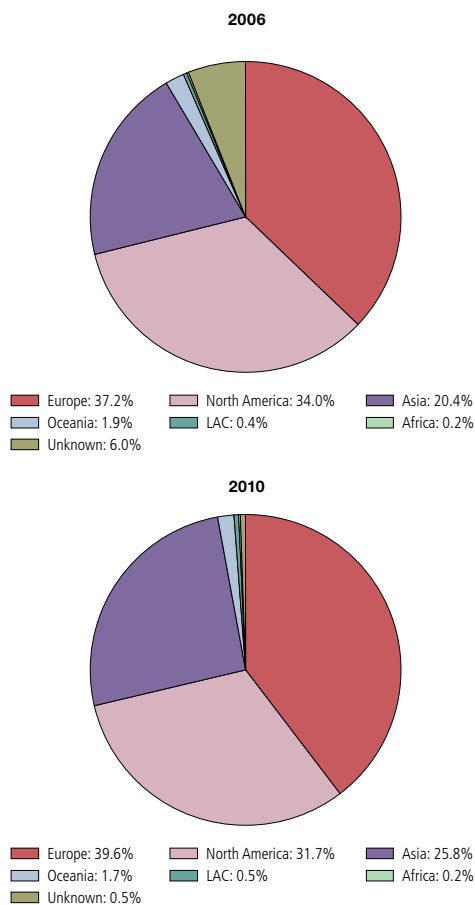


Note: WIPO estimates.

Source: WIPO Statistics Database, March 2012

### A.7.3 PCT national phase entries by region of origin

**Figure A.7.3: Distribution of PCT national phase entries by region of origin**



In 2010, Europe (with 39.6%) accounted for the highest share of total NPEs filed globally, followed by North America (31.7%) and Asia (25.8%). These three regions accounted for 97.1% of all NPEs, which is similar to their combined share of total PCT applications filed.

Asia's share increased, mainly due to China, while North America's declined by 2.3 percentage points between 2006 and 2010. Europe has experienced a steady increase since 2001.

Note: LAC: Latin America and the Caribbean. WIPO estimates.

Source: WIPO Statistics Database, March 2012

#### A.7.4 PCT national phase entries per PCT application by country of origin

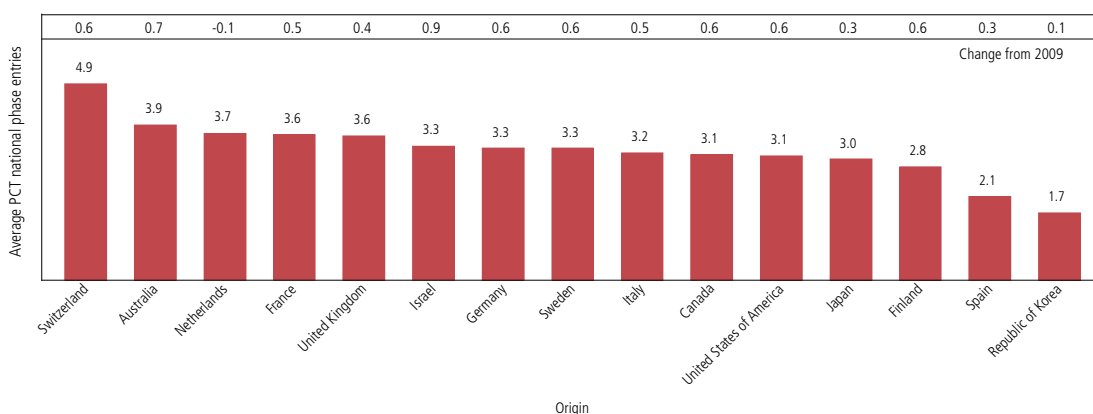
Figure A.7.4.1 and Figure A.7.4.2 depict the average number of NPEs per PCT application. To derive the average, NPEs are compared with PCT applications filed 12 months earlier (i.e., 2010 NPE data are compared with 2009 PCT filings), as applicants usually enter the PCT national phase within 18 months of the international filing date. In addition, since not all PCT applications enter the national phase, the average number presented here will be inherently biased downwards. The countries shown below represent the top 15 high-income and middle-income origins.

On average, each PCT application resulted in 3.1 NPEs in 2010. The average number of NPEs per PCT application for high-income origins (3.2) was similar to the overall average, whereas for middle-income origins (1.3) the number was considerably below the overall average. The average number of NPEs per PCT application for both high- and middle-income origins has increased over time.

Applicants from Switzerland had the highest level of NPEs per PCT application (with 4.9), followed by Australia (3.9). Other European countries –such as the Netherlands, France and the UK – also had comparatively higher averages, each greater than 3.5. In contrast, the average numbers of NPEs per PCT application for Japan (3) and the US (3.1) were just below the average for high-income countries of origin.

The top 15 middle-income origins had a lower number of NPEs per PCT application than their high-income counterparts. India had the highest number of NPEs per PCT application (2.6), followed by Chile (2.3) and Mexico (2.1). China, with a significantly higher number of NPEs than Chile or India, had a much lower average number of NPEs per PCT application.

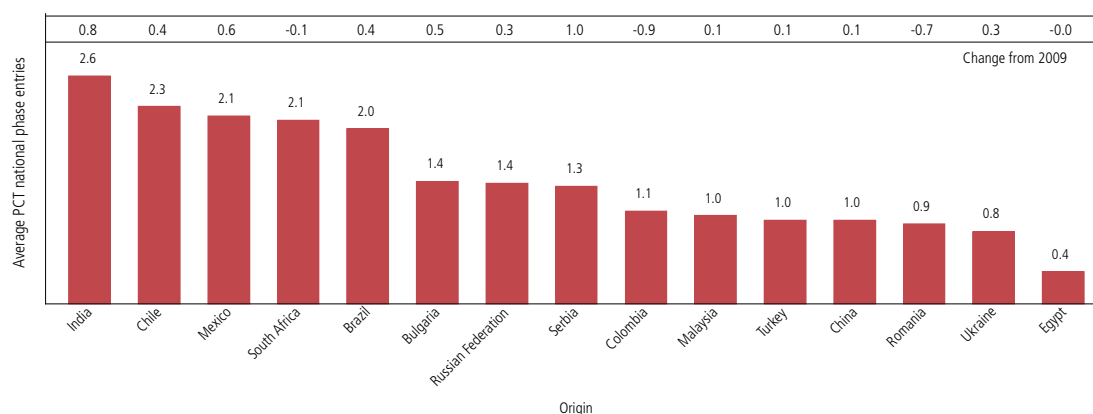
**Figure A.7.4.1: Average number of national phase entries per PCT application for top 15 high-income origins, 2010**



Note: The average is defined as the PCT national phase entries filed in 2010 divided by the PCT applications filed in 2009. PCT national phase entry data are WIPO estimates.

Source: WIPO Statistics Database, March 2012

**Figure A.7.4.2: Average number of national phase entries per PCT application for top 15 middle-income origins, 2010**



Note: The average is defined as the PCT national phase entries filed in 2010 divided by the PCT applications filed in 2009. PCT national phase entry data are WIPO estimates.

Source: WIPO Statistics Database, March 2012

### A.7.5 Share of PCT national phase entries in total filings abroad by country of origin

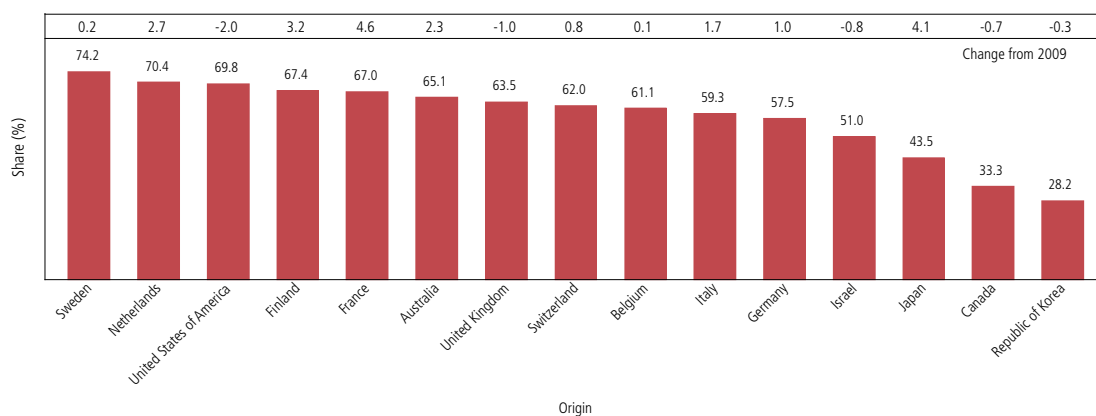
Figure A.7.5.1 and Figure A.7.5.2 present data on the use of the PCT system to seek patent protection abroad.<sup>17</sup> The top 15 origins list is based on the total number of filings abroad.

On average, applicants from high-income countries (57%) rely more on the PCT system for filings abroad than do applicants from middle-income countries (45%). Both income groups' use of the PCT system for filings abroad has intensified over time.

Around three-quarters of applications filed abroad by applicants from Sweden (74.2%) and South Africa (75.4%) were filed through the PCT system. Applicants from the Netherlands (70.4%), the US (69.8%) and Latvia (69.3%) also relied heavily on the PCT system for filings abroad. In contrast, less than a quarter of applications filed abroad by applicants from Belarus, Thailand and Ukraine made use of the PCT system. For the majority of reported origins, the share of NPEs in total applications abroad in 2010 was higher than in the previous year.

17. In this subsection, PCT NPEs only include entries at patent offices of other countries, i.e., they exclude NPEs in an applicant's country of residence. However, PCT NPEs at the EPO by applicants from European Patent Convention (EPC) member countries are included in the calculation of NPEs.

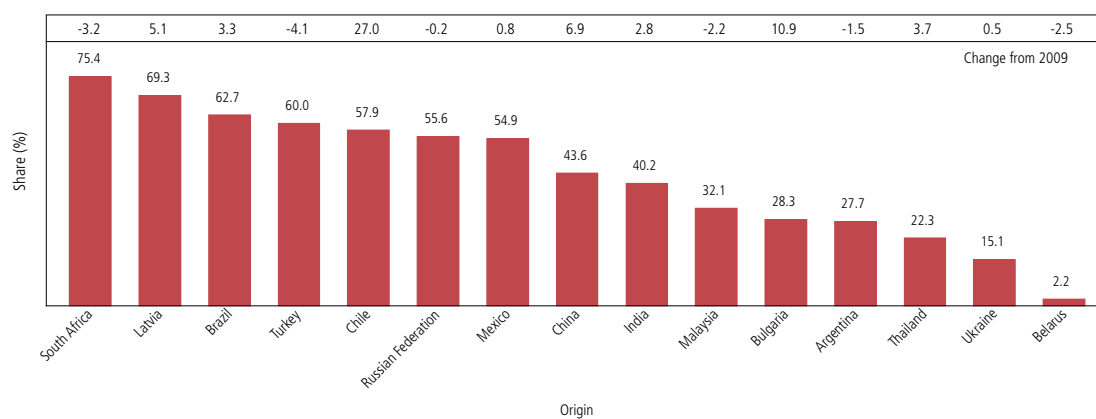
**Figure A.7.5.1: Share of PCT national phase entries in total filings abroad for top 15 high-income origins, 2010**



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

Source: WIPO Statistics Database, March 2012

**Figure A.7.5.2: Share of PCT national phase entries in total filings abroad for top 15 middle-income origins, 2010**



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

Source: WIPO Statistics Database, March 2012



## A.8

### NATIONAL PHASE ENTRIES BY OFFICE

This subsection analyzes NPEs according to the patent office at which an applicant seeks to obtain a patent. In particular, it provides information on the destinations of NPEs, NPEs by office and origin, and NPE share in total non-resident applications. A statistical table listing all offices is provided in the annex. Data for some offices are nonexistent.<sup>18</sup>

#### A.8.1 PCT national phase entries by office

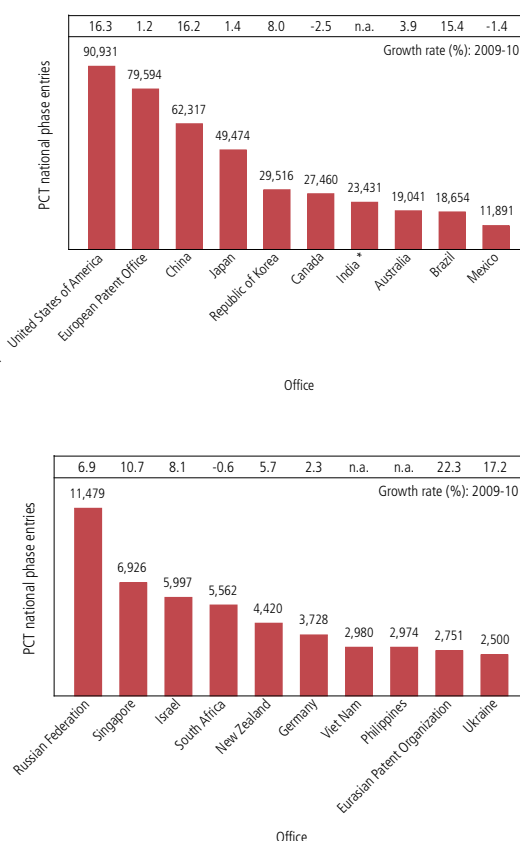
Figure A.8.1 depicts the number of NPEs for the top 20 offices. Among other things, it reflects the commercial attractiveness of the country or region represented by that patent office.

The USPTO was the most preferred office by destination in 2010, with 90,931 NPEs, which accounted for 19% of total NPEs filed globally. This marks the first year that the USPTO was the number one destination for NPEs, surpassing the EPO which had been the most preferred office by destination since at least 1995. The USPTO's growth rate of 16.3% continued a string of high growth years that started in 2006. In 2010, its five-year annualized growth rate was 19.3%, the highest among the top 20 offices.

Although the EPO had previously been the number one destination for NPEs, in 2009 the number of NPEs it received declined by 5.9% and, in 2010, the growth rate (1.2%) was modest compared to that of the USPTO and the State Intellectual Property Office of the People's Republic of China (SIPO).

The top 10 offices accounted for 86% of total NPEs in 2010, indicating that most applicants tend to focus on large markets.

**Figure A.8.1: PCT national phase entries for top 20 offices, 2010**



Note: \* 2009 data

Source: WIPO Statistics Database, March 2012

18. For some offices, such as the Institut National de la Propriété Industrielle (INPI) of France, the "national route" via the PCT system is closed (see the PCT Contracting States table in the annex). In such cases, PCT applicants must enter the national phase at a regional patent office to obtain patent protection in the countries concerned (e.g., the EPO in the case of France). For these offices, relevant NPEs are included in the numbers for regional offices.

### A.8.2 PCT national phase entries by office and country of origin

Table A.8.2 shows the breakdown of NPE data for the top 20 offices broken down by the top 10 countries of origin to capture the “flow of patents” between countries via the PCT system.

Of the 90,931 NPEs received by the USPTO, Japanese applicants accounted for the largest share (27.6%), followed by applicants from the US (15.5%) and Germany (12.9%). Between 2009 and 2010, there was double-digit growth in NPEs at the USPTO from all reported origins, except the Netherlands and the UK.

The EPO received most of its NPEs from US applicants (29.8%). Among EPO member states, German applicants

used the PCT route most to file at the EPO, with 11,760 NPEs – this was more than double the amount for the second highest member state, France.

US applicants accounted for the largest share of total NPEs received by all reported offices, except the German Patent Office which received the largest number of NPEs from Japan.

A PCT applicant seeking patent protection in a European Patent Convention (EPC) member state (see list of PCT Contracting States in the annex) can choose to enter the national phase at the national office (provided the “national route” is not closed) or at the EPO. As a result, the number of NPEs at some European national patent offices is lower than would otherwise be expected in view of the size of that particular country’s economy.

