

IV: Patent Application and Examination

During the 11th Five-year Plan, China's patent applications grew remarkably, and the work of patent examination made smooth progress, with the quantity of concluded cases continuously growing. The substantive examination of 760,389 applications for invention patents was completed, along with 1,188,533 for utility models and 1,383,927 for industrial designs. SIPO recruited 1,671 people in total, among which 194 were for preliminary examination and flow management, 1,371 for substantive examination of invention patents, 29 for patent reexamination and invalidity examination, and 77 for administrative work. In addition, SIPO recruited 2,168 people to assist the examination process. The major progresses of the examination work in 2010 are summarized in the following sections:

1. Patent Application and Granting

In 2010, with the context of global economic recovery, domestic patent applications witnessed an obvious speed-up, while foreign patent applications finally returned to, and then exceeded the 2008 level. At the same time, China's patent examination capacity kept rising.



(1) Patent application

According to the latest statistics, SIPO received 391,000 invention patent applications in 2010, a 24.1% growth year on year. 293,000 of the figure were domestic applications for invention patents (including from Hong Kong, Macao and Taiwan), accounting for 74.9% of the total with a 27.9% increase year on year; the applications from overseas reached 98,000, or 25.1% of the total with a 15.3% growth year on year.

Among the domestic invention patent applications, 224,000 were service applications, accounting for 76.5% of the total; while 69,000 were non-service applications, accounting for 23.5% of the total. Among the domestic service patent applications, 155,000 applications were from enterprises, accounting for 69.2%, 48,000 from universities and colleges, accounting for 21.4%, 18,000 from scientific research institutions, accounting for 8 %, and 3,000 from organizations, accounting for 1.4%.

Meanwhile, SIPