

IV: Patent Application and Examination

1. Patent Application and Granting

In 2011, the number of patent applications in China reached 1.633 million, a 33.6% growth year on year, making a good start for intellectual property development in the 12th Five-Year Plan period. The number of domestic patent applications kept increasing at a high speed. The number of valid domestic invention patent exceeded the number of valid foreign invention patent for the first time. China's patent examination capacity kept rising.

(1) Patent application

According to the latest statistics, SIPO received 526,000 invention patent applications in 2011, a 34.5% growth year on year. The number of domestic invention patent applications (including applications from Taiwan, Hong Kong and Macao) was 416,000, accounting for 79.1% of the total with a 42.0% growth year on year; the number of applications from overseas reached 110,000, accounting for 20.9% with a 12.2% growth year on year.

Among the domestic invention patent applications, 324,000 were service applications, accounting for 77.9% of the total;



while 92,000 were non-service applications, accounting for 22.1% of the total. Among the domestic service patent applications, 232,000 were from enterprises, accounting for 71.6%, 63,000 from universities and colleges, accounting for 19.5%, 25,000 from scientific research institutions, accounting for 7.7%, and 4,000 from organizations, accounting for 1.2%.

In 2011, SIPO received 585,000 applications for utility model patents, a growth of 42.7% year on year; and 521,000 applications for industrial design patents, a growth of 23.8% year on year.

Table 1 Top 10 Domestic Enterprises Regarding the Invention Patent Applications in 2011 (Including Taiwan, Hong Kong and Macao)

No.	Name of Enterprise	Number (Piece)
1	ZTE Corporation	4685
2	Huawei Technologies Co., Ltd.	3617
3	China Petroleum & Chemical Corporation	3122
4	Hongfujin Precision Industry (Shenzhen) Co., Ltd.	2908
5	Ocean's King Lighting Technology Co., Ltd.	1212
6	Tencent Technology Shenzhen Co., Ltd.	850
7	AU Optronics Corp.	758
8	PetroChina Company Limited	722
9	Chery Automobile Co. Ltd	718
10	Semiconductor Manufacturing International (Shanghai) Co., Ltd.	635

Table 2 Top 10 Foreign Enterprises Regarding the Invention Patent Applications in 2011

No.	Country/Region	Name of Enterprise	Number (Piece)
1	Japan	Sony Corporation	2430
2	Japan	Panasonic Corporation	1802
3	USA	Microsoft Corporation	1625
4	USA	Qualcomm Incorporated	1374
5	USA	General Electric Company	1311
6	USA	General Motors Corporation	1293
7	Japan	Canon Inc.	1289
8	The Netherlands	Koinklijke Philips Electronics N.V.	1286
9	Japan	Sharp Corporation	1257
10	Japan	Seiko Epson	1171

Table 3 Top 10 Domestic Colleges and Universities Regarding the Invention Patent Applications in 2011

No.	Name of University/College	Number (Piece)
1	Zhejiang University	2342
2	Tsinghua University	1809
3	Southeast University	1398
4	Shanghai Jiao Tong University	1348
5	Beihang University	1253
6	Harbin Institute of Technology	1171
7	Tianjin University	1115
8	Jiangnan University	1033
9	South China University of Technology	1011
10	Xi'an Jiaotong University	803

Table 4 Top 10 Domestic Scientific Research Institutes Regarding the Invention Patent Applications in 2011

No.	Name of Scientific Research Institutes	Number (Piece)
1	Kuang-Chi Institute of Advanced Technology	1084
2	Institute of Microelectronics, CAS	769
3	Industrial Technology Research Institute	455
4	Datang Telecom Technology & Industry Group	378
5	Dalian Institute of Chemical Physics, CAS	366
6	Institute of Process Engineering, CAS	358
7	China Electric Power Research Institute	352
8	Changchun Institute of Optics, Fine Mechanics and Physics, CAS	322
9	Institute of Chemistry, CAS	269
10	Shanghai Institute of Microsystem and Information Technology, CAS	243

(2) Distributions of origins of invention patent applications with regard to domestic areas and foreign countries

In 2011, the top ten provinces and municipalities in terms of quantity of invention patent applications were Jiangsu, Guangdong, Beijing, Shanghai, Shandong, Zhejiang, Liaoning, Shaanxi, Sichuan and Taiwan.