**Table A.8.2: National phase entries for top 20 offices and top 10 origins, 2010**

| Office                       | Origin |        |        |       |       |       |       |       |       |       | Unknown | Others | Total  |
|------------------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|---------|--------|--------|
|                              | US     | JP     | DE     | FR    | GB    | CH    | NL    | KR    | SE    | IT    |         |        |        |
| United States of America     | 14,070 | 25,069 | 12,608 | 5,653 | 5,112 | 1,861 | 2,648 | 3,906 | 2,295 | 2,196 | 116     | 15,397 | 90,931 |
| European Patent Office       | 23,708 | 12,087 | 11,760 | 5,076 | 3,136 | 2,592 | 2,889 | 2,041 | 2,591 | 1,792 | 59      | 11,863 | 79,594 |
| China                        | 17,649 | 16,191 | 7,004  | 2,811 | 1,396 | 2,022 | 2,588 | 2,838 | 1,573 | 884   | 0       | 7,361  | 62,317 |
| Japan                        | 15,040 | 13,925 | 5,020  | 2,638 | 1,325 | 1,548 | 1,714 | 1,884 | 1,087 | 521   | 211     | 4,561  | 49,474 |
| Republic of Korea            | 9,960  | 8,875  | 2,884  | 1,373 | 531   | 907   | 821   | 344   | 452   | 310   | 118     | 2,941  | 29,516 |
| Canada                       | 12,538 | 1,679  | 2,306  | 1,560 | 1,129 | 1,286 | 631   | 295   | 516   | 361   | 145     | 5,014  | 27,460 |
| India*                       | 8,087  | 2,386  | 2,582  | 1,198 | 910   | 1,287 | 1,281 | 636   | 710   | 465   | 120     | 3,769  | 23,431 |
| Australia                    | 8,050  | 1,460  | 1,279  | 670   | 992   | 1,037 | 577   | 260   | 423   | 234   | 108     | 3,951  | 19,041 |
| Brazil                       | 6,800  | 1,616  | 2,205  | 1,469 | 621   | 1,143 | 813   | 231   | 479   | 496   | 144     | 2,637  | 18,654 |
| Mexico                       | 5,719  | 655    | 1,122  | 557   | 360   | 797   | 442   | 186   | 243   | 180   | 44      | 1,586  | 11,891 |
| Russian Federation           | 3,100  | 1,256  | 1,920  | 785   | 299   | 658   | 724   | 270   | 354   | 309   | 4       | 1,800  | 11,479 |
| Singapore                    | 2,932  | 892    | 476    | 301   | 243   | 400   | 163   | 86    | 111   | 72    | 46      | 1,204  | 6,926  |
| Israel                       | 2,643  | 219    | 25     | 142   | 202   | 18    | 41    | 21    | 76    | 19    | 308     | 2,283  | 5,997  |
| South Africa                 | 1,939  | 247    | 702    | 411   | 494   | 463   | 0     | 49    | 0     | 103   | 0       | 1,154  | 5,562  |
| New Zealand                  | 1,831  | 190    | 321    | 192   | 247   | 234   | 165   | 26    | 133   | 56    | 34      | 991    | 4,420  |
| Germany                      | 974    | 1,218  | 905    | 41    | 68    | 40    | 10    | 99    | 49    | 4     | 27      | 293    | 3,728  |
| Viet Nam                     | 814    | 638    | 208    | 134   | 72    | 151   | 100   | 160   | 51    | 30    | 163     | 459    | 2,980  |
| Philippines                  | 1,061  | 414    | 243    | 123   | 98    | 289   | 117   | 67    | 95    | 30    | 8       | 429    | 2,974  |
| Eurasian Patent Organization | 562    | 140    | 362    | 198   | 184   | 193   | 184   | 12    | 64    | 71    | 5       | 776    | 2,751  |
| Ukraine                      | 740    | 134    | 415    | 138   | 97    | 227   | 81    | 22    | 63    | 62    | 11      | 510    | 2,500  |

Note: \* 2009 data. US (United States of America), JP (Japan), DE (Germany), FR (France), GB (United Kingdom), CH (Switzerland), NL (Netherlands), KR (Republic of Korea), SE (Sweden), IT (Italy).

Source: WIPO Statistics Database, March 2012

### A.8.3 PCT national phase entries by office and middle-income country of origin

Table A.8.3 shows the breakdown of NPE data for the top 20 offices, broken down by the top 10 middle-income countries of origin. The data shown in table A.8.3 include only NPEs from middle-income countries of origin.

The USPTO (with 3,633) received the largest number of NPEs from middle-income countries, followed by the EPO and SIPO. The numbers of NPEs received by offices of middle-income economies, such as India (911) and Brazil (583), were relatively low, but they have been increasing over time.

Chinese applicants accounted for the largest share of total NPEs at most offices. For example, at the office of Brazil, Chinese applicants accounted for 35% of all NPEs originating from middle-income countries. However, there are a few exceptions. For example, Brazilian applicants accounted for the largest share of total NPEs at the offices of Colombia and Mexico.

**Table A.8.3: National phase entries for top 20 offices and top 10 middle-income origins, 2010**

| Office                       | Middle Income Origin |     |     |     |     |    |     |    |    |    |        | Total |
|------------------------------|----------------------|-----|-----|-----|-----|----|-----|----|----|----|--------|-------|
|                              | CN                   | IN  | BR  | RU  | ZA  | MX | TR  | MY | CL | LV | Others |       |
| United States of America     | 1,841                | 654 | 254 | 237 | 189 | 92 | 76  | 44 | 35 | 8  | 203    | 3,633 |
| European Patent Office       | 1,583                | 331 | 156 | 139 | 91  | 44 | 149 | 28 | 16 | 10 | 106    | 2,653 |
| China                        | 1,107                | 138 | 89  | 89  | 82  | 28 | 40  | 38 | 9  | 9  | 62     | 1,691 |
| Japan                        | 639                  | 141 | 71  | 35  | 47  | 18 | 19  | 19 | 6  | 5  | 42     | 1,042 |
| India*                       | 468                  | 209 | 50  | 42  | 64  | 7  | 0   | 23 | 0  | 2  | 46     | 911   |
| Republic of Korea            | 401                  | 99  | 46  | 29  | 25  | 11 | 8   | 7  | 0  | 4  | 27     | 657   |
| Canada                       | 244                  | 114 | 56  | 40  | 44  | 38 | 11  | 4  | 12 | 4  | 56     | 623   |
| Brazil                       | 208                  | 127 | 63  | 21  | 40  | 44 | 12  | 6  | 13 | 4  | 45     | 583   |
| Australia                    | 213                  | 125 | 31  | 19  | 74  | 15 | 7   | 14 | 10 | 4  | 33     | 545   |
| Russian Federation           | 232                  | 59  | 18  | 44  | 19  | 9  | 11  | 2  | 0  | 0  | 136    | 530   |
| Mexico                       | 61                   | 74  | 64  | 14  | 20  | 61 | 8   | 3  | 8  | 4  | 29     | 346   |
| South Africa                 | 66                   | 117 | 13  | 1   | 0   | 4  | 1   | 2  | 0  | 3  | 40     | 247   |
| Eurasian Patent Organization | 34                   | 28  | 2   | 93  | 13  | 0  | 11  | 0  | 0  | 8  | 22     | 211   |
| Viet Nam                     | 110                  | 27  | 2   | 11  | 0   | 2  | 1   | 8  | 1  | 5  | 9      | 176   |
| Singapore                    | 70                   | 45  | 11  | 8   | 10  | 1  | 1   | 14 | 0  | 3  | 10     | 173   |
| Ukraine                      | 20                   | 23  | 4   | 90  | 8   | 1  | 2   | 0  | 0  | 7  | 5      | 160   |
| New Zealand                  | 28                   | 50  | 6   | 4   | 15  | 2  | 1   | 3  | 2  | 4  | 7      | 122   |
| Philippines                  | 30                   | 36  | 1   | 6   | 6   | 2  | 1   | 7  | 0  | 3  | 9      | 101   |
| Germany                      | 53                   | 5   | 4   | 18  | 3   | 1  | 2   | 0  | 0  | 1  | 7      | 94    |
| Colombia                     | 10                   | 19  | 22  | 1   | 5   | 14 | 0   | 1  | 2  | 0  | 15     | 89    |

Note: \* 2009 data. CN (China), IN (India), BR (Brazil), RU (Russian Federation), ZA (South Africa), MX (Mexico), TR (Turkey), MY (Malaysia), CL (Chile) and LV (Latvia). The selection of offices and origin is based on data availability. Totals may be incomplete as some patent offices do not report the origins of all applications.

Source: WIPO Statistics Database, March 2012

#### A.8.4 Share of PCT national phase entries in non-resident filings by office

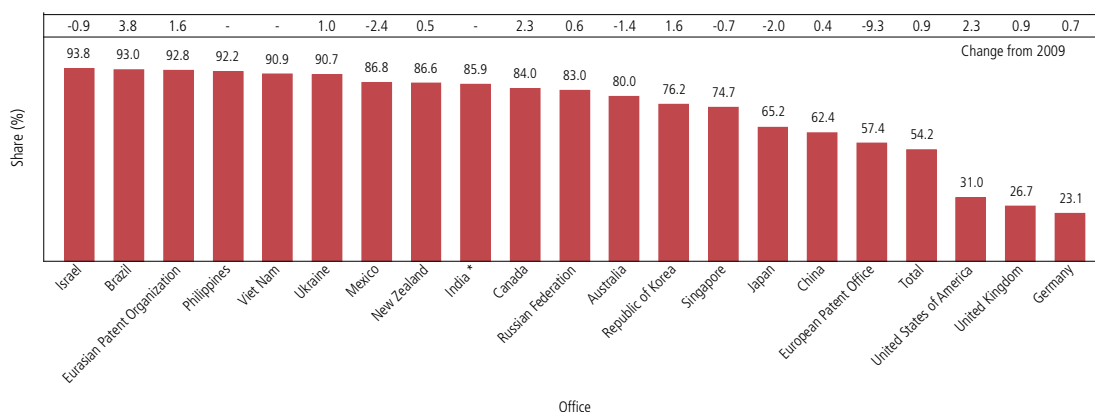
Figure A.8.4 depicts the share of NPEs in total non-resident filings for selected offices. It shows the use of the PCT system, rather than the Paris route, by non-resident applicants. Unlike Figure A.7.5, however, data presented here are from the perspective of offices selected by applicants for national phase entry rather than the applicant's country of origin.

The use of the PCT route for non-resident filings is very intense at the offices of middle-income countries. Five of the top six offices with high shares (more than 90%) of NPEs in total non-resident filings are from the middle-income category.

The larger offices, by volume of applications, have varying proportions of NPEs relative to total non-resident patent filings. The Korean Intellectual Property Office (KIPO) had the highest share of NPEs in total non-resident filings (76.2%) of the five largest IP offices (EPO, JPO, KIPO, SIPO and USPTO). By contrast, the USPTO's share was 31.0%.

The EPO's share diminished over the course of 2010, falling to 57.4%. This was the EPO's first decline in NPE share in over 10 years. A few EPO member states – such as the UK, Germany and Spain (which is not included in the graph) – actually witnessed an increase (over 2009 figures) in their office's NPE share. This is because direct filings at these offices have been either declining or leveling off during the past 10 years, while their NPEs have been steadily increasing. The EPO itself was on a similar track until 2010, when its direct filings from non-residents increased by 48.3%, while non-resident NPEs remained relatively stable.

**Figure A.8.4: Share of PCT national phase entries in total non-resident filings by office, 2010**



Note: \* 2009 data. The share is defined as non-resident PCT national phase entries divided by non-resident patent applications filed. It includes the 20 offices that received most non-resident filings in 2010, who are party to the PCT system and who have provided a breakdown by filing route to WIPO.

Source: WIPO Statistics Database, March 2012

## SECTION B

# PERFORMANCE OF THE PCT SYSTEM

## B.1

### INTERNATIONAL BUREAU

In addition to its role as a receiving office, the International Bureau (IB) is responsible for carrying out a number of functions related to the international phase of the PCT system. These include formality examination, translation of abstracts, titles and patentability reports, and publication of PCT applications.

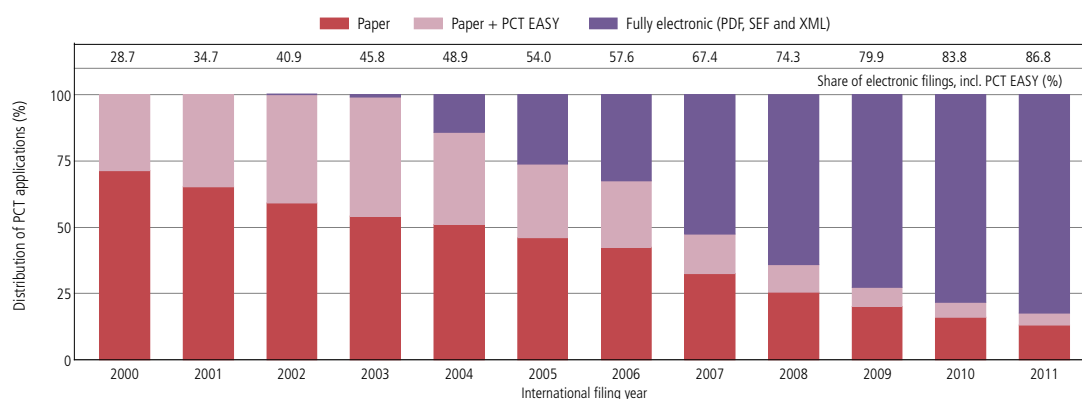
#### B.1.1 PCT applications by medium of filing

Figure B.1.1 depicts the distribution of total PCT applications, filed at all receiving offices, by medium of filing. Every PCT application is filed via one of the three available methods: (i) paper; (ii) paper along with a digital storage medium (the application being prepared electronically using WIPO-provided software known as PCT-EASY); and (iii) fully electronic media in different formats, such as PDF or XML. Electronic filing offers benefits to both applicants and offices and is thus encouraged by the PCT system through fee reductions.

Since 2005, there has been a significant shift towards electronic filing.

The share of electronic filings (PCT-EASY and fully electronic filings) increased from 54% in 2005 to 87% in 2011. In contrast, the share of paper filings declined from 51% in 2004 to 13% in 2011.

**Figure B.1.1: PCT applications by medium of filing**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

### B.1.2 Electronic filing and processing

The main developments in 2011 affecting the processing of PCT applications by the IB were:

Deployment of a new “ePCT” system. The IB deployed a new system, known as “ePCT”, which provides improved online services for applicants and/or their agents, allowing them to interact with the IB’s files on their PCT applications, even prior to international publication. Further details can be found in Section C.2.1.

PCT Automated Document Ordering System (PADOS). In 2011 the IB started external user testing of PADOS, a system to replace PCT Communication on Request (COR), one of the systems used by offices to order PCT documents. In the second half of 2011, the system was gradually deployed, and 16 offices currently hold a user account and can order their documents through the new system. The COR System was decommissioned at the end of 2011.

Electronic transmission of search copies. In 2011 the Receiving Office of the International Bureau transmitted search copies in electronic format to the following International Searching Authorities (ISAs): Canada, China, the EPO, Finland, Spain and Sweden – representing 84% of the total number of search copies transmitted.

Receiving offices prepared to receive and process PCT applications in electronic form. The Austrian Patent Office (on June 1, 2011) and the Israeli Patent Office (on November 1, 2011) began receiving and processing PCT applications in electronic form. Furthermore, in October 2011 the Norwegian Industrial Property Office announced that it would begin receiving and processing PCT applications in electronic form on January 2, 2012. This brings to 25 the number of PCT ROs that accept such filings.

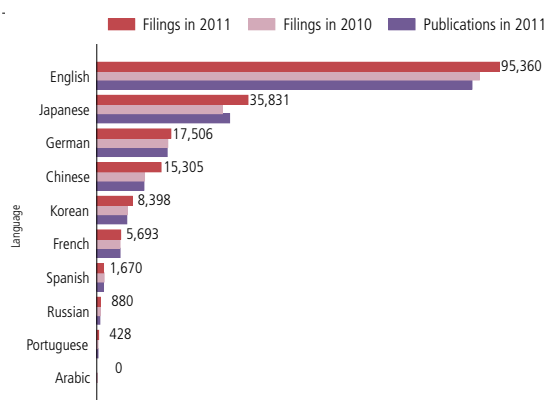
PCT-SAFE updates. Updates (or update patches) to the PCT-SAFE software were issued in January, April, June and October 2011, and an update was released in mid-December for use as of January 1, 2012. These updates enabled electronic filing with RO/AT, RO/IL and RO/NO, introduced new contracting states and other PCT changes, ensured compatibility of the software with the MS Windows 7 operating system, and enhanced general functionality and graphic user interface.

### B.1.3 Languages of filing and publication

Figure B.1.3 presents the number of PCT applications by language of filing and 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.

English remained the most frequently used language of filing and publication in 2011. In both cases, English was used more often than all other languages combined.

The languages of filing with the most increased use in 2011 compared to 2010 were Chinese (+30%), Portuguese (+21%) and Japanese (+17%).

