# HIGHLIGHTS

*Intellectual Property (IP) filing activity is extending its run of pre-crisis level growth, with patent filings increasing at their strongest rate in nearly two decades, and industrial designs achieving their best ever growth rate in 2012.*

The 2013 edition of the World Intellectual Property Indicators report shows that global IP filing trends have followed a remarkably different path than growth in the global economy, which has suffered as a consequence of the global financial crisis that began in 2008.

While economic recovery since then has been uneven, IP filings sharply rebounded in 2012, following a decrease in 2009, at the height of the financial crisis, and are now even exceeding pre-global economic crisis rates of growth.

Patent filings grew by 9.2% in 2012, representing the fastest growth in the past 18 years. Similarly, the number of industrial designs contained in applications grew by 17% – the highest growth on record. The number of classes specified in trademark applications saw healthy growth of 6% in 2012.

The global growth figures hide marked variations in IP filing trends across different parts of the world. In particular, continued rapid filing growth in China is the main driver of global growth. Of the top five IP offices worldwide, the State Intellectual Property Office of the People's Republic of China (SIPO) was the only IP office to record double-digit growth for each of the three types of IP mentioned.[1] The IP office of Turkey saw strong growth in filings for trademarks and industrial designs. For each type of IP, the top five IP offices, with the exception of the IP office of France, recorded higher growth in filings in 2012 than in 2011.

In 2012, for the first time, residents of China accounted for the largest numbers of applications filed throughout the world for the four types of IP (patents, utility models, trademarks and industrial designs). SIPO was also the largest recipient of filings for these four types of IP.

The distribution of IP filing activity varied across income groups. The majority of patent filings occurred at the IP offices of high-income countries (64.5%). In contrast, middle- and low-income countries accounted for the bulk of trademark filing activity (52.6%) and industrial design filing activity (64%) worldwide. For the period 2007 to 2012, all these types of IP saw a shift in filing activity from high-income to middle-income countries – above all China.

1 Turkey also recorded double-digit growth between 2011 and 2012 for three types of IP. However, the IP office of Turkey is not one of the top five IP offices for patents.

**IP filings at the top five offices, and by income groups**

| Office/income groups | Growth rates (%), 2011-12 | | | Share in world total (%), 2012 | | |
|---|---|---|---|---|---|---|
| | Patents | Marks (class count) | Designs (design count) | Patents | Marks (class count) | Designs (design count) |
| World | 9.2 | 6.0 | 17.0 | 100.0 | 100.0 | 100.0 |
| China | 24.0 | 16.5 | 26.1 | 27.8 | 25.1 | 54.0 |
| EPO/OHIM | 4.0 | 3.2 | 12.0 | 6.3 | 4.8 | 8.0 |
| France | - | -3.5 | - | - | 4.2 | - |
| Germany | - | - | 2.8 | - | - | 4.6 |
| Japan | 0.1 | - | - | 14.6 | - | - |
| Republic of Korea | 5.6 | - | 11.8 | 8.0 | - | 5.4 |
| Turkey | - | 24.1 | 12.4 | - | 3.5 | 3.8 |
| United States of America | 7.8 | 4.0 | - | 23.1 | 6.5 | - |
| | | | | | | |
| High-income | 4.4 | 1.7 | 7.4 | 64.5 | 47.4 | 36.0 |
| Upper middle-income | 21.5 | 12.5 | 24.0 | 32.1 | 42.0 | 60.7 |
| Lower middle-income | 2.1 | 1.3 | -2.6 | 2.9 | 9.4 | 3.0 |
| Low-income | 6.1 | 7.9 | -0.6 | 0.4 | 1.2 | 0.3 |

Note: EPO = European Patent Office. OHIM = Office for Harmonization in the Internal Market. Trademark data refer to class counts, i.e., the number of classes specified in applications. Industrial design data refer to design counts, i.e., the number of designs contained in applications. "-" = Data not reported because the IP office was not one of the top five IP offices.