Table 5 Top 10 Provinces, Autonomous Regions and Municipalities in Terms of Invention Patent Applications in 2011

No.	Provinces/Autonomous Regions/Municipalities	Number (Piece)
1	Jiangsu	84678
2	Guangdong	52012
3	Beijing	45057
4	Shanghai	32142
5	Shandong	25623
6	Zhejiang	24745
7	Liaoning	14658
8	Shaanxi	13037
9	Sichuan	11808
10	Taiwan	11351

In 2011, the top ten foreign countries in terms of invention patent applications in China were Japan, the United States of America, Germany, Republic of Korea, France, the Netherlands, Switzerland, United Kingdom, Sweden and Italy.

Table 6 Top 10 Foreign Countries in Terms of Invention Patent Applications in China in 2011

No.	Country	Number (Piece)
1	Japan	39231
2	USA	28457
3	Germany	11422
4	Republic of Korea	8129
5	France	3973
6	The Netherlands	2999
7	Switzerland	2665
8	UK	1876
9	Sweden	1730
10	Italy	1245

(3) Distribution of patent applications by technical fields

In 2011, SIPO completed international patent classification for 450,782 invention patent applications, up by 85,872 or 23.5% year on year. According to the International Patent Classification (IPC) for inventions in 2011, there were more than 10,000 applications respectively in the technical fields of “Preparations for medical, dental or toilet purposes” (A61K), “Electric digital data processing”(G06F), “Transmission of digital information, e.g. Telegraphic communication” (H04L), “Semiconductor devices, electric solid states devices not otherwise provided for”(H01L) and “Wireless communications networks”(H04W).

Table 7 Patent Applications Classified According to IPC in 2011

Total	A—H	A	B	C	D	E	F	G	H
Number (Piece)	450782	73836	68335	75129	8355	15158	39155	76822	93992
Percentage	100%	16.4%	15.2%	16.7%	1.9%	3.4%	8.7%	17.0%	20.9%

Table 8 Top 10 IPC Sub–Classes of Invention Patent Applications in 2011

Invention	Sub–Classes	Number (Piece)	Domestic Invention	Sub–classes	Number (Piece)	Foreign Invention	Sub–classes	Number (Piece)
1	A61K	20723	1	A61K	17906	1	H01L	5937
2	G06F	20050	2	G06F	14923	2	G06F	5127
3	H01L	15478	3	H04L	11711	3	H04N	3067
4	H04L	14425	4	H01L	9541	4	A61K	2817
5	H04W	10562	5	H04W	7917	5	H04L	2714
6	G01N	9154	6	A23L	7524	6	H04W	2645
7	A23L	7825	7	G01N	7516	7	A61B	2108
8	H04N	7328	8	C12N	4361	8	H01M	2051
9	C07D	5764	9	H04N	4261	9	C07D	1924
10	H01M	5336	10	C02F	4217	10	G02B	1667

Table 9 Top 10 Domestic Enterprises in Terms of the Number of Patents Granted in 2011

No.	Name of Enterprise	Number (Piece)
1	ZTE Corporation	3178
2	Huawei Technologies Co., Ltd.	2751
3	Hongfujin Precision Industry (Shenzhen) Co., Ltd.	862
4	China Petroleum & Chemical Corporation	587
5	H3C Technologies Co., Ltd.	481
6	AU Optronics Corp.	471
7	BYD Company Ltd.	453
8	Datang Mobile Communications Equipment Co., Ltd.	367
9	Semiconductor Manufacturing International (Shanghai) Co., Ltd.	364
10	Inventec Corporation	320

(4) Patent granting

In 2011, SIPO granted 172,000 invention patents, up by 27.4% year on year, among which 112,000 were granted to domestic applicants, accounting for 65.1% of the total, 60,000 were granted to foreign applicants, accounting for 34.9%. Among SIPO-granted domestic invention patents, 95,000 were service patents, accounting for 84.8% of the total; 17,000 were non-service patents, accounting for 15.2%.