**Figure B.1.3: PCT applications by filing and publication language**

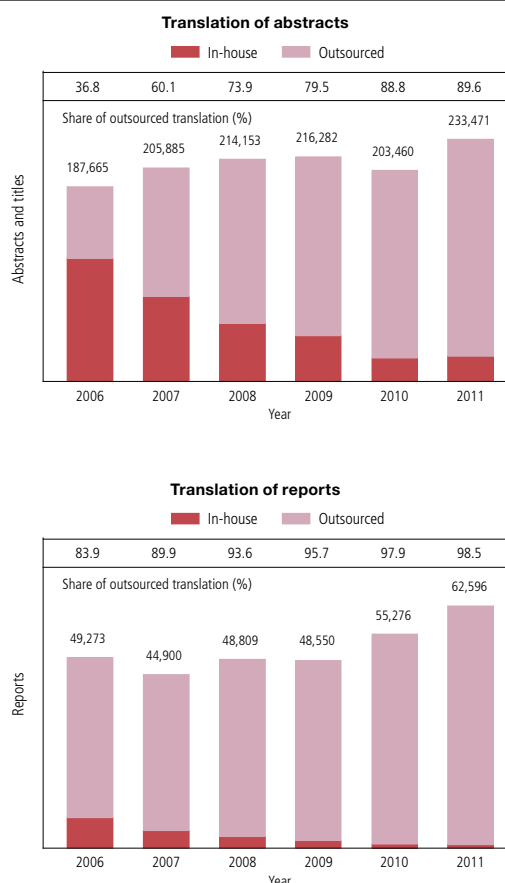
Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

#### B.1.4 Translation

The goal of the IB's PCT 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 ensures that all abstracts and titles of PCT applications are made available in English and French, and all preliminary search and examination reports in English.

Figure B.1.4 presents the distribution of in-house and outsourced translations since 2006 for both titles and abstracts (henceforth, abstracts) and preliminary search and examination reports (henceforth, reports).

**Figure B.1.4: Distribution of translation work**

Source: WIPO, March 2012

The IB started outsourcing translation work in 2006. The majority of translation work is now outsourced, a process involving numerous translation agencies and external translators. The outsourced share for both abstracts and reports has increased over time. The share of outsourced abstracts was around 90% in 2011, considerably higher than the 2006 level (36.8%). The outsourced share for reports was even higher (98.5%).

With 233,471 translations in 2011, the number of abstracts translated increased by 14.8% over the previous year. For the second consecutive year, the number of reports translated increased by about 13% in 2011, representing almost 62,600 reports translated in 2011.

Other important developments in 2011 included:

The IB is gradually introducing a modernized translation environment for its internal translators, including systematic reuse of past translations and integrated terminology. Following a period of evaluation of software for integrating and automating workflows, it will be possible to take a decision on a suitable product and begin implementation in 2012. Such software enables translators to distribute, assign and process translations taking into account past translations in the most cost-effective manner, while building up translation resources that can be used in the future. This will enable similar benefits to be extended, in the future, to WIPO's external network of agencies and translators.

A tendering process for the outsourcing of translations from both Japanese and Chinese into English was concluded in 2011. This is expected to attenuate the likely substantial financial impact on the budget needed for translating filings from Japan, China and the Republic of Korea, which are growing at a very rapid rate.

### B.1.5 Terminology database

In 2011 the IB continued to develop its terminology database in order to improve the quality of internally and externally produced translations, focusing on the validation of all previously invalidated database terms.

More than 35,000 terms were validated during the year across all 10 PCT publication languages. At the end of 2011, the database contained close to 48,000 terms.

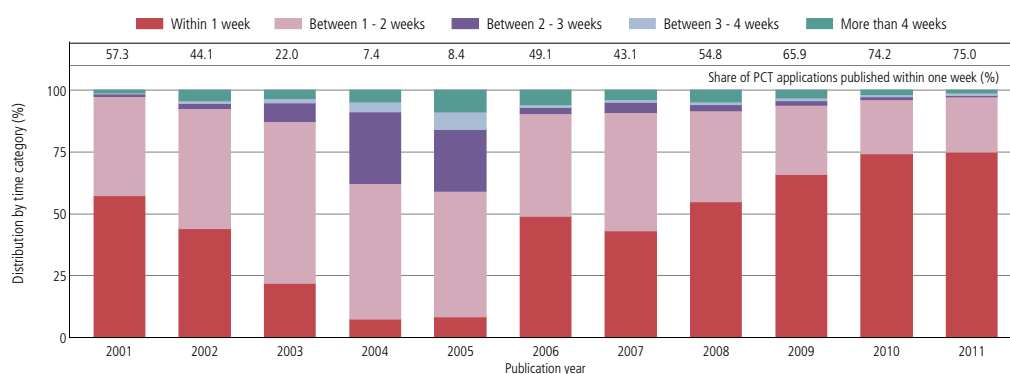
The main objectives for 2012 are to increase the number of terms available in certain languages that are currently underrepresented in the database, and to seek partnerships with external institutions that could assist in validating highly technical terminology.

### B.1.6 Timeliness in publishing PCT applications

PCT applications and related documents are to be published "promptly" after the expiration of 18 months from the priority date, unless the applicant requests early publication or the application is withdrawn or considered withdrawn. Figure B.1.6 shows publication timeliness after the expiration of the 18-month period.

In 2011, 75% of all PCT applications were published within one week following the expiration of 18 months from the priority date, and 97.3% were published within two weeks. Since 2007, there has been considerable improvement in the timeliness of published applications. For example, the share of PCT applications published within one week increased from 43.1% in 2007 to 75% in 2011.

**Figure B.1.6: Timeliness in publishing PCT applications**



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

Source: WIPO Statistics Database, March 2012

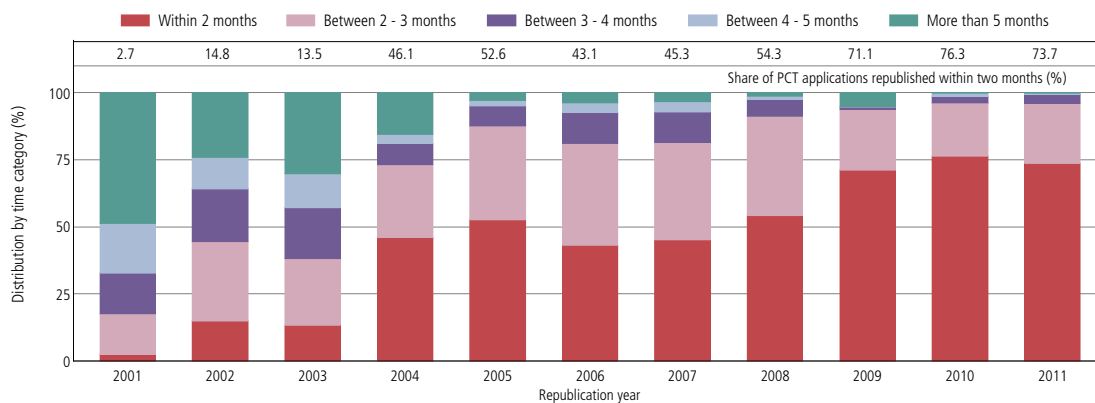


### B.1.7 Timeliness in republishing PCT applications

The IB is required to publish PCT applications even in the absence of an International Search Report (ISR). In such a case, the PCT application is republished along with the ISR after the report is received. Figure B.1.7 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.

In 2011, 73.7% of republications took place within two months of the IB receiving the ISR, and 95.9% within three months. Since 2001, there has been a gradual improvement in timeliness in republishing applications with ISRs, although some regression has been noted in 2011, as further explained in B.1.8.

**Figure B.1.7: Timeliness in republishing PCT applications with ISRs**



Note: The timeliness is calculated as the time elapsed between the date of the receipt of International Search Report at the International Bureau (IB) and the date of republication by the IB.

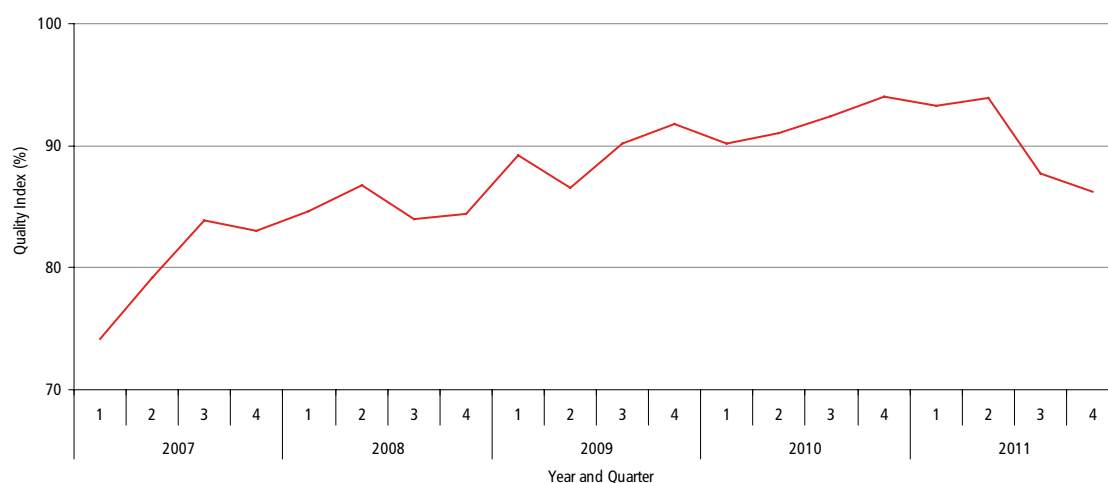
Source: WIPO Statistics Database, March 2012

### B.1.8 Quality index

In order to measure the quality of the work 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 of the PCT application. The fourth indicator reflects the number of republications due to corrections of entries in bibliographical data.

The quality, as measured by the aggregate index, improved markedly from 2007 to the first half of 2011. However, in the second half of 2011, there was a deterioration in the quality index. Increased delays in the republication of PCT applications with the ISR were the main cause of this regression. In the second quarter of 2011, approximately 86% of applications were republished within 2 months, but this dropped to only 59% in the last quarter of 2011. Increasing delays in transmitting the notification of receipt of a PCT application was the second cause of the regression in quality, as 88% of notifications were transmitted within 5 weeks during the last quarter of 2011, corresponding to a decrease of 9 percentage points compared to the result of the first quarter.

**Figure B.1.8: Quality index**



Note: The quality index is the simple average of: (i) percentage of forms PCT/IB/301 ("Notification of receipt of a PCT Application") sent within 5 weeks after the IB receives a PCT application; (ii) percentage of PCT applications published within 6 months and 3 weeks after the international filing date; (iii) percentage of republications with ISRs within 2 months after the IB receives the ISR; and (iv) percentage of corrections to bibliographic data in the published PCT application.

Source: WIPO Statistics Database, March 2012

### B.1.9 Efficiency in processing PCT applications

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>19</sup> The unit cost thus includes the cost of all PCT activities – including translation, communication, management and others.

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., buildings and 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 them for 30 years.

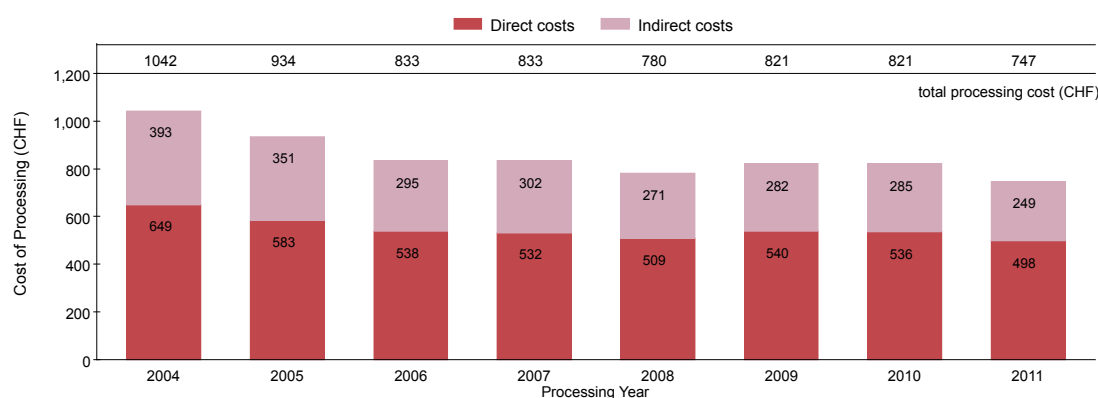
Formally, unit cost is defined as:

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

Figure B.1.9 depicts the evolution of the unit cost of processing from 2004 to 2011, including a breakdown of the contribution of direct and indirect costs.

The average cost of processing a published PCT application has decreased by 9% in 2011 compared to 2010, and reached 747 Swiss Francs. This decrease is explained by the fact that 7.7% more PCT applications were published in 2011 than in 2010, while overall costs decreased slightly (in particular indirect costs).

**Figure B.1.9: Unit cost of processing a published PCT application**



Note: The average cost of published PCT application is an estimation which is calculated by dividing the total processing cost by the number of published PCT applications. Historical data have been revised and may differ from previous reported data.

Source: WIPO Statistics Database, March 2012

19. 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).

## B.2

### RECEIVING OFFICES

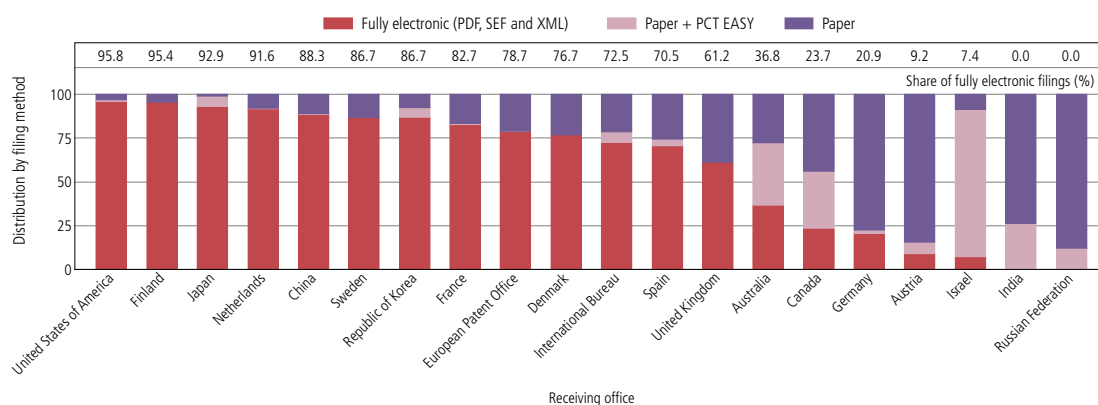
A PCT application is filed with an RO, which may be a national or regional patent office or the IB. There are 112 such ROs which are responsible for receiving the filed PCT applications, examining their compliance with PCT requirements, receiving the payment of fees, and transmitting copies of the application for further processing to the IB and to the International Searching Authority. Figures A.1.2 and A.1.3 show the number of PCT applications filed in 2011 at selected ROs. A statistical table in the annex provides the number of PCT applications for all offices and origins.

#### B.2.1 Distribution of PCT applications by medium of filing and office

Figure B.2.1 shows the breakdown of PCT applications by medium of filing for the top 20 ROs. Each RO determines the media of filing applicants will be allowed to use.

There is considerable variation in the use of various filing methods across ROs. The fully electronic method accounts for more than 90% of all PCT applications filed at the offices of the US, Finland, Japan and the Netherlands. In contrast, the offices of Austria, India, Israel and the Russian Federation received the majority of PCT applications in paper format.

**Figure B.2.1: Distribution of media of filing for top 20 receiving offices, 2011**



Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

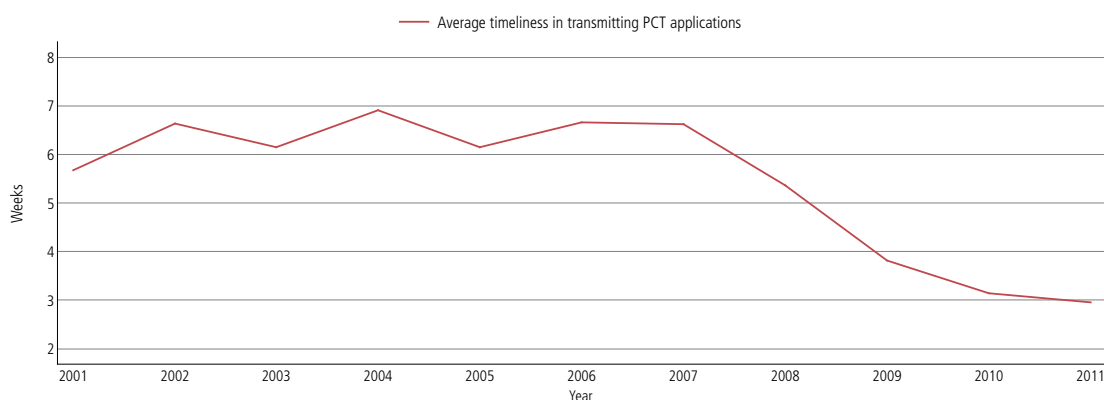
Source: WIPO Statistics Database, March 2012

### B.2.2 Timeliness in transmitting PCT applications

Figure B.2.2 presents statistics on the average timeliness of ROs in transmitting PCT applications to the IB.<sup>20</sup> The PCT rules provide that a PCT application should have reached the IB before the expiration of the 13<sup>th</sup> month from the priority date. PCT applications are usually filed before the expiration of 12 months from the priority date. Where this is the case, the IB should receive the application within four weeks of the international filing date.