Source: WIPO Statistics Database, October 2013

## Patents and utility models

### *Patent filings grew by 9.2% in 2012 – the fastest growth recorded in the past 18 years*

Patent filings worldwide grew by 9.2% in 2012, representing the fastest growth recorded in the past 18 years. Following a 3.9% decrease in 2009, patent filings worldwide have now rebounded strongly, with accelerating growth rates – 7.6% in 2010, 8.1% in 2011 and 9.2% in 2012. This was mainly due to strong growth in filings at SIPO. The estimated 2.35 million patent filings worldwide in 2012 consisted of 1.51 million filed by residents and 0.83 million by non-residents.

### *16 of the top 20 patent offices reported growth in filings*

Among the top 20 IP offices, SIPO (+24%) saw the largest growth in filings in 2012, followed by the offices of New Zealand (+14.3%), Mexico (+9%), the United States Patent and Trademark Office (USPTO, +7.8%) and the IP office of the Russian Federation (+6.8%). Growth in resident filings was the driving force behind the overall increase of filings at SIPO, the Russian Federation and the USPTO, while growth in non-resident filings was primarily responsible for the total growth in filings at the IP offices of Mexico and New Zealand. Several offices of middle-income countries, such as Brazil (+5.1%), India (+3.9%) and South Africa (+2.7%), also reported growth in filings.

Filing behavior in Europe showed mixed trends. For example, the European Patent Office (EPO) and the offices of Germany and the United Kingdom (UK) witnessed growth. In contrast, the offices of France and Italy received fewer applications in 2012 than in 2011.

### *Robust growth in international patent filings*

International patent applications filed through the Patent Cooperation Treaty (PCT) have also rebounded strongly since the global economic crisis, with growth of 5.7% in 2010, 11% in 2011 and 7.1% in 2012. The total number of flings made via the PCT system amounted to 195,308 in 2012, which is more than double the figure recorded in 2000.

## *For the first time, China holds the top positions for both destination and source of patent filings*

In 2012, for the first time, residents of China accounted for the largest number of patents filed throughout the world. In addition, SIPO accounted for the largest number of applications received by any single IP office. Residents of China filed 560,681 patent applications; this compared with those filed by residents of Japan (486,070) and residents of the United States of America (US, 460,276). Similarly, SIPO received 652,777 applications, compared to 542,815 for the USPTO and 342,796 for the Japan Patent Office (JPO).

## *Strong growth in filings within the food chemistry and digital communication technology fields*

The majority of the 35 fields of technology witnessed growth in applications, with food chemistry (+9.2%) and digital communication (+8.4%) exhibiting the highest average annual growth rates between 2007 and 2011.[2] However, the fields of computer technology (34,272) and electrical machinery (122,697) accounted for the largest numbers of applications. The combined share of these two fields increased from 10.3% in 2007 to 14.8% in 2011.

Patent filings by field of technology differ across origins. Residents of Israel and the US filed a high concentration of their applications in the computer and medical technologies fields. Applications filed by residents of Belgium, India and Switzerland were more concentrated in the organic fine chemistry field. In contrast, a higher share of applications filed by residents of Japan, Singapore and the Republic of Korea fell within the field of semiconductors. Residents of European countries such as France, Germany and Sweden focused their filings on transport-related technologies.

Patent filings for energy-related technology grew by 5.3% in 2012. Of the 38,300 patent filings related to energy-related technology, solar energy accounted for 60% of the total; it was followed by fuel cell technology (21.2%) and wind energy (17.4%). Applications filed by residents of China Hong Kong (SAR), Israel and Switzerland were highly concentrated in solar energy, while those of Finland, Japan and the UK had higher shares dedicated to fuel cell technology.