Among the domestic service patents for inventions, 58,000 were granted to enterprises, accounting for 61.1%, 27,000 to universities and colleges, accounting for 28.4%, 9,200 to universities and colleges, accounting for 9.7%, 800 to organizations, accounting for 0.8%.

In 2011, SIPO granted 408,000 utility model patents, up by 18.6% year on year and 380,000 industrial design patents, up by 13.4% year on year.

No.	Country/Region	Name of Enterprise	Number (Piece)
1	Japan	Panasonic Corporation	1587
2	ROK	Samsung Electronics Co., Ltd.	1276
3	Japan	Sony Corporation	1172
4	Japan	Canon Inc.	910
5	Japan	Toyota Motor Corporation	848
6	ROK	LG Electronics Corporation	788
7	Japan	Sharp Corporation	777
8	The Netherlands	Koiniklijke Philips Electronics N.V.	650
9	USA	International Business Machines Corporation	644
10	Japan	Seiko Epson	627

No.	Name of University/College	Number (Piece)
1	Zhejiang University	1368
2	Tsinghua University	1137
3	Harbin Institute of Technology	743
4	Beihang University	639
5	Shanghai Jiao Tong University	628
6	Southeast University	499
7	South China University of Technology	495
8	Tianjin University	452
9	Chongqing University	405
10	Xi'an Jiaotong University	376

No.	Name of Scientific Research Institute	Number (Piece)
1	Industrial Technology Research Institute	371
2	Institute of Computing Technology, CAS	169
3	Dalian Institute of Chemical Physics, CAS	148
4	Institute of Semiconductors, CAS	142
5	Changchun Institute of Applied Chemistry, CAS	135
6	Institute of Microelectronics, CAS	129
7	General Research Institute for Nonferrous Metals	127
8	Institute of Chemistry, CAS	123
9	Institute of Automation, CAS	116
10	Shanghai Institute of Microsystem and Information Technology, CAS	115

No.	Provinces/Autonomous Regions/Municipalities	Number (Piece)
1	Guangdong	18242
2	Beijing	15880
3	Jiangsu	11043
4	Shanghai	9160
5	Zhejiang	9135
6	Taiwan	6154
7	Shandong	5856
8	Sichuan	3270
9	Liaoning	3164
10	Hubei	3160

(5) The number of valid patents

By the end of 2011, SIPO has granted a total of 2,740,000 valid patents, among which 697,000 (25.4%) were invention patents, 1,121,000 (40.9%) were utility model patents, 922,000 (33.7%) were industrial design patents. Among all valid invention patents, 351,000 were owned by domestic owners, accounting for 50.4% of the total, which exceeded the number of valid invention patents owned by foreign owners for the first time.