Since 2007, there has been considerable improvement in the timeliness of PCT applications transmitted to the IB by ROs. Between 2001 and 2007, the average transmission time was around six weeks from the international filing date. However, by 2011, this time was reduced to just under three weeks. This is partly attributable to a shift towards electronic filing that has made the exchange of information between ROs and the IB more efficient.

**Figure B.2.2: Average timeliness in transmitting PCT applications to the IB**



Note: The timeliness is calculated as the time elapsed between the international filing date and the date on which the International Bureau received the PCT application from the Receiving Office. Applications transmitted under PCT Article 19.4 are excluded.

Source: WIPO Statistics Database, March 2012

20. A copy of the PCT application, known as the record copy, is transmitted to the IB by the RO for processing, publication and communication. It is kept on file by the IB and is considered to be the true PCT application.

### B.2.3 Timeliness in transmitting PCT applications by time category

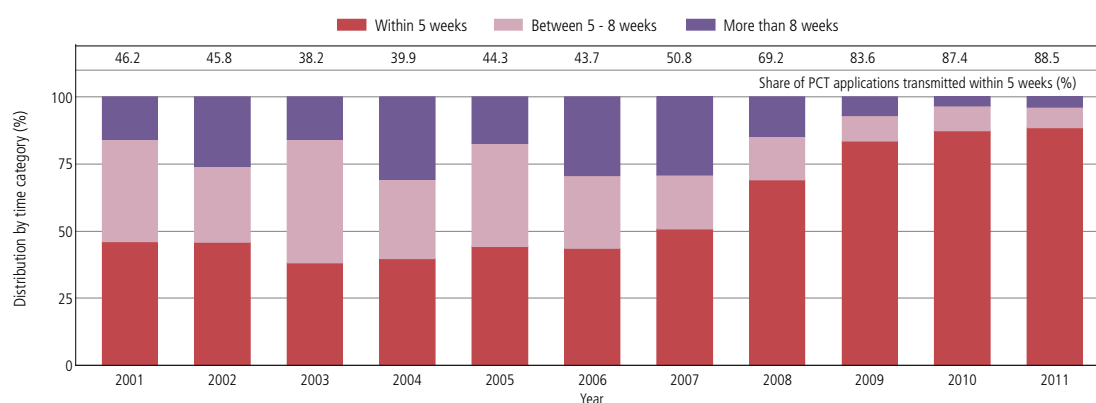
Figure B.2.3 presents a breakdown of Figure B.2.2 according to three time categories.

PCT application transmission times have improved significantly since 2007. In 2011, 88.5% of PCT ap-

plications were transmitted to the IB within five weeks. Transmission time has improved considerably during the past three years.

The share of PCT applications transmitted to the IB after eight weeks (3.8%) remained almost unchanged in 2011 compared to the previous year.

**Figure B.2.3: Timeliness in transmitting PCT applications to the IB by time category**



Note: The timeliness is calculated as the time elapsed between the international filing date and the date on which the International Bureau received the PCT application from the Receiving Office. Applications transmitted under PCT Article 19.4 are excluded.

Source: WIPO Statistics Database, March 2012

### B.2.4 Timeliness in transmitting PCT applications by time category and office

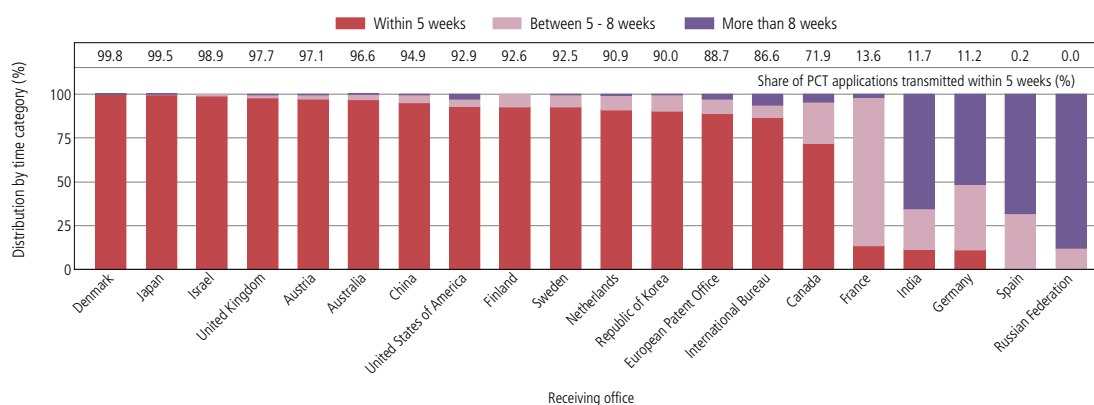
Figure B.2.4 shows information on timeliness in transmitting record copies to the IB for the 20 offices having received the most PCT applications in 2011.

Timeliness in transmitting PCT applications to the IB varies significantly across offices. The offices of Denmark and Japan transmitted almost all PCT applications within

five weeks. The offices of Israel, the UK and Austria transmitted, respectively, 98.9%, 97.7% and 97.1% of PCT applications within five weeks.

By contrast, the offices of the Russian Federation, Spain and India have a high transmission times. For example, 88% of PCT applications received by the Russian Federation were transmitted to the IB after more than eight weeks.

**Figure B.2.4: Timeliness in transmitting PCT applications to the IB by time category and receiving office, 2011**



Note: The timeliness is calculated as the time elapsed between the international filing date and the date on which the International Bureau received the PCT application from the Receiving Office. Applications transmitted under PCT Article 19.4 are excluded.

Source: WIPO Statistics Database, March 2012

## B.3

### INTERNATIONAL SEARCHING AUTHORITIES

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

Once the ISA has performed the search, the applicant receives an ISR containing a list of documents relevant for assessing the patentability of the invention. The ISA also establishes a written opinion giving a detailed analysis of the potential patentability of the invention.

#### B.3.1 International Search Reports by ISA and country of origin

Table B.3.1 shows the distribution of ISRs by ISA from 2007-2011. It also provides data, for each ISA, on the number of ISRs established for the three main origins that selected them. Since 2009, 14 national patent offices or regional organizations have been acting as ISAs.<sup>21</sup>

With 39.3% of all ISRs issued, the EPO remained the most selected ISA in 2011.

The ISAs that experienced the highest yearly increase in the number of ISRs issued in 2011 compared to 2010 were Brazil (+40.6%), China (+36.3%) and Japan (+20.8%).

For the second consecutive year, the Austrian Patent Office experienced a sharp drop in ISRs performed, coinciding with a 1,500 euro increase in its search fee on January 1, 2010.

21. 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).



Table B.3.1: Distribution of International Search Reports by ISA and origin

| International Searching Authorities | Total plus the Top Three Origins | International Filing Year |                |                |                |                | 2011 Share (%) | Change compared to 2010 (%) |
|-------------------------------------|----------------------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|
|                                     |                                  | 2007                      | 2008           | 2009           | 2010           | 2011           |                |                             |
| Australia                           | Australia                        | 1,956                     | 1,854          | 1,667          | 1,702          | 1,638          | 1.7            | -8.4                        |
|                                     | Singapore                        | 310                       | 370            | 328            | 400            | 383            |                |                             |
|                                     | New Zealand                      | 348                       | 328            | 270            | 270            | 276            |                |                             |
|                                     | <b>Total</b>                     | <b>2,811</b>              | <b>2,753</b>   | <b>2,666</b>   | <b>3,426</b>   | <b>3,139</b>   |                |                             |
| Austria                             | India                            | 241                       | 400            | 405            | 100            | 60             | 0.1            | -38.6                       |
|                                     | Republic of Korea                | 488                       | 318            | 575            | 139            | 39             |                |                             |
|                                     | Brazil                           | 247                       | 277            | 253            | 27             | 18             |                |                             |
|                                     | <b>Total</b>                     | <b>1,168</b>              | <b>1,193</b>   | <b>1,588</b>   | <b>409</b>     | <b>251</b>     |                |                             |
| Brazil                              | Brazil                           |                           |                | 65             | 307            | 433            | 0.2            | 40.6                        |
|                                     | United States of America         |                           |                | 0              | 3              | 2              |                |                             |
|                                     | Finland                          |                           |                | 0              | 0              | 1              |                |                             |
|                                     | <b>Total</b>                     |                           |                | <b>66</b>      | <b>310</b>     | <b>436</b>     |                |                             |
| Canada                              | Canada                           | 2,394                     | 2,314          | 1,942          | 2,094          | 2,253          | 1.3            | 6.6                         |
|                                     | United States of America         | 46                        | 53             | 41             | 35             | 26             |                |                             |
|                                     | Barbados                         | 15                        | 26             | 11             | 4              | 12             |                |                             |
|                                     | <b>Total</b>                     | <b>2,529</b>              | <b>2,478</b>   | <b>2,053</b>   | <b>2,208</b>   | <b>2,355</b>   |                |                             |
| China                               | China                            | 5,277                     | 5,935          | 7,723          | 12,111         | 16,269         | 9.9            | 36.3                        |
|                                     | United States of America         | 96                        | 115            | 138            | 295            | 495            |                |                             |
|                                     | India                            | 12                        | 15             | 5              | 219            | 223            |                |                             |
|                                     | <b>Total</b>                     | <b>5,492</b>              | <b>6,188</b>   | <b>8,095</b>   | <b>13,273</b>  | <b>18,091</b>  |                |                             |
| European Patent Office              | Germany                          | 17,697                    | 18,698         | 16,690         | 17,425         | 18,430         | 39.3           | 3.6                         |
|                                     | United States of America         | 22,421                    | 21,152         | 17,882         | 16,952         | 17,475         |                |                             |
|                                     | France                           | 6,375                     | 6,918          | 6,991          | 7,054          | 7,236          |                |                             |
|                                     | <b>Total</b>                     | <b>75,387</b>             | <b>77,910</b>  | <b>69,959</b>  | <b>68,928</b>  | <b>71,432</b>  |                |                             |
| Finland                             | Finland                          | 687                       | 635            | 845            | 903            | 918            | 0.5            | 1.2                         |
|                                     | Sweden                           | 17                        | 18             | 6              | 3              | 5              |                |                             |
|                                     | Denmark                          | 2                         | 0              | 1              | 4              | 3              |                |                             |
|                                     | <b>Total</b>                     | <b>718</b>                | <b>660</b>     | <b>860</b>     | <b>921</b>     | <b>932</b>     |                |                             |
| Japan                               | Japan                            | 25,837                    | 26,983         | 28,307         | 30,597         | 37,070         | 20.5           | 20.8                        |
|                                     | Republic of Korea                | 3                         | 4              | 3              | 70             | 64             |                |                             |
|                                     | United States of America         | 49                        | 54             | 61             | 91             | 44             |                |                             |
|                                     | <b>Total</b>                     | <b>25,947</b>             | <b>27,117</b>  | <b>28,446</b>  | <b>30,856</b>  | <b>37,262</b>  |                |                             |
| Nordic Patent Institute             | Denmark                          |                           | 35             | 72             | 97             | 135            | 0.2            | -7.3                        |
|                                     | Norway                           |                           | 64             | 158            | 189            | 120            |                |                             |
|                                     | Iceland                          |                           | 2              | 3              | 9              | 9              |                |                             |
|                                     | <b>Total</b>                     |                           | <b>102</b>     | <b>239</b>     | <b>299</b>     | <b>277</b>     |                |                             |
| Republic of Korea                   | United States of America         | 3,449                     | 10,904         | 13,452         | 12,985         | 15,759         | 14.9           | 16.1                        |
|                                     | Republic of Korea                | 6,548                     | 7,553          | 7,434          | 9,342          | 10,270         |                |                             |
|                                     | Canada                           | 28                        | 95             | 147            | 149            | 219            |                |                             |
|                                     | <b>Total</b>                     | <b>10,238</b>             | <b>19,020</b>  | <b>21,714</b>  | <b>23,292</b>  | <b>27,034</b>  |                |                             |
| Russian Federation                  | Russian Federation               | 640                       | 707            | 654            | 745            | 766            | 0.6            | 7.5                         |
|                                     | Ukraine                          | 71                        | 73             | 66             | 77             | 112            |                |                             |
|                                     | Hungary                          | 20                        | 10             | 23             | 18             | 30             |                |                             |
|                                     | <b>Total</b>                     | <b>856</b>                | <b>895</b>     | <b>849</b>     | <b>937</b>     | <b>1,008</b>   |                |                             |
| Spain                               | Spain                            | 922                       | 957            | 1,087          | 1,154          | 1,110          | 0.8            | -0.3                        |
|                                     | Mexico                           | 153                       | 166            | 149            | 168            | 170            |                |                             |
|                                     | Chile                            | 5                         | 5              | 36             | 61             | 88             |                |                             |
|                                     | <b>Total</b>                     | <b>1,141</b>              | <b>1,201</b>   | <b>1,351</b>   | <b>1,453</b>   | <b>1,449</b>   |                |                             |
| Sweden                              | Sweden                           | 2,061                     | 1,894          | 1,554          | 1,383          | 1,404          | 1.1            | -6.0                        |
|                                     | Finland                          | 545                       | 107            | 208            | 375            | 318            |                |                             |
|                                     | Norway                           | 346                       | 201            | 117            | 126            | 131            |                |                             |
|                                     | <b>Total</b>                     | <b>3,131</b>              | <b>2,338</b>   | <b>2,039</b>   | <b>2,074</b>   | <b>1,949</b>   |                |                             |
| United States of America            | United States of America         | 27,911                    | 19,291         | 13,834         | 14,143         | 14,313         | 9.0            | 2.4                         |
|                                     | Israel                           | 979                       | 850            | 652            | 713            | 664            |                |                             |
|                                     | Japan                            | 242                       | 241            | 135            | 124            | 204            |                |                             |
|                                     | <b>Total</b>                     | <b>30,506</b>             | <b>21,380</b>  | <b>15,462</b>  | <b>15,902</b>  | <b>16,285</b>  |                |                             |
| Unknown                             |                                  | 2                         | 5              | 19             | 28             | 0              | 100            | 10.7                        |
| <b>Total</b>                        |                                  | <b>159,926</b>            | <b>163,240</b> | <b>155,406</b> | <b>164,316</b> | <b>181,900</b> |                |                             |

Note: The figures given for PCT applications filed in 2011 are WIPO estimates.

Source: WIPO Statistics Database, March 2012

### B.3.2 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.

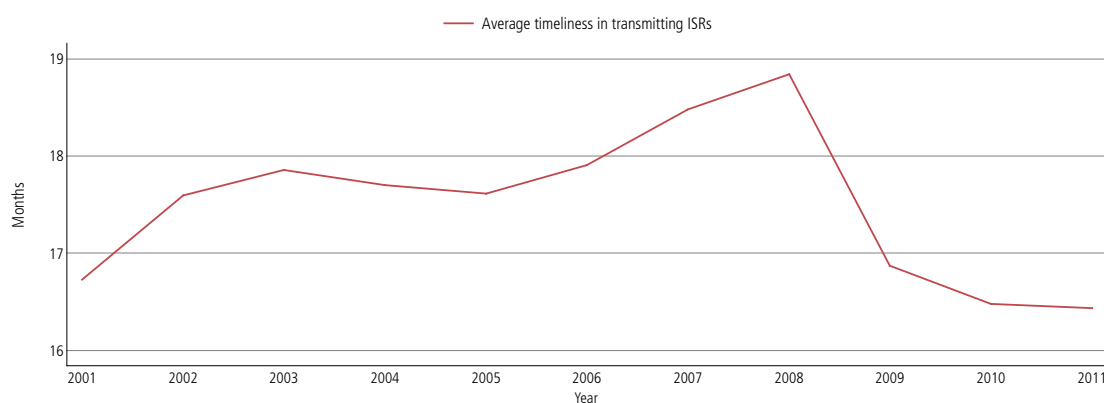
In practice, since the technical preparations for publishing a PCT application take approximately one month and should finish 15 days before the publication date, the establishment of the ISR within 16 months from the

priority date still allows the IB to publish the ISR with the application. ISRs received by the IB after the completion of technical preparations for publication are published separately later.