## *Patents granted worldwide exceeded the one million mark in 2012*

In 2012, for the first time, the total number of patent grants issued worldwide exceeded the one million mark, with 694,200 issued to residents and 439,600 to non-residents. The total number of grants worldwide grew over the three-year period from 2010 to 2012, with increases of 12.4% in 2010, 9.7% in 2011 and 13.7% in 2012. The 13.7% growth in 2012 – the highest rate since 2006 – was mainly due to growth in grants issued by the JPO, SIPO and the USPTO. Combined, these three offices accounted for 80% of the 2012 worldwide growth.

## *More than 8.6 million patents in force worldwide in 2012*

An estimated 8.66 million patents were in force worldwide in 2012. This figure is based on data provided by 82 IP offices. The USPTO (2.24 million) continues to be the IP office with the largest number of patents in force, followed by the JPO (1.7 million) and SIPO (0.9 million). In recent years, the gap between the JPO and the USPTO on the one hand, and SIPO on the other, has narrowed due to substantial growth in patents in force at SIPO. In 2012, non-resident holders accounted for a large share of patents in force at SIPO (45.9%) and the USPTO (48.4%). In contrast, only 13.6% of all patents in force at the JPO are owned by non-residents.

2 Patent filing data by field of technology refer to published applications. There is a minimum delay of 18 months between the application and publication dates. For this reason, 2011 is the latest available year for statistics on patents by field of technology.

### *Average age of patents in force differs across IP offices*

Patent rights are generally limited to a period of 20 years, counted from the filing date. Holders must pay maintenance fees in order to maintain validity. At 12.3 years, the IP office of Canada had one of the highest average ages of patents in force in 2012. Other IP offices where the average age of patents in force in 2012 was more than 10 years were the IP offices of Germany (11.3 years), South Africa (11.1 years), India (11 years), Finland (10.7 years) and the US (10.2 years).

### *Fall in pending applications at the top IP offices*

In 2012, the number of potentially pending applications (i.e., unprocessed applications at any stage of the application process) fell at three of the top four IP offices. The JPO and the USPTO saw year-on-year decreases over the 2008-12 period, while the Korean Intellectual Property Office (KIPO) reported an annual decrease only from 2011 to 2012. The EPO has witnessed continuous growth since 2004. Despite the decreases in the numbers of potentially pending applications in recent years, the USPTO (1.2 million) and the JPO (1.1 million) had the largest stock of potentially pending applications in 2012. At 637,823, the EPO saw a 2.9% increase in potentially pending applications from 2011 to 2012.

### *Persistent and substantial growth in utility model filings*

Utility model (UM) applications worldwide grew by double-digit rates for each year between 2008 and 2012. The 23.4% growth in 2012 was lower than the 34.7% growth observed in 2011, but was similar to the 2010 growth rate (+24.7%). The strong growth in UM applications worldwide was mainly due to growth in filings in China. When SIPO data are excluded from world estimates, the growth rate of UM applications worldwide was only around 2.2% in 2012.

SIPO saw a 26.4% increase in UM applications in 2012. In addition to SIPO, several other IP offices exhibited strong growth in filings – notably, Turkey (+15.5%), the Czech Republic (+13.2%), Italy (+11.7%) and Thailand (+10.7%).

## Trademarks

### *Trademark class counts grew by 6% in 2012*

The total number of classes specified in trademark applications (i.e., class counts) filed worldwide grew by 6% in 2012; this was lower than the growth rates recorded in 2010 (9%) and in 2011 (9.5%). The strong growth in class counts between 2010 and 2012 was mainly due to a substantial increase in filings in China. In 2012, a total of 6.58 million classes were specified in applications, which comprised of 4.84 million resident application class counts and 1.74 million non-resident class counts.

### *The majority of the top 20 IP offices saw growth in filings received*

The majority of the top 20 IP offices saw growth in class counts in 2012. Among the top 20 offices, the IP offices of two middle-income countries, namely Turkey (+24.1%) and China (+16.5%), reported the fastest growth. Strong growth in filing activity by residents was mainly responsible for the overall growth rates reported by these offices. Mexico (+5.5%) and the Russian Federation (+7.9%) also exhibited strong growth in class counts for 2012. In contrast, the IP offices of European Union (EU) countries recorded fewer application class counts in 2012 than in 2011. For example, Italy reported an 8.3% decrease, while Germany and Spain reported decreases of 6.4% and 5.6%, respectively.