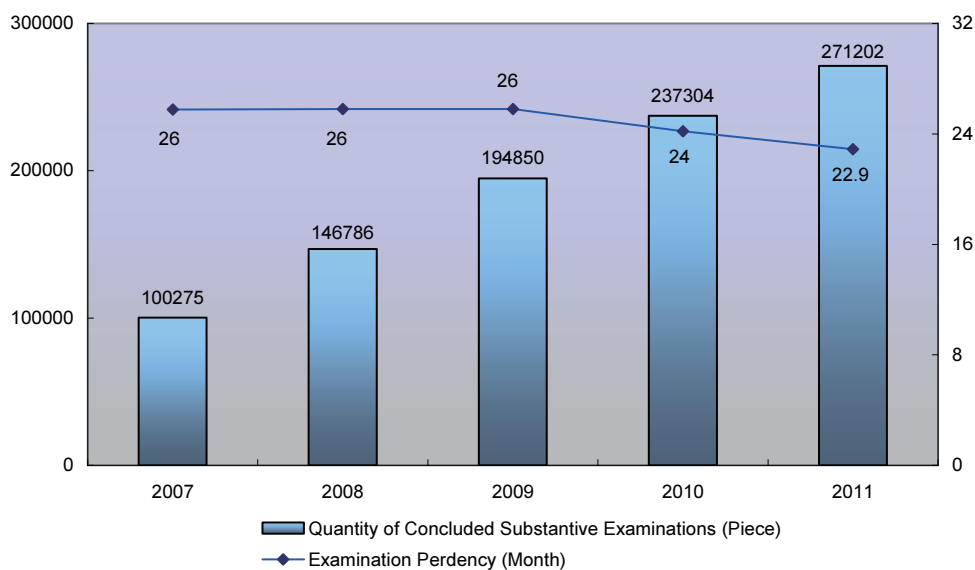
2. Patent Examination

In 2011, the work of patent examination made steady progress. The number of examined and concluded applications kept growing. Application examination maintained a high efficiency and examination pendency remained stable.

In 2011, the amount of examined and concluded applications of three kinds of patents maintained a steady increase. SIPO delivered 292,157 First Office Actions, increasing 11.3% than last year, completed the substantive examination of 271,202 patent applications, growing 14.3% than last year, completed the examination of 443,676 utility models applications, growing 14.6% than last year, and completed the examination of 502,828 industrial designs applications, growing 14.2% than last year.

In spite of the rapid increase of patent applications, the pendency for substantive examinations of three kinds of patents had a slight decrease. The examination pendency for invention patent applications was 22.9 months, for utility models applications 4.7 months and for industrial designs applications 2.6 months.

The number of patent examiners has been increasing in recent years. Age distribution and personnel quality continued to improve. At the end of 2011, all departments of SIPO had a total of 2,954 patent examiners. Beijing Patent Examination Cooperation Center, the affiliated organization of SIPO, had greatly accelerated the speed of patent examination since its founding in May 2001. Jiangsu Patent Examination Cooperation Center and Guangdong Patent Examination Cooperation Center were established in 2011. Recruitment for the two new centers had started.



Changes in the Quantity of Concluded Substantive Examinations and Examination Pendency from 2007 to 2011.

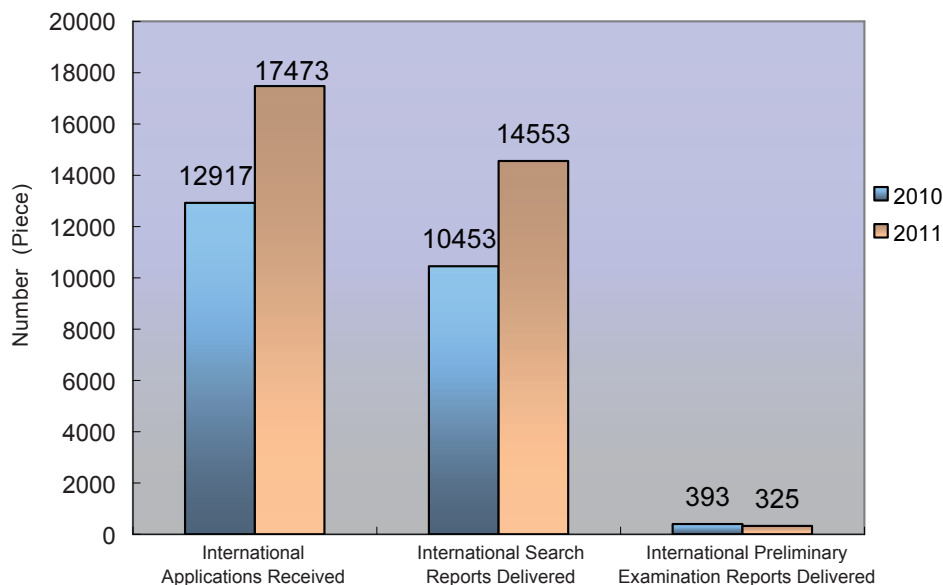
3. PCT International Applications

As a receiving office of the Patent Cooperation Treaty (PCT), SIPO received a total of 17,473 PCT applications, up 35.3% year on year. From 1994 to 2011, SIPO received a total of 63,546 PCT applications.