Figure B.3.2 presents information on the average timeliness in transmitting ISRs to the IB.

The 2011 average timeliness in transmitting ISRs, at 16.4 months, is the shortest over the past decade. Since 2008, timeliness has significantly improved due to the electronic transmittal of part of the ISRs.

**Figure B.3.2: Average timeliness in transmitting ISRs to the IB**



Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the ISA transmits the ISR to the International Bureau.

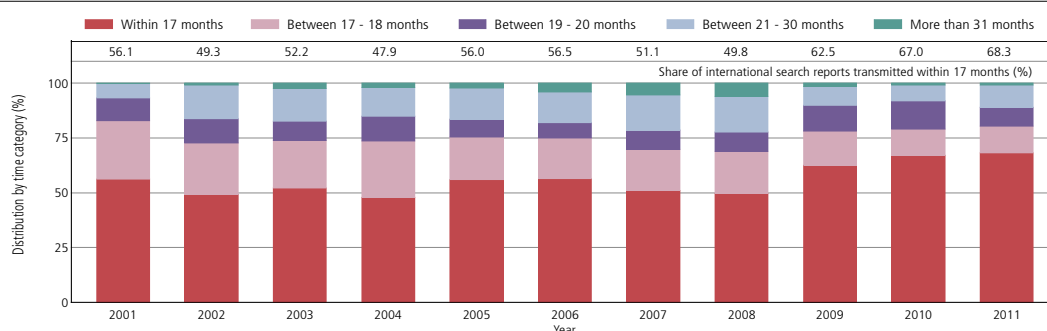
Source: WIPO Statistics Database, March 2012

### B.3.3 Timeliness in transmitting ISRs by time category

Figure B.3.3 presents the same data shown in Figure B.3.2, but broken down by five categories of timeliness in transmitting ISRs to the IB.

In 2011, 68.3% of ISRs were received by the IB within the 17-month time limit. However, the share of ISRs received within more than 20 months represented 11% of the total, or an increase of 3 percentage points compared to 2010.

**Figure B.3.3: Timeliness in transmitting ISRs by time category**



Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the ISA transmits the ISR to the International Bureau.

Source: WIPO Statistics Database, March 2012

### B.3.4 Timeliness in transmitting ISRs by time category and ISA

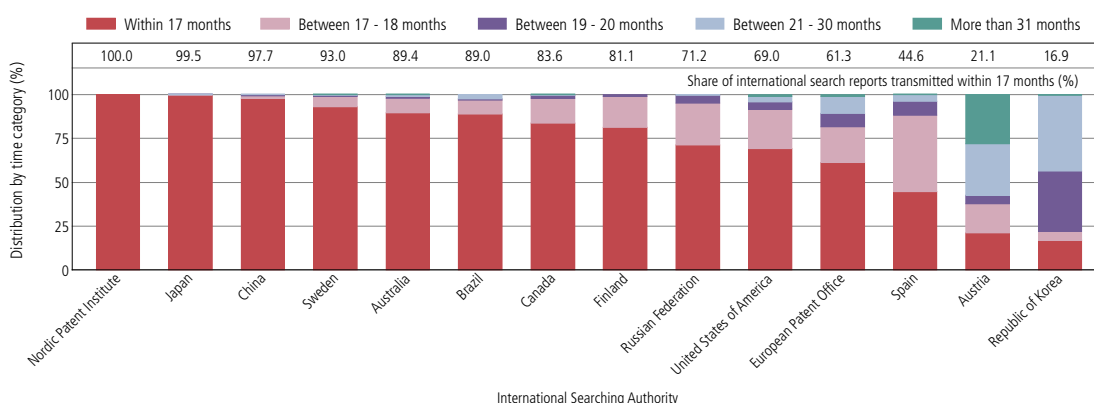
Figure B.3.4 presents the same timeliness information for 2011 as in Figures B.3.2 and B.3.3, but provides a breakdown by ISA.

Timeliness in transmitting ISRs varies significantly across ISAs. The Nordic Patent Institute, the JPO and SIPO transmitted, respectively, 100%, 99.5% and 97.7% of ISRs within the 17-month time limit.

In contrast, 77.6% and 62.2% of ISRs established by KIPO and the Austrian Patent Office, respectively, were received after the publication of the PCT application (more than 18 months from the priority date).

Late transmittal of the PCT application from the RO to the selected ISA can negatively affect the ISA's timeliness in transmitting the ISR to the IB.

**Figure B.3.4: Timeliness in transmitting ISRs by time category and ISA, 2011**



Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the ISA transmits the ISR to the International Bureau.

Source: WIPO Statistics Database, March 2012

## B.4

### SUPPLEMENTARY INTERNATIONAL SEARCHING AUTHORITIES

Since 2009, the Supplementary International Search (SIS) service has allowed PCT applicants to request searches in additional languages, complementing the searches performed by the applicant's "usual" ISA.

#### B.4.1 Supplementary International Search Reports by SISA

Table B.4.1 presents the distribution of requests for SISs, made by applicants since beginning of this service, before each Authority specified for Supplementary International Search (SISA).

In 2011, there were 41 requests for SISs, corresponding exactly to the 2010 level. The office of the Russian Federation received 76% of these requests.

**Table B.4.1: Distribution of Supplementary International Search Reports by SISA**

| Supplementary International Searching Authority | Year of Supplementary International Search |           |           |
|-------------------------------------------------|--------------------------------------------|-----------|-----------|
|                                                 | 2009                                       | 2010      | 2011      |
| Austria                                         |                                            | 0         | 1         |
| European Patent Office                          |                                            | 3         | 7         |
| Nordic Patent Institute                         | 0                                          | 1         | 0         |
| Russian Federation                              | 23                                         | 35        | 31        |
| Sweden                                          | 2                                          | 2         | 2         |
| <b>Total</b>                                    | <b>25</b>                                  | <b>41</b> | <b>41</b> |

Source: WIPO Statistics Database, March 2012

## B.5

### INTERNATIONAL PRELIMINARY EXAMINING AUTHORITIES

PCT applicants can request an optional International Preliminary Examination (IPE), by filing what is known as a Chapter II Demand with a competent International Preliminary Examining Authority (IPEA). The selection of a competent IPEA is based on negotiated agreements between ROs and IPEAs. Once the IPE has been carried out, an International Preliminary Report on Patentability (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. National offices,<sup>22</sup> in examining the PCT application during the national phase, take into account the IPRP when considering the patentability of the underlying invention.

#### B.5.1 International Preliminary Reports on Patentability by IPEA

Table B.5.1 shows the distribution of IPRPs issued by all IPEAs over the past five years. Since 2009, 14 national patent offices or regional organizations have been acting as IPEAs.<sup>23</sup>

With 47.6% of all IPRPs issued, the EPO carried out the largest share of preliminary examinations. Several offices saw growth in the number of IPRPs issued, with the USPTO and the JPO issuing respectively about 600 and 300 IPRPs more in 2011 than in 2010. This was the second consecutive year of growth in IPRPs for the USPTO.

Since 2004, a written opinion outlining the examiner's views on the patentability of the subject matter has accompanied each ISR, leading to a decline in requests for further preliminary examination.

**Table B.5.1: Distribution of IPRPs by IPEA**

| International Preliminary Examining Authority | Year          |               |               |               |               | 2011 Share (%) | Change compared to 2010 (%) |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|----------------|-----------------------------|
|                                               | 2007          | 2008          | 2009          | 2010          | 2011          |                |                             |
| Australia                                     | 1,016         | 826           | 725           | 852           | 704           | 4.7            | -17.4                       |
| Austria                                       | 131           | 100           | 113           | 61            | 26            | 0.2            | -57.4                       |
| Brazil                                        |               |               |               |               | 15            | 0.0            |                             |
| Canada                                        | 462           | 419           | 427           | 258           | 183           | 1.2            | -29.1                       |
| China                                         | 363           | 396           | 425           | 394           | 340           | 2.2            | -13.7                       |
| European Patent Office                        | 11,244        | 10,855        | 9,587         | 8,266         | 7,194         | 47.6           | -13.0                       |
| Finland                                       | 138           | 184           | 132           | 139           | 122           | 0.8            | -12.2                       |
| Japan                                         | 2,720         | 2,376         | 2,175         | 1,905         | 2,203         | 14.6           | 15.6                        |
| Nordic Patent Institute                       |               |               | 11            | 34            | 40            | 0.3            | 17.6                        |
| Republic of Korea                             | 598           | 476           | 368           | 308           | 247           | 1.6            | -19.8                       |
| Russian Federation                            | 105           | 90            | 109           | 62            | 65            | 0.4            | 4.8                         |
| Spain                                         | 126           | 117           | 135           | 109           | 148           | 1.0            | 35.8                        |
| Sweden                                        | 714           | 724           | 523           | 409           | 357           | 2.4            | -12.7                       |
| United States of America                      | 5,195         | 2,183         | 2,150         | 2,881         | 3,479         | 23.0           | 20.8                        |
| <b>Total</b>                                  | <b>22,812</b> | <b>18,746</b> | <b>16,880</b> | <b>15,678</b> | <b>15,123</b> | <b>100</b>     | <b>-3.5</b>                 |

Source: WIPO Statistics Database, March 2012

<sup>22</sup> “Elected” offices are national (or regional) offices at which the applicant intends to use the results of the IPE.

<sup>23</sup> 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.5.2 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 latest.

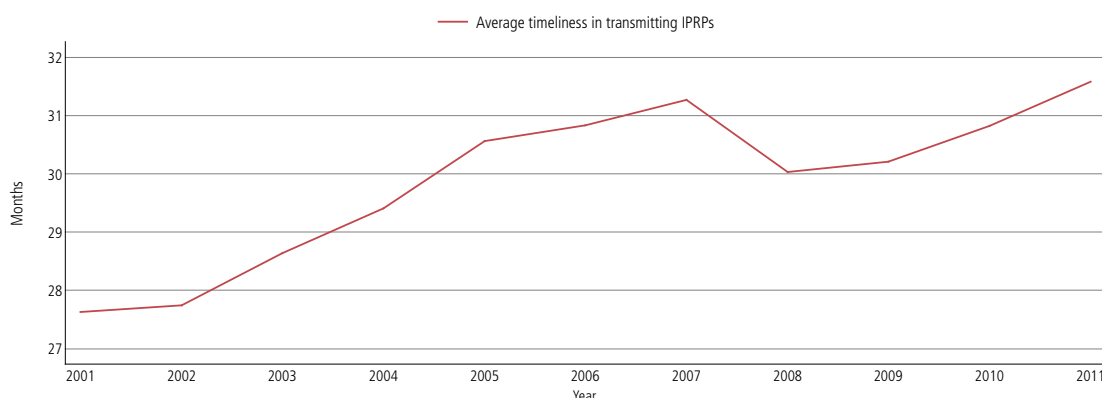
In practice, most applicants enter the PCT national phase immediately before the expiration of the time limit set by the PCT, that is, 30 months from the priority date. The establishment of IPRPs before 28 months from the priority date therefore leaves applicants two months, in principle, to decide on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

Figure B.5.2 presents information on average timeliness in transmitting IPRPs to the IB. Timeliness here is measured using the date the IB receives reports, rather than the date on which the reports were established. The measurement may thus be influenced by transmittal times.

Average time in transmitting IPRPs has markedly increased over the past decade. Since 2001, the delay in transmitting IPRPs has constantly increased, 2008 being the only exception.

Since 2001, the average time taken to transmit IPRPs increased by 4 months – from 27.6 months in 2001 to 31.6 in 2011.

**Figure B.5.2: Average timeliness in transmitting IPRPs to the IB**



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

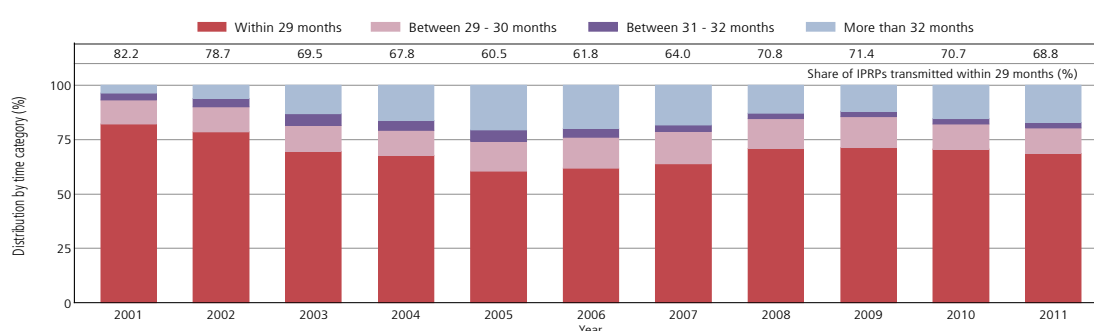
Source: WIPO Statistics Database, March 2012

### B.5.3 Timeliness in transmitting IPRPs by time category

The share of IPRPs transmitted within less than 29 months (68.7%) has decreased slightly since 2009, whereas the number of IPRPs transmitted after 32 months increased from 11.9% to 17.2% over the same period.

Figure B.5.3 presents the same data as in Figure B.5.2, but broken down by four categories corresponding to timeliness in transmitting IPRPs to the IB.

**Figure B.5.3: Timeliness in transmitting IPRPs to the IB by time category**



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

Source: WIPO Statistics Database, March 2012

### B.5.4 Timeliness in transmitting IPRPs by time category and IPEA

and exchanges between the IPEA and the applicant before establishing the IPRP.

Figure B.5.4 presents the same timeliness information for 2011 as in Figures A.5.2 and A.5.3, but provides a breakdown by IPEA.

In 2011, the Swedish Patent and Registration Office and SIPO transmitted, respectively, 95.2% and 92.9% of IPRPs within less than 29 months from the priority date of the application, whereas the USPTO and the Austrian Patent Office transmitted, respectively, 69.9% and 34.6% of IPRPs later than 32 months from the priority date of the application.

Timeliness in transmitting IPRPs varies substantially from one IPEA to another. This may be due to a number of contributing factors, such as workload

**Figure B.5.4: Timeliness in transmitting IPRPs to the IB by delay and IPEA, 2011**



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

Source: WIPO Statistics Database, March 2012

## B.6

### PCT-PPH PILOTS

Use of the PCT-Patent Prosecution Highway (PCT-PPH) pilots enables applicants, where the necessary requirements are met, to fast-track patent examination procedures in the PCT national phase and, generally, to obtain patents more quickly from participating offices.

In 2011, 27 PCT-PPH pilots were active, including the participation of 17 offices and 13 international authorities.

#### B.6.1 New PCT-PPH pilots

During 2011, the following offices started bilateral PCT-PPH pilots for PCT applications having received a favorable written opinion from either the ISA or IPEA, or where a positive IPRP was issued by one of the participating offices:

- Australian Patent Office (IP Australia) and USPTO;
- National Board of Patents and Registration of Finland and USPTO
- Swedish Patent and Registration Office and USPTO
- JPO and Swedish Patent and Registration Office
- JPO and Mexican Institute of Industrial Property
- Nordic Patent Institute and USPTO
- Danish Patent and Trademark Office and JPO
- Danish Patent and Trademark Office and USPTO
- JPO and Nordic Patent Institute
- JPO and SIPO
- Norwegian Industrial Property Office and USPTO
- Icelandic Patent Office and JPO
- Icelandic Patent Office and USPTO
- Norwegian Industrial Property Office and JPO
- SIPO and USPTO

Furthermore, the scope of the pilot program between KIPO and the USPTO has been expanded, and a unilateral PCT-PPH pilot project also started at the Canadian Intellectual Property Office.

#### B.6.2 PCT-PPH requests by international authority and office

Table B.6.2 shows the distribution of PCT-PPH requests made in 2011 by ISA or IPEA and by designated or elected office.

In 2011, about 2,850 requests for PCT-PPH fast-track patent examination were made during the national phase. With 1,877 requests, the USPTO received the most PCT-PPH requests, followed by the JPO (789) and the EPO (144). Altogether, 8 of the 17 participating offices received such requests in 2011.

The most chosen international authorities (ISA or IPEA) were the JPO (with 1,100 PCT applications), followed by the EPO (775) and KIPO (663).