### *International registrations grew for the third consecutive year*

In 2012, international registrations via the Madrid system saw a third year of continued growth, following their decrease recorded in 2009. Registrations through the WIPO-administered Madrid system increased by 3.1% in 2012, when they reached a new record of almost 42,000 international registrations.

### *Residents of China filed approximately 1.58 million application class counts worldwide*

In 2012, residents of China filed, worldwide, applications with approximately 1.58 million class counts; this was significantly higher than the figures for the US (599,896), Germany (387,503) and France (384,665). In many countries, the majority of trademarks were filed by residents with their respective domestic IP offices. However, there were some notable exceptions; a high proportion of total filing activity originating in Austria (49.5%), Switzerland (76.9%) and the US (45%) were filed abroad.

### *The agriculture and clothing sectors accounted for the largest shares of trademark applications*

The agriculture and clothing sectors accounted for the largest shares of trademark filing activity, but varied across origins. For example, it was the agriculture and business sectors that were most popular for applicants from Mexico, Poland and Turkey, whereas the research and technology sector received the most attention by applicants domiciled in Australia and the US. Applications filed by residents of China and the Republic of Korea tended to be concentrated in the agriculture, clothing, and research and technology sectors.

### *Trademark registrations issued worldwide decreased over two consecutive years*

In 2012, a total of 4.4 million classes were specified in trademark registrations worldwide. This represents a 1.5% decrease on 2011, and marks the second consecutive year of a drop in the total number of registration class counts. This decline in registration activity worldwide was mainly due to a decrease in the number of registrations issued by the IP office of China. Despite this development, the IP office of China issued trademark registrations with a total of just over 1 million class counts in 2012. OHIM (276,856) and the USPTO (236,632) also had large numbers of registration class counts in 2012.

### *Approximately 24 million trademarks in force across the world in 2012*

In 2012, approximately 24 million trademarks were in force at 74 IP offices worldwide. China, with 6.4 million trademarks, accounted for the largest number of trademarks in force in 2012. In fact, the number of trademarks in force in China represents a 16.2% increase on the previous year's 5.5 million. The IP offices of Japan (1.78 million) and the US (1.80 million) reported almost equivalent numbers of trademarks in force in 2012, with both offices recording modest growth – 1.2% for Japan and 3.6% for the US – on 2011. Like the IP office of China, Turkey's office (+13.3%) and OHIM (+12.6%) also reported considerable growth in the numbers of trademarks in force over the same period.

### *The average age of trademarks in force was highest in Hungary*

The average age of trademarks in force in 2012 was highest at the IP office of Hungary (15.4 years). This was in contrast to the average age of trademarks in force in Turkey (6.8 years). The average ages of trademarks in force in selected European countries were 11.7 for Austria, 12 for Portugal and 11.3 years for Spain. These countries had higher average ages for trademarks in force than countries such as Australia, the Russian Federation, Mexico and the US, for which the average age was approximately 8 years.

## Industrial designs

### *Industrial design counts grew by 17% – the fastest growth on record*

Following a slowdown witnessed in both 2008 and 2009, the numbers of industrial designs contained in applications (i.e., design counts) rebounded strongly, with double-digit growth recorded in each of the three subsequent years 2010, 2011 and 2012. The 2012 growth of 17% was, in fact, the highest since design count records became available in 2004. The high year-on-year growth in design counts was mainly due to sharp increases in the number of applications filed at SIPO. In 2012, applications containing an estimated 1.22 million designs were filed worldwide, comprised of 1.04 million associated with resident filings and 0.17 million associated with non-resident filings.