SIPO started to accept whole electronic application (PCT-SAFE) on May 1, 2007. In 2011, the PCT-SAFE application accounted for 88% of the total.

As an international searching authority, SIPO delivered 14,553 international search reports in 2011, growing 39.2% than last year. Since 1994, SIPO had delivered 54,358 PCT international search reports.

As an international preliminary examination authority, SIPO delivered 325 international preliminary examination reports. Since 1994, SIPO had delivered 5,874 international preliminary examination reports.



The Amount of PCT International Application, International Searching and International Preliminary Examinations from 2010 to 2011.

In 2011, SIPO received 66,320 PCT applications that entered China's national phase, up 6.0% year on year, among which 65,996 were invention patents applications and 324 were utility model applications. Since 1994, SIPO had received a total of 541,009 PCT applications that entered China's national phase.

4. Registration Applications for Layout Designs of Integrated Circuits

In 2011, SIPO received 1,464 registration applications for layout designs of integrated circuits, with 1,329 registrations published and certificated. Since the Regulations for the Protection of Layout-design of Integrated Circuits came into force on October 1, 2001, SIPO had received 5,940 registration applications for layout designs of integrated circuits, with 5,295 registrations published and certificated.

5. Reexamination and Patent Invalidation

(1) Requests for reexamination received and cases concluded

In 2011, SIPO accepted 12,946 requests for reexamination, 577 more than 2010, growing 4.7% year on year. Of all the requests, 12,850 cases were related to invention patent applications, accounting for 99.3% of the total of 2011. 66 were related to utility models, accounting for 0.5%, and 30 were related to industrial designs, accounting for 0.2%.

In 2011, 10,116 requests were resolved, including 10,056 patent applications for inventions, 20 for utility models and 40 for industrial designs.

Since 1985, SIPO had accepted 56,903 reexamination requests and concluded 44,230 reexamination cases by the end of 2011.

(2) Patent invalidation requests received and cases concluded

In 2011, SIPO received 2,749 invalidation requests, 338 cases more than 2010,

growing 14% year on year. Of all requests, 566 were related to invalidation of invention patents, accounting for 20.6% of the total; 1,323 were related to utility models, accounting for 48.1%, and 850 were related to industrial designs, accounting for 31.3%.

In 2011, 2,567 invalidation requests were resolved, involving 555 patent applications for inventions, 1,245 for utility models and 767 for industrial designs. Since 1985, SIPO had accepted 28,494 invalidation requests, with 26,231 cases concluded by the end of 2011.

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(3) Patent administrative litigation

In 2011, concerned parties submitted 615 cases to Beijing No.1 Intermediate People's Court, of which 128 cases were against the reexamination decisions and 487 were against the decisions on requests for invalidation. Concerned parties submitted 349 cases the Beijing High People's Court, of which 66 cases were against the reexamination decisions and 283 were against the decisions on requests for invalidation.

In 2011, Beijing No.1 Intermediate People's Court tried and closed 524 cases, of which 121 cases were against reexamination decisions and 403 cases were against decisions on requests for invalidation.

In 2011, Beijing High People's Court tried and closed 315 cases, of which 45 cases were against reexamination decisions and 275 cases were against decisions on requests for invalidation.

By the end of 2011, the Supreme People's Court had accepted 52 cases and tried and closed 49 cases.

(4) Revocation of layout designs of integrated circuits registration

Since the promulgation of the Regulation on Protection of Layout Designs of Integrated Circuits on October 1, 2001, Patent Reexamination Board had accepted 5 requests for revocation of layout designs of integrated circuits. 4 requests had been examined and resolved by the end of 2011.

(5) Construction and functioning of circuit court

Since 2008, Patent Reexamination Board set up 10 circuit courts in areas where invalidation disputes are occurred most frequently. 9 of them had started functioning.

In 2011, Fujian Circuit Court and Xinjiang Circuit Court started functioning. The Henan Circuit Court was under construction.