**Table B.6.2: Distribution of PCT-PPH requests by international authority and office of PCT national phase entry, 2011**

| International Authority  | Office of PCT National Phase Entry |            |            |           |          |          |          |          | Total        |
|--------------------------|------------------------------------|------------|------------|-----------|----------|----------|----------|----------|--------------|
|                          | US                                 | JP         | EP         | CA        | AU       | CN       | RU       | SE       |              |
| Japan                    | 372                                | 583        | 138        | -         | -        | 7        | -        | 0        | 1,100        |
| European Patent Office   | 581                                | 194        | -          | -         | -        | -        | -        | -        | 775          |
| Republic of Korea        | 663                                | -          | -          | -         | -        | -        | -        | -        | 663          |
| United States of America | 126                                | 7          | 6          | -         | 5        | 0        | 1        | 0        | 145          |
| Australia                | 88                                 | -          | -          | -         | 3        | -        | -        | -        | 91           |
| Sweden                   | 21                                 | 5          | -          | -         | -        | -        | -        | 1        | 27           |
| Canada                   | 3                                  | -          | -          | 20        | -        | -        | -        | -        | 23           |
| Austria                  | 8                                  | -          | -          | -         | -        | -        | -        | -        | 8            |
| Russian Federation       | 6                                  | -          | -          | -         | -        | -        | -        | -        | 6            |
| Spain                    | 4                                  | 0          | -          | -         | -        | -        | -        | -        | 4            |
| Nordic Patent Institute  | 3                                  | 0          | -          | -         | -        | -        | -        | -        | 3            |
| China                    | 2                                  | 0          | -          | -         | -        | -        | -        | -        | 2            |
| <b>Total</b>             | <b>1,877</b>                       | <b>789</b> | <b>144</b> | <b>20</b> | <b>8</b> | <b>7</b> | <b>1</b> | <b>1</b> | <b>2,847</b> |

Note: AU (Australia), CA, (Canada), CN (China), EP (European Patent Office), JP (Japan), RU (Russian Federation), SE (Sweden), US (United States of America) and - (not applicable).

Source: WIPO, based on data from the JPO, March 2012

### B.6.3 Additional statistics on PCT-PPH applications

The grant rate and the first action allowance are significantly higher for PCT-PPH applications, while the pendency time is shorter and the number of actions reduced.

The table below compares the 2011 statistics for PCT-PPH applications with total patent applications for certain key elements of the patent examination procedure. Due to significant differences in patenting procedures among offices, a cross-office comparison is not relevant.

**Table B.6.3: Additional Statistics on PCT-PPH applications, 2011**

| Additional Statistics                           | Office of PCT National Phase Entry |      |      |      |      | US   |
|-------------------------------------------------|------------------------------------|------|------|------|------|------|
|                                                 | AU                                 | CA   | JP   | KR   | RU   |      |
| <b>Grant percentage (%)</b>                     |                                    |      |      |      |      |      |
| PCT-PPH Applications                            | 100                                | 100  | 95   |      |      | 91   |
| All Applications combined                       |                                    | 64   | 59   |      |      | 49   |
| <b>First action allowance percentage (%)</b>    |                                    |      |      |      |      |      |
| PCT-PPH Applications                            | 33                                 | 75   | 58   |      |      | 19   |
| All Applications combined                       |                                    | 5    | 11   |      |      | 14   |
| <b>Average first action pendency (months)</b>   |                                    |      |      |      |      |      |
| PCT-PPH Applications                            | 0.5                                | 1.0  | 1.9  | 2.2  | 1.3  | 4.3  |
| All Applications combined                       |                                    | 22.2 | 26.3 | 16.8 | 11.0 | 23.6 |
| <b>Average final decision pendency (months)</b> |                                    |      |      |      |      |      |
| PCT-PPH Applications                            | 1.7                                | 2.5  | 3.5  |      |      | 7.0  |
| All Applications combined                       |                                    | 40.5 | 32.4 |      |      | 33.8 |
| <b>Average number of office actions</b>         |                                    |      |      |      |      |      |
| PCT-PPH Applications                            | 0.7                                | 0.3  | 0.5  |      |      | 1.6  |
| All Applications combined                       |                                    | 1.6  | 1.1  |      |      | 2.6  |

Note: AU (Australia), CA, (Canada), JP (Japan), KR (Republic of Korea), RU (Russian Federation), US (United States of America).

Source: WIPO, based on data from the JPO, March 2012



## SECTION C

# DEVELOPMENT OF THE PCT SYSTEM

## C.1

### PATENTSCOPE SEARCH SERVICE

The PATENTSCOPE search service is the authoritative source of information on published PCT applications. This free-of-charge service also provides access to the national or regional patent collections of a number of offices worldwide. It contains more than 10 million patent documents and offers a wide range of features for simplifying searches and improving relevancy of results. The main developments in 2011 included:

#### C.1.1 New search interface

After eight years of service, the former PATENTSCOPE search interface was phased out in October 2011 and replaced with a new system. The new system is designed to support all previous PATENTSCOPE features, fields and search syntax, but also makes use of the latest developments in open source search and web technologies, and offers new functionality and improved collections coverage.

This new version can be customized by users according to their needs. By creating an account, users are able to: save their preferred settings, such as the search interface by default and the length of the search result list; save their queries; and download results lists of up to 100 records. The languages of the search interface have also been expanded to include Korean, Russian and Spanish, in addition to existing interfaces in Chinese, English, French, German, Japanese and Portuguese.

A new interface, PATENTSCOPE Mobile, allows Smartphone users to quickly and easily search and browse patent documents.<sup>24</sup>

#### C.1.2 Enhanced national collections

National patent collections from the Dominican Republic, the EPO, Kenya and the Russian Federation (including Soviet Union documents) have been added to the PATENTSCOPE search service. The LATIPAT collection (a database of patent documents in Spanish and Portuguese filed in Europe and Latin America), which is being integrated into the PATENTSCOPE search service, now includes data from Chile, Ecuador, El Salvador, Honduras and Nicaragua. With the addition of the above-mentioned offices to PATENTSCOPE, data are now available from 27 offices, bringing the combined number of searchable patent documents to over 8 million.

#### C.1.3 PCT licensing feature

WIPO has implemented a new feature that enables PCT applicants to indicate their willingness to license the inventions in their PCT applications.<sup>25</sup> The new feature, made available as of January 1, 2012, allows applicants' wishes with regard to licensing to be reflected in PATENTSCOPE among the bibliographic data relating to a specific application. The licensing availability request will also be included as a separate document under the "Documents" tab in PATENTSCOPE. The existence of licensing indications has also been added to the search criteria in PATENTSCOPE.

<sup>24</sup> [www.wipo.int/patentscope/search/mobile/index.jsf](http://www.wipo.int/patentscope/search/mobile/index.jsf)

<sup>25</sup> [www.wipo.int/pct/en/forms/ib/editable/ed\\_ib382.pdf](http://www.wipo.int/pct/en/forms/ib/editable/ed_ib382.pdf)

#### C.1.4 Translation tool for PATENTSCOPE users

WIPO has developed a new tool to assist PATENTSCOPE users with the translation of titles and abstracts of inventions from French to English and from Chinese to English, and vice versa.<sup>26</sup> This complements the introduction, in 2010, of Google™ Translate, as well as the Cross-Lingual Information Retrieval (CLIR) option, which allows users to carry out machine translation of descriptions and claims of patent documents within PATENTSCOPE, in all languages supported by these programs. Other language pairs, notably Korean to English and Japanese to English, are currently being studied.

In addition, Chinese, Korean, Portuguese and Russian have been added to the CLIR facility, which was already available in English, French, German, Japanese and Spanish. This tool first finds synonyms for a search query, and then translates the search query and synonyms into several other languages using special software developed by WIPO, thus enhancing the comprehensiveness of PATENTSCOPE search results.

Thanks to collaboration between WIPO and KIPO, a new tool for translating PCT applications in Korean language into English is now available through the PATENTSCOPE website. With the increasing number of PCT applications filed in Korean, this service will greatly facilitate access to patent information in Korean.

WIPO has released a new linguistic data product – Corpus of Parallel Patent Applications (COPPA) – that helps to improve the quality of machine translation systems for patent documents. COPPA uses data from the PATENTSCOPE database to provide a bilingual “corpus” consisting of more than 8 million parallel segments of text in English and French, and comprising over 170 million words. Other language pairs will be added in the future if the associated source data become available to WIPO in sufficient volume and with the required redistribution rights.

## C.2

### NEW INTERNET RESOURCES FOR PCT APPLICANTS

WIPO continues to offer new online resources for PCT applicants in order to facilitate administrative and legal procedures and to improve the overall PCT process. Online resources also enable WIPO to quickly and efficiently inform PCT applicants of important notifications or forthcoming changes to the PCT system. During 2011, in addition to the regular updating of existing legal and procedural material, the following new online resources were released:

#### C.2.1 ePCT system

ePCT provides secure electronic access to the files of PCT applications.<sup>27</sup> The ePCT system enables applicants to securely review and consult the most up-to-date bibliographic data and documents contained in their application, including those that have not yet been published. Certain documents that are not publicly available in PATENTSCOPE after publication (e.g., Chapter II-related documents) are also available via ePCT.

The ePCT system streamlines business processes and communication methods not only between applicants and the IB, but ultimately between all stakeholders in the PCT process, including offices and international authorities.

In January 2011, the IB launched a first test version of ePCT for an initial group of pilot users. In May 2011, the ePCT pilot system was made available to pilot users with live production data (restricted to PCT applications filed with the IB as RO using the PCT-SAFE software and a WIPO digital certificate). In October 2011, a full working ePCT demo environment was offered to all PCT users for evaluation. The first full production release of ePCT, in December 2011, opened up participation to all PCT

<sup>26</sup> [www.wipo.int/patentscope/translate/translate.jsf](http://www.wipo.int/patentscope/translate/translate.jsf)

<sup>27</sup> [pct.wipo.int/LoginForms/epct.jsp](http://pct.wipo.int/LoginForms/epct.jsp)

applicants and all PCT applications filed as of January 1, 2009, regardless of the medium of filing (electronic, paper) or the RO with which they were filed.

### C.2.2 Warning page concerning fees

To increase awareness of a fraudulent PCT invoice practice, details concerning various misleading messages received by PCT users have been published on WIPO's website and are now available in several languages. Certain ill-intentioned entities send invoices to PCT applicants, inventors or agents for services not provided by WIPO and that are unrelated to the processing of PCT applications. A standardized text is also available for patent attorneys to use in warning applicants and inventors about such unscrupulous fee requests.

### C.2.3 Other developments

The Austrian Patent Office and Israeli Patent Office began receiving and processing PCT applications in electronic form in 2011. The Norwegian Industrial Property Office began receiving and processing PCT applications in electronic form on January 2, 2012. This brings the number of ROs that accept electronic filings to 25.

Updates to the PCT-SAFE software were issued in January, April, June, October and December 2011. These updates enable electronic filing with RO/AT, RO/IL and RO/NO, introduce new PCT contracting states and other PCT changes, ensure compatibility of the software with the MS Windows 7 operating system, and provide an enhanced general functionality and graphic user interface.

As more ROs adopt electronic filing, the number of offices that accept PCT-EASY filings is decreasing. The offices of the Netherlands and Norway have announced that they will no longer accept PCT applications with requests in PCT-EASY format.

The revised *PCT Applicant's Guide* was published in English, French, Japanese and, for the first time, Russian.<sup>28</sup> Annexes to the Guide (concerning PCT contracting states and their roles as offices and authorities), in English and French, were updated 48 times to incorporate new information, amounting to over 2,000 pages. Updating typically occurs on a weekly basis.

The PCT Rules and Regulations were, for the first time, published in completely up-to-date versions in Arabic, Chinese, English, French, German, Italian, Portuguese, Russian and Spanish.

The PCT Online Document Upload Service, which enables applicants to submit post-filing documents electronically to the IB via a web interface, is now available in French and English.

## C.3

### NEW INTERNET RESOURCES FOR OFFICES

WIPO offers offices a wide range of Internet resources for their PCT-related functions. These resources help to facilitate and improve the communication of data and documents between the IB and offices. The main developments in 2011 included:

#### C.3.1 PCT office feedback survey

The PCT Office Feedback Survey, regarding the services the IB provided to offices during 2010, was sent to 147 offices acting as ROs, ISAs, IPEAs and/or designated or elected offices under the PCT. The results of the survey were published on the PCT website in June 2011.<sup>29</sup>

<sup>28</sup> [www.wipo.int/pct/en/appguide/index.jsp](http://www.wipo.int/pct/en/appguide/index.jsp)

<sup>29</sup> [www.wipo.int/pct/en/activity/pct\\_office\\_survey\\_2010.pdf](http://www.wipo.int/pct/en/activity/pct_office_survey_2010.pdf)

### C.3.2 Replacement of PCT-COR with PADOS

The PCT Automated Document Ordering System (PADOS), which replaced the Communication on Request System (PCT-COR), improves the facilities available to offices requesting documents in support of national phase processing of international applications.

The PADOS system allows offices to order a wider range of documents than was previously available via PCT-COR. The system is based on new technology that eliminates the need for a special installation procedure.

The PADOS system provides a simplified ordering system, including office profile management for document type selection, and a PCT application subscription list facility. Integrated in the PCT-Electronic Data Interchange (PCT-EDI) system, it delivers documents according to the PCT-EDI Minimum Specification,<sup>30</sup> rather than PCT-COR formats. The new system delivers documents on an as-ordered basis, offering almost instant delivery, while PCT-COR provided a more batch-oriented delivery within 24 hours.

### C.3.3 New version of PCT-ROAD

The PCT Receiving Office Administration (PCT-ROAD) system, developed by KIPO and WIPO, enables ROs to accept fully electronic PCT applications filed on physical media, and to process PCT applications electronically, whether filed fully electronically, on paper together with a copy in electronic form (PCT-EASY mode) or on paper only. In March 2011, a new version of the PCT-ROAD software was launched, in English and Spanish, offering improved stability, performance and data exchange with the IB.

## C.4

### LEGAL DEVELOPMENTS

Changes in the PCT Regulations that entered into force or were adopted by the PCT Assembly, as well as the main legal changes at national or regional level having an impact on PCT filings, are presented below:

#### C.4.1 Changes to the legal framework

The amendments adopted by the PCT Assembly in September 2010 entered into force on July 1, 2011. They consisted of minor changes and clarifications relating to the following:

- (a) the way in which corrections of obvious mistakes authorized by the IPEA are made available to designated offices and to 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.

Amendments adopted by the PCT Assembly in September/October 2011, which will enter into force on July 1, 2012, consist of the following:

- (a) the deletion of the possibility to request the RO to obtain priority documents from a digital library and the relaxation of the time limit for requesting the IB to obtain priority documents from a digital library (PCT Rule 17.1(b-bis));
- (b) clarification concerning the time limits in relation to correcting defects under PCT Article 11 (PCT Rule 20.7);
- (c) the incorporation of Chinese patent documents in the PCT minimum documentation (PCT Rule 34); and

<sup>30</sup> [www.wipo.int/patentscope/en/pct-edi/documents/](http://www.wipo.int/patentscope/en/pct-edi/documents/)

(d) the replacement of PCT Rule 82.2 (interruption in the mail service) with new PCT Rule *82quater* (excuse of delay in meeting certain time limits) allowing offices to excuse a delay in meeting certain time limits in case of *force majeure*.

Modifications to the Administrative Instructions under the PCT made with effect from January 1, 2011, relate mainly to the correction, rectification or amendment of sequence listings. Modifications were also made to the Administrative Instructions, as well as to the *PCT Applicant's Guide*, with effect from July 1, 2011, mainly as a consequence of the amendments to the PCT Regulations that entered into force on that date.

In addition, modifications were made to the PCT Receiving Office Guidelines that were consequential to amendments of PCT Regulations that entered into force on July 1, 2010. Modifications were also made to quality framework set out in Chapter 21 of the PCT International Search and Preliminary Examination Guidelines with effect from November 1, 2011.

#### C.4.2 Other developments

Following the entry into force on September 24, 2011, with respect to Rwanda, of the Harare Protocol on Patents and Industrial Designs within the framework of the African Regional Intellectual Property Organization (ARIPO), 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 Rwanda may file PCT applications with ARIPO as RO, in addition to their national RO or the IB.

On October 26, 2011, the Republic of Moldova deposited a notification of denunciation of the Eurasian Patent Convention, which will take effect on April 26, 2012. This means that any PCT application filed on or after April 26, 2012, will contain the designation of the Republic of Moldova only for a national patent, and not

for a Eurasian patent. Furthermore, as of April 26, 2012, the Eurasian Patent Office will no longer be a competent RO for PCT applications filed by nationals and residents of the Republic of Moldova.