### *The IP office of the Russian Federation recorded the fastest growth in industrial design counts*

Among the top 20 IP offices, the IP office of the Russian Federation – with 29.5% growth – recorded the fastest growth in design counts in 2012. SIPO (+26.1%), Turkey (+12.4%), the Office for Harmonization in the Internal Market (OHIM, +12%) and KIPO (+11.8%) were the four other offices that experienced double-digit growth from 2011 to 2012. Filing behavior at the IP offices of larger middle-income countries showed mixed trends. Morocco (-14.8%), Brazil (-4%) and Mexico (-0.3%) saw decreases, while India (+4%) and Ukraine (+3.3%) reported growth in design counts over the same period.

### *Residents of China filed applications containing almost 650,000 industrial designs across the world*

Residents of China filed, worldwide, applications containing almost 650,000 industrial designs in 2012. They were followed by residents of Germany (76,369), the Republic of Korea (68,737) and the US (45,245). Residents of China filed applications containing 99% of their industrial designs at SIPO, whereas residents of the US filed applications containing the majority of their designs abroad (58.4%).

### *More than 2.7 million industrial design registrations in force worldwide*

In 2012, an estimated 2.71 million industrial design registrations at 86 offices were in force worldwide. SIPO, which had more than 1.1 million registrations in force, accounted for 41.8% of the world total. The USPTO, KIPO and the JPO each had around 250,000 to 270,000 registrations in force in 2012. SIPO (+22.7%) and the IP offices of Malaysia (+12.7%) and Turkey (+11.5%) saw the fastest growth in their numbers of registrations in force. In contrast, the IP offices of India (-5.7%) and South Africa (-12.5%) recorded the largest decreases in registrations in force. A number of European countries, such as Austria, Germany, Poland and the UK, reported fewer registrations in force in 2012 than in 2011.

### *Average age of industrial design registrations in force is highest among IP offices of many European countries*

Industrial design registrations are generally valid for up to 15 years, but this time period can vary depending on the IP office. The average age of registrations in force is high among the IP offices of many European countries. For example, the average age of registrations in force in 2012 was 10.7 years in Spain, 9.4 years in Austria, 9 years at the Benelux Office for Intellectual Property (BOIP) and 8.5 years at the UK IP Office. In contrast, the average age of registrations in force in 2012 at the IP offices of Canada, China, Ukraine, KIPO and OHIM was less than 5 years.

## Plant varieties

### *There was modest growth in the number of plant variety applications filed worldwide*

The total number of plant variety applications reached a new record in 2012 (14,319), but the growth rate of 1.8% in 2012 was modest compared to 2011 (+7.5%). The smaller growth in 2012 was mainly due to a decrease in applications at the European Union's Community Plant Variety Office (CPVO). The majority of plant variety applications filed worldwide were received by offices of high-income countries. Despite the 12.2 percentage point decrease in the high-income countries' share of world filings, this group received 64.6% of total plant variety applications in 2012.

### *The Community Plant Variety Office received the largest number of applications in 2012*

The EU's CPVO (2,868) received the highest number of applications in 2012, followed by the offices of China (1,583) and Ukraine (1,281). Even though applications fell at CPVO by 9.9%, this office received almost twice as many as the office of China.

### *Residents of the Netherlands filed the largest number of plant variety applications*

In 2012, the largest number of plant variety applications originated in the Netherlands (2,560), followed by the US (1,829) and China (1,465). Residents of France, Germany and Japan had similar numbers of applications i.e., approximately 1,000 each. However, twelve of the top 20 origins, including the top two origins, filed fewer applications in 2012 than in 2011.

### *Plant varieties in force worldwide increased by 7.6% in 2012*

There has been a consistent upward trend in the number of plant varieties in force worldwide, with the 7.6% increase in 2012 representing the fastest growth since 2007. The CPVO accounted for approximately 20% of all patent varieties in force worldwide in 2012. The majority of the top 20 offices had more plant varieties in force in 2012 than in 2011. The offices of China (+32.9%), Ukraine (+11.8%), Brazil (+11%) and the Netherlands (+10%) saw double-digit growth over the same period.