## C.5

### MEETINGS

Several meetings take place every year between the PCT international authorities, the IB, PCT member states and/or offices to ensure the regular operation of the system and to improve its performance and facilitate its use. The main developments in 2011 were:

#### C.5.1 Meeting of International Authorities

The 18<sup>th</sup> session of the Meeting of International Authorities (MIA) under the PCT was held in Moscow, from March 15 to 17, 2011. Discussions concerned:

- (a) a report by the quality subgroup created at the previous session, and the need to ensure that it worked on recommendations for quality improvement measures as well as the more process-oriented matters that had been the main focus thus far;
- (b) the IB's proposal for implementing a third party observation system under the PCT, and the importance of allowing feedback from designated offices;
- (c) a pilot project to assess the viability of office collaboration on search and examination, as well as plans to continue with a second, larger-scale pilot (the meeting agreed to further address concerns underlying difficulties in sharing search strategy information and to look at the possibility of introducing greater consistency in standard texts used in written opinions);
- (d) a proposal to amend PCT Rule 34 to add Chinese patent documentation to the PCT minimum documentation;
- (e) a proposal to revise the standards for presentation of sequence listings;

- (f) proposals for reducing costs and delays by transmitting search copies from the RO to the ISA via the IB using PCT-EDI; and
- (g) IB proposals to allow any office to automatically include its national patent documentation in the PCT minimum documentation and to find a satisfactory solution for amending PCT applications filed in XML format.

### C.5.2 PCT Working Group

At its fourth session, held in Geneva from June 6 to 9, 2011, the PCT Working Group recommended proposed amendments to the PCT Regulations that were later adopted by the PCT Assembly, as set out in paragraph C.4.1, above. The Working Group also examined progress in implementing earlier recommendations for improving the functioning of the PCT system. It noted reports on the development of a third party observation system, a pilot project on collaborative search and examination and the limited use of the SIS service, papers on an office's experience in encouraging more effective use of the international phase and on the future extension of the ePCT online private file inspection system, as well as statements by delegations on the contribution of the PCT Working Group to the implementation of Development Agenda Recommendations.

### C.5.3 PCT Assembly

At its 42<sup>nd</sup> session, held in Geneva during the 2011 meetings of the Assemblies of the Member States of WIPO, the PCT Assembly adopted amendments to the PCT Regulations that will enter into force on July 1, 2012, as outlined in paragraph C.4.1, above, and noted reports on the work being undertaken by the MIA and the PCT Working Group.

## C.6

### PCT TRAINING

The IB offers training sessions and provides training materials on presenting the PCT system to a wide range of interested parties worldwide. The main developments in 2011 were:

#### C.6.1 Seminars

The PCT Legal Division participated in 82 seminars held in 23 countries (Austria, Belgium, Canada, China, Denmark, Dominican Republic, Ecuador, France, Germany, Indonesia, Italy, Japan, Jordan, Mexico, Peru, Romania, Spain, Sweden, Switzerland, Thailand, Turkey, UK, US) and at WIPO headquarters. The seminars were given in six languages (Chinese, English, French, German, Japanese and Spanish). In 2011, members of the PCT Legal Division additionally gave 35 presentations on the PCT.

#### C.6.2 Webinars

In 2011, 755 participants took part in 12 webinars. The recordings and accompanying PowerPoint presentations are available on the PCT website.<sup>31</sup>

#### C.6.3 Distance learning

The PCT distance learning course entitled "Introduction to the PCT", which is available in all 10 PCT publication languages, was followed via the Internet by 3,319 participants in 140 countries.

<sup>31</sup> Available at [www.wipo.int/pct/en/seminar/webinars/index.html](http://www.wipo.int/pct/en/seminar/webinars/index.html)



# STATISTICAL TABLE

The following table shows the number of PCT applications filed in 2011 and the number of PCT national phase entries in 2010 by office and by country of origin.<sup>32</sup>

The following example may help in understanding the table below: the Algerian Office received 3 PCT applications in 2011 and 692 PCT national phase entries in 2010, whereas applicants residing in Algeria filed 4 PCT applications in 2011 and 1 PCT national phase entry in 2010.

| Name                                                | Code | PCT International Phase Filing in 2011 |                      | PCT National Phase Entries in 2010 |                      |
|-----------------------------------------------------|------|----------------------------------------|----------------------|------------------------------------|----------------------|
|                                                     |      | At Receiving Office                    | By Country of Origin | At Designated / Elected Office     | By Country of Origin |
| African Intellectual Property Organization          | OA   | 3                                      | n.a.                 | --                                 | n.a.                 |
| African Regional Intellectual Property Organization | AP   | 2                                      | n.a.                 | --                                 | n.a.                 |
| Albania                                             | AL   | 0                                      | 0                    | 1                                  | 2                    |
| Algeria                                             | DZ   | 3                                      | 4                    | 692                                | 1                    |
| Andorra                                             | AD   | n.a.                                   | 3                    | n.a.                               | 6                    |
| Antigua and Barbuda                                 | AG   | 0                                      | 1                    | --                                 | 7                    |
| Argentina                                           | AR   | n.a.                                   | 24                   | n.a.                               | 77                   |
| Armenia                                             | AM   | 4                                      | 6                    | --                                 | 2                    |
| Australia                                           | AU   | 1,690                                  | 1,740                | 19,041                             | 6,735                |
| Austria                                             | AT   | 566                                    | 1,344                | 495                                | 3,673                |
| Azerbaijan                                          | AZ   | 5                                      | 4                    | --                                 | 4                    |
| Bahamas                                             | BS   | n.a.                                   | 9                    | n.a.                               | 115                  |
| Barbados                                            | BB   | 18                                     | 111                  | --                                 | 294                  |
| Belarus                                             | BY   | 8                                      | 14                   | 122                                | 5                    |
| Belgium                                             | BE   | 71                                     | 1,191                | EP                                 | 4,959                |
| Belize                                              | BZ   | 0                                      | 5                    | --                                 | 0                    |
| Bolivia (Plurinational State of)                    | BO   | n.a.                                   | 0                    | n.a.                               | 2                    |
| Bosnia and Herzegovina                              | BA   | 6                                      | 6                    | 4                                  | 3                    |
| Botswana                                            | BW   | 0                                      | 0                    | --                                 | 2                    |
| Brazil                                              | BR   | 519                                    | 572                  | 18,654                             | 986                  |
| Brunei Darussalam                                   | BN   | n.a.                                   | 0                    | n.a.                               | 8                    |
| Bulgaria                                            | BG   | 28                                     | 28                   | 11                                 | 35                   |
| Burundi                                             | BI   | n.a.                                   | 3                    | n.a.                               | 0                    |
| Cambodia                                            | KH   | n.a.                                   | 0                    | n.a.                               | 1                    |
| Cameroon                                            | CM   | 0A                                     | 3                    | 0A                                 | 0                    |
| Canada                                              | CA   | 2,146                                  | 2,923                | 27,460                             | 7,913                |
| Chile                                               | CL   | 84                                     | 118                  | 201                                | 122                  |
| China                                               | CN   | 17,471                                 | 16,406               | 62,317                             | 7,551                |
| Colombia                                            | CO   | 1                                      | 57                   | 1,656                              | 67                   |
| Congo                                               | CG   | 0A                                     | 1                    | 0A                                 | 0                    |
| Costa Rica                                          | CR   | 2                                      | 3                    | 606                                | 2                    |
| Côte d'Ivoire                                       | CI   | 0A                                     | 2                    | 0A                                 | 0                    |
| Croatia                                             | HR   | 45                                     | 48                   | 18                                 | 67                   |
| Cuba                                                | CU   | 9                                      | 10                   | --                                 | 69                   |
| Cyprus                                              | CY   | 0                                      | 26                   | EP                                 | 105                  |
| Czech Republic                                      | CZ   | 126                                    | 150                  | 48                                 | 416                  |
| Democratic People's Republic of Korea               | KP   | 4                                      | 4                    | 37                                 | 26                   |
| Democratic Republic of the Congo                    | CD   | n.a.                                   | 1                    | n.a.                               | 0                    |
| Denmark                                             | DK   | 678                                    | 1,313                | 46                                 | 4,580                |
| Dominica                                            | DM   | 0                                      | 2                    | --                                 | 1                    |
| Dominican Republic                                  | DO   | 5                                      | 6                    | --                                 | 9                    |
| Ecuador                                             | EC   | 3                                      | 27                   | --                                 | 5                    |

<sup>32</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 (See EPC member states indicated in the PCT Contracting States table in the annex). This explains why the number of PCT national phase entries at some European national offices is lower than would

otherwise be expected. The PCT national phase route is closed for France, Italy, the Netherlands and several other countries (again, see the PCT Contracting States table in the annex). A PCT applicant seeking protection in those countries must enter the PCT national phase at the regional office (the EPO).

## ANNEXES

| Name                             | Code | PCT International Phase Filing<br>in 2011 |                         | PCT National Phase Entries<br>in 2010 |                         |
|----------------------------------|------|-------------------------------------------|-------------------------|---------------------------------------|-------------------------|
|                                  |      | At Receiving<br>Office                    | By Country<br>of Origin | At Designated /<br>Elected Office     | By Country<br>of Origin |
| Egypt                            | EG   | 29                                        | 33                      | 1,544                                 | 12                      |
| El Salvador                      | SV   | 1                                         | 1                       | --                                    | 0                       |
| Estonia                          | EE   | 9                                         | 35                      | 7                                     | 83                      |
| Eurasian Patent Organization     | EA   | 14                                        | n.a.                    | 2,751                                 | n.a.                    |
| European Patent Office           | EP   | 30,939                                    | n.a.                    | 79,594                                | n.a.                    |
| Finland                          | FI   | 1,231                                     | 2,080                   | 53                                    | 5,985                   |
| France                           | FR   | 3,483                                     | 7,664                   | EP                                    | 26,172                  |
| Gabon                            | GA   | 0A                                        | 3                       | 0A                                    | 1                       |
| Georgia                          | GE   | 5                                         | 6                       | 162                                   | 2                       |
| Germany                          | DE   | 1,518                                     | 18,568                  | 3,728                                 | 55,234                  |
| Ghana                            | GH   | 0                                         | 2                       | --                                    | 0                       |
| Greece                           | GR   | 58                                        | 94                      | EP                                    | 185                     |
| Guatemala                        | GT   | 0                                         | 0                       | 353                                   | 0                       |
| Hungary                          | HU   | 131                                       | 142                     | 10                                    | 499                     |
| Iceland                          | IS   | 18                                        | 44                      | 12                                    | 161                     |
| India                            | IN   | 857                                       | 1,430                   | 23431 <sup>a</sup>                    | 2,509                   |
| Indonesia                        | ID   | 8                                         | 13                      | --                                    | 22                      |
| International Bureau             | IB   | 8,753                                     | n.a.                    | n.a.                                  | n.a.                    |
| Iran (Islamic Republic of)       | IR   | n.a.                                      | 1                       | n.a.                                  | 10                      |
| Ireland                          | IE   | 67                                        | 421                     | EP                                    | 1,408                   |
| Israel                           | IL   | 1,062                                     | 1,452                   | 5,997                                 | 5,192                   |
| Italy                            | IT   | 418                                       | 2,671                   | EP                                    | 8,396                   |
| Jamaica                          | JM   | n.a.                                      | 3                       | n.a.                                  | 0                       |
| Japan                            | JP   | 37,972                                    | 38,888                  | 49,474                                | 90,000                  |
| Jordan                           | JO   | n.a.                                      | 1                       | n.a.                                  | 5                       |
| Kazakhstan                       | KZ   | 19                                        | 19                      | --                                    | 22                      |
| Kenya                            | KE   | 4                                         | 9                       | 118                                   | 0                       |
| Kuwait                           | KW   | n.a.                                      | 4                       | n.a.                                  | 5                       |
| Kyrgyzstan                       | KG   | 0                                         | 1                       | 1                                     | 0                       |
| Lao People's Democratic Republic | LA   | IB                                        | 5                       | --                                    | 0                       |
| Latvia                           | LV   | 10                                        | 17                      | EP                                    | 106                     |
| Lebanon                          | LB   | n.a.                                      | 1                       | n.a.                                  | 4                       |
| Liberia                          | LR   | 0                                         | 1                       | --                                    | 0                       |
| Liechtenstein                    | LI   | CH                                        | 87                      | CH                                    | 864                     |
| Lithuania                        | LT   | 14                                        | 25                      | 2                                     | 32                      |
| Luxembourg                       | LU   | 0                                         | 246                     | --                                    | 728                     |
| Madagascar                       | MG   | IB                                        | 2                       | 32                                    | 0                       |
| Malaysia                         | MY   | 251                                       | 265                     | --                                    | 226                     |
| Mali                             | ML   | 0A                                        |                         | 0A                                    | 3                       |
| Malta                            | MT   | 0                                         | 18                      | EP                                    | 78                      |
| Mauritius                        | MU   | n.a.                                      | 4                       | n.a.                                  | 8                       |
| Mexico                           | MX   | 167                                       | 227                     | 11,891                                | 417                     |
| Monaco                           | MC   | 0                                         | 25                      | EP                                    | 63                      |
| Mongolia                         | MN   | 0                                         | 1                       | 68                                    | 0                       |
| Montenegro                       | ME   | IB                                        | 2                       | 126                                   | 0                       |
| Morocco                          | MA   | 15                                        | 17                      | 841                                   | 22                      |
| Myanmar                          | MM   | n.a.                                      | 0                       | n.a.                                  | 1                       |
| Namibia                          | NA   | AP                                        | 18                      | --                                    | 3                       |
| Netherlands                      | NL   | 992                                       | 3,494                   | EP                                    | 16,316                  |
| New Zealand                      | NZ   | 268                                       | 323                     | 4,420                                 | 1,110                   |
| Nicaragua                        | NI   | 0                                         | 1                       | --                                    | 0                       |
| Nigeria                          | NG   | IB                                        | 5                       | --                                    | 13                      |
| Norway                           | NO   | 355                                       | 706                     | 574                                   | 2,269                   |
| Pakistan                         | PK   | n.a.                                      | 1                       | n.a.                                  | 2                       |
| Palau                            | PW   | n.a.                                      | 0                       | n.a.                                  | 2                       |
| Panama                           | PA   | n.a.                                      | 9                       | n.a.                                  | 44                      |

| Name                             | Code | PCT International Phase Filing<br>in 2011 |                         | PCT National Phase Entries<br>in 2010 |                         |
|----------------------------------|------|-------------------------------------------|-------------------------|---------------------------------------|-------------------------|
|                                  |      | At Receiving<br>Office                    | By Country<br>of Origin | At Designated /<br>Elected Office     | By Country<br>of Origin |
| Paraguay                         | PY   | n.a.                                      | 1                       | n.a.                                  | 0                       |
| Peru                             | PE   | 6                                         | 6                       | 86                                    | 14                      |
| Philippines                      | PH   | 17                                        | 18                      | 2,974                                 | 23                      |
| Poland                           | PL   | 207                                       | 238                     | 43                                    | 278                     |
| Portugal                         | PT   | 48                                        | 96                      | 18                                    | 343                     |
| Republic of Korea                | KR   | 10,413                                    | 10,447                  | 29,516                                | 13,503                  |
| Republic of Moldova              | MD   | 3                                         | 2                       | --                                    | 7                       |
| Romania                          | RO   | 17                                        | 20                      | 14                                    | 22                      |
| Russian Federation               | RU   | 824                                       | 964                     | 11,479                                | 983                     |
| Saint Kitts and Nevis            | KN   | 0                                         | 1                       | --                                    | 7                       |
| Saint Vincent and the Grenadines | VC   | IB                                        | 4                       | --                                    | 10                      |
| Samoa                            | WS   | n.a.                                      | 2                       | n.a.                                  | 13                      |
| San Marino                       | SM   | 0                                         | 1                       | --                                    | 24                      |
| Saudi Arabia                     | SA   | n.a.                                      | 147                     | n.a.                                  | 204                     |
| Senegal                          | SN   | OA                                        | 2                       | OA                                    | 0                       |
| Serbia                           | RS   | 17                                        | 19                      | 16                                    | 35                      |
| Seychelles                       | SC   | 0                                         | 3                       | --                                    | 24                      |
| Sierra Leone                     | SL   | AP                                        | 1                       | --                                    | 0                       |
| Singapore                        | SG   | 457                                       | 671                     | 6,926                                 | 1,762                   |
| Slovakia                         | SK   | 49                                        | 60                      | 35                                    | 60                      |
| Slovenia                         | SI   | 80                                        | 126                     | EP                                    | 260                     |
| South Africa                     | ZA   | 92                                        | 308                     | 5,562                                 | 787                     |
| Spain                            | ES   | 1,296                                     | 1,725                   | 110                                   | 3,259                   |
| Sri Lanka                        | LK   | IB                                        | 12                      | --                                    | 8                       |
| Sudan                            | SD   | 0                                         | 2                       | --                                    | 0                       |
| Swaziland                        | SZ   | AP                                        | 2                       | AP                                    | 6                       |
| Sweden                           | SE   | 1,847                                     | 3,466                   | 58                                    | 11,727                  |
| Switzerland                      | CH   | 312                                       | 3,999                   | 65                                    | 17,950                  |
| Syrian Arab Republic             | SY   | 5                                         | 5                       | --                                    | 1                       |
| T F Y R of Macedonia             | MK   | 0                                         | 0                       | --                                    | 2                       |
| Tajikistan                       | TJ   | 0                                         | 0                       | 1                                     | 0                       |
| Thailand                         | TH   | 49                                        | 66                      | 12                                    | 51                      |
| Trinidad and Tobago              | TT   | 1                                         | 0                       | --                                    | 15                      |
| Tunisia                          | TN   | 6                                         | 8                       | --                                    | 8                       |
| Turkey                           | TR   | 276                                       | 541                     | --                                    | 372                     |
| Uganda                           | UG   | AP                                        | 2                       | --                                    | 1                       |
| Ukraine                          | UA   | 128                                       | 138                     | 2,500                                 | 65                      |
| United Arab Emirates             | AE   | IB                                        | 39                      | --                                    | 48                      |
| United Kingdom                   | GB   | 4,226                                     | 4,844                   | 2,013                                 | 18,118                  |
| United States of America         | US   | 49,365                                    | 48,596                  | 90,931                                | 141,596                 |
| Uruguay                          | UY   | n.a.                                      | 5                       | n.a.                                  | 31                      |
| Uzbekistan                       | UZ   | 0                                         | 1                       | 242                                   | 1                       |
| Vanuatu                          | VU   | n.a.                                      | 0                       | n.a.                                  | 3                       |
| Venezuela                        | VE   | n.a.                                      | 2                       | n.a.                                  | 12                      |
| Viet Nam                         | VN   | 11                                        | 18                      | 2,980                                 | 9                       |
| Yemen                            | YE   | n.a.                                      | 1                       | n.a.                                  | 0                       |
| Zambia                           | ZM   | 1                                         | 0                       | --                                    | 0                       |
| Zimbabwe                         | ZW   | 0                                         | 2                       | --                                    | 1                       |
| Unknown                          |      | n.a.                                      | 39                      | 5,321                                 | 9,793                   |
| Total                            |      | 181,900                                   | 181,900                 | 477,500                               | 477,500                 |

a: 2009 data;

--: unknown data;

n.a.: not applicable;

AP (African Regional Intellectual Property Organization), CH (Switzerland), EP (European Patent Office), IB (International Bureau) and OA (African Intellectual Property Organization) are the competent - designated, elected or receiving - office for certain member states; and PCT national phase entries by origin, world totals, and PCT application data are WIPO estimates.

Source: WIPO Statistics Database, March 2012

## LIST OF ACRONYMS

|                |                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------|
| <b>EPC</b>     | European Patent Convention                                                                           |
| <b>EPO</b>     | European Patent Office                                                                               |
| <b>GDP</b>     | Gross Domestic Product                                                                               |
| <b>IB</b>      | International Bureau of WIPO                                                                         |
| <b>IP</b>      | Intellectual Property                                                                                |
| <b>IPC</b>     | International Patent Classification                                                                  |
| <b>IPE</b>     | International Preliminary Examination                                                                |
| <b>IPEA</b>    | International Preliminary Examining Authority                                                        |
| <b>IPRP</b>    | International Preliminary Report<br>on Patentability                                                 |
| <b>ISA</b>     | International Searching Authority                                                                    |
| <b>ISR</b>     | International Search Report                                                                          |
| <b>JPO</b>     | Japan Patent Office                                                                                  |
| <b>NPE</b>     | PCT National Phase Entry                                                                             |
| <b>KIPO</b>    | Korean Intellectual Property Office                                                                  |
| <b>PCT</b>     | Patent Cooperation Treaty                                                                            |
| <b>PCT-PPH</b> | Patent Cooperation Treaty - Patent<br>Prosecution Highway                                            |
| <b>R&amp;D</b> | Research and Development                                                                             |
| <b>RO</b>      | Receiving Office                                                                                     |
| <b>SAFE</b>    | Secure Application Filed Electronically                                                              |
| <b>SIPO</b>    | State Intellectual Property Office of the<br>People's Republic of China                              |
| <b>SIS</b>     | Supplementary International Search                                                                   |
| <b>SISA</b>    | Authority specified for<br>Supplementary Search (Supplementary<br>International Searching Authority) |
| <b>SISR</b>    | Supplementary International Search Report                                                            |
| <b>USPTO</b>   | United States Patent and Trademark Office                                                            |
| <b>WIPO</b>    | 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. For PCT statistics, the first-named applicant is used to determine the owner of a PCT application.

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

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

**Chapter I of the PCT:** The provisions in the PCT that regulate the filing of PCT applications, the establishment of international searches and written opinions by ISAs, and the international publication of PCT applications, and that provide for the communication of PCT applications and related documents to designated offices.

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

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

**Designated Office (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 a given country with a patent office of a foreign country. For example, a patent application filed by an applicant residing in France with the USPTO is considered a "filing abroad" from the perspective of France. A "filing abroad" is the opposite of a "non-resident filing", which describes a patent application by a resident of a foreign country from the perspective of the country receiving the application.

**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 WIPO 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 receives a PCT application (provided certain formality requirements have been met).

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

**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 a 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 an SISR by a SISA; and
5. the optional establishment of an IPRP by an IPEA.

**International Preliminary Examining Authority (IPEA):**

A national or regional patent office appointed by the PCT Assembly to carry out international preliminary examination. Its task is to establish the IPRP (Chapter II of the PCT).

**International Preliminary Report on Patentability (Chapter II of the PCT) (IPRP):**

A preliminary, non-binding opinion, established by an IPEA at the request of the applicant, on whether the claimed invention appears to be novel, to involve an inventive step (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 an 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):** A national patent office or intergovernmental organization appointed by the PCT Assembly to carry out international searches. ISAs establish ISRs and written opinions on PCT applications.

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

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

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

**Non-Resident Filing:** For statistical purposes, a patent application filed with a national patent office by an applicant from a foreign country. For example, a patent application filed with the USPTO by an applicant residing in France is considered a non-resident filing from the perspective of the US. A “non-resident filing” is the opposite of a “filing abroad”, which describes a patent application filed by the resident of a given country with a foreign patent office. A “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 (IP) treaties. The Paris Convention establishes, among other things, the “right of priority” principle, which enables a patent applicant to claim a priority of up to 12 months when filing an application in countries other than the original country of filing.

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

**Patent Cooperation Treaty (PCT):** An international treaty administered by WIPO, the PCT allows applicants to seek patent protection for an invention simultaneously in a large number of countries (contracting states) by filing a single “PCT international application”. The decision whether to grant patent rights remains the prerogative of national and regional patent offices.

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

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

#### **PCT-Patent Prosecution Highway Pilots (PCT-PPH):**

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

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

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

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

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

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

**Supplementary International Searching Authority (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, which 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):**

A specialized agency of the United Nations, WIPO is dedicated to developing a balanced and effective international 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 non-binding written opinion on whether the claimed invention appears to be novel, to involve an inventive step and to be industrially applicable.



# PCT CONTRACTING STATES

During 2011, two new Contracting States acceded to the PCT, namely Qatar (effective August 3) and Rwanda (effective August 31) – bringing the total number to 144.

|                                               |                                          |                                                                |                                     |
|-----------------------------------------------|------------------------------------------|----------------------------------------------------------------|-------------------------------------|
| AE United Arab Emirates                       | EC Ecuador                               | LI Liechtenstein (EP)                                          | RO Romania (EP)                     |
| AG Antigua and Barbuda                        | EE Estonia (EP)                          | LK Sri Lanka                                                   | RS Serbia (EP) <sup>2, 5</sup>      |
| AL Albania (EP) <sup>1, 2</sup>               | EG Egypt                                 | LR Liberia (AP) <sup>4</sup>                                   | RU Russian Federation (EA)          |
| AM Armenia (EA)                               | ES Spain (EP)                            | LS Lesotho (AP)                                                | RW Rwanda (AP) <sup>6</sup>         |
| AO Angola                                     | FI Finland (EP)                          | LT Lithuania (EP)                                              | SC Seychelles                       |
| AT Austria (EP)                               | FR France (EP) <sup>3</sup>              | LU Luxembourg (EP)                                             | SD Sudan (AP)                       |
| AU Australia                                  | GA Gabon (OA) <sup>3</sup>               | LV Latvia (EP) <sup>3</sup>                                    | SE Sweden (EP)                      |
| AZ Azerbaijan (EA)                            | GB United Kingdom (EP)                   | LY Libya                                                       | SG Singapore                        |
| BA Bosnia and Herzegovina <sup>2</sup>        | GD Grenada                               | MA Morocco                                                     | SI Slovenia (EP) <sup>3</sup>       |
| BB Barbados                                   | GE Georgia                               | MC Monaco (EP) <sup>3</sup>                                    | SK Slovakia (EP)                    |
| BE Belgium (EP) <sup>3</sup>                  | GH Ghana (AP)                            | MD Republic of Moldova (EA)                                    | SL Sierra Leone (AP)                |
| BF Burkina Faso (OA) <sup>3</sup>             | GM Gambia (AP)                           | ME Montenegro <sup>2</sup>                                     | SM San Marino (EP) <sup>7</sup>     |
| BG Bulgaria (EP)                              | GN Guinea (OA) <sup>3</sup>              | MG Madagascar                                                  | SN Senegal (OA) <sup>3</sup>        |
| BH Bahrain                                    | GQ Equatorial Guinea (OA) <sup>3</sup>   | MK The former Yugoslav Republic of Macedonia (EP) <sup>5</sup> | ST Sao Tome and Principe            |
| BJ Benin (OA) <sup>3</sup>                    | GR Greece (EP) <sup>3</sup>              |                                                                | SV El Salvador                      |
| BR Brazil                                     | GT Guatemala                             |                                                                | SY Syrian Arab Republic             |
| BW Botswana (AP)                              | GW Guinea-Bissau (OA) <sup>3</sup>       |                                                                | SZ Swaziland (AP) <sup>3</sup>      |
| BY Belarus (EA)                               | HN Honduras                              | ML Mali (OA) <sup>3</sup>                                      | TD Chad (OA) <sup>3</sup>           |
| BZ Belize                                     | HR Croatia (EP)                          | MN Mongolia                                                    | TG Togo (OA) <sup>3</sup>           |
| CA Canada                                     | HU Hungary (EP)                          | MR Mauritania (OA) <sup>3</sup>                                | TH Thailand                         |
| CF Central African Republic (OA) <sup>3</sup> | ID Indonesia                             | MT Malta (EP) <sup>3</sup>                                     | TJ Tajikistan (EA)                  |
| CG Congo (OA) <sup>3</sup>                    | IE Ireland (EP) <sup>3</sup>             | MW Malawi (AP)                                                 | TM Turkmenistan (EA)                |
| CH Switzerland (EP)                           | IL Israel                                | MX Mexico                                                      | TN Tunisia                          |
| CI Côte d'Ivoire (OA) <sup>3</sup>            | IN India                                 | MY Malaysia                                                    | TR Turkey (EP)                      |
| CL Chile                                      | IS Iceland (EP)                          | MZ Mozambique (AP)                                             | TT Trinidad and Tobago              |
| CM Cameroon (OA) <sup>3</sup>                 | IT Italy (EP) <sup>3</sup>               | NA Namibia (AP)                                                | TZ United Republic of Tanzania (AP) |
| CN China                                      | JP Japan                                 | NE Niger (OA) <sup>3</sup>                                     | UA Ukraine                          |
| CO Colombia                                   | KE Kenya (AP)                            | NG Nigeria                                                     | UG Uganda (AP)                      |
| CR Costa Rica                                 | KG Kyrgyzstan (EA)                       | NI Nicaragua                                                   | US United States of America         |
| CU Cuba                                       | KM Comoros                               | NL Netherlands (EP) <sup>3</sup>                               | UZ Uzbekistan                       |
| CY Cyprus (EP) <sup>3</sup>                   | KN Saint Kitts and Nevis                 | NO Norway (EP)                                                 | VC Saint Vincent and the Grenadines |
| CZ Czech Republic (EP)                        | KP Democratic People's Republic of Korea | NZ New Zealand                                                 | VN Viet Nam                         |
| DE Germany (EP)                               | KR Republic of Korea                     | OM Oman                                                        | ZA South Africa                     |
| DK Denmark (EP)                               | KZ Kazakhstan (EA)                       | PE Peru                                                        | ZM Zambia (AP)                      |
| DM Dominica                                   | LA Lao People's Democratic Republic      | PG Papua New Guinea                                            | ZW Zimbabwe (AP)                    |
| DO Dominican Republic                         | LC Saint Lucia                           | PH Philippines                                                 |                                     |
|                                               |                                          | PL Poland (EP)                                                 |                                     |
|                                               |                                          | QA Qatar                                                       |                                     |

<sup>1</sup> Only international 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 international 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 international applications filed on or after March 24, 2010, include the designation of this state for an ARIPO patent.

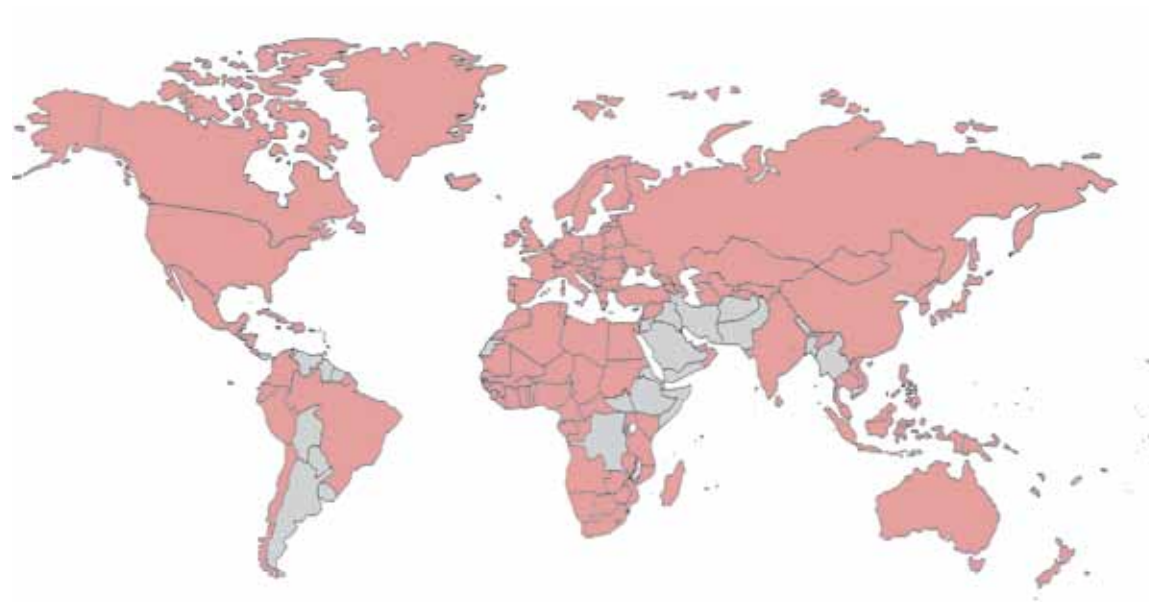
<sup>5</sup> Only international applications filed on or after October 1, 2010, include the designation of this state for a European patent.

<sup>6</sup> Only international applications filed on or after September 24, 2011, include the designation of this state for an ARIPO patent.

<sup>7</sup> Only international 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 regional patent concerned is indicated in parentheses (AP = ARIPO patent, EA = Eurasian patent, EP = European patent, OA = OAPI patent).

## PCT CONTRACTING STATES IN 2011



## ADDITIONAL RESOURCES

The following patent resources are available on the WIPO website:

### **PATENTSCOPE**

WIPO's gateway to patent services and activities, such as the PATENTSCOPE Search Service, enabling search and download of PCT applications or national and regional patent collections.

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

### **PCT Resources**

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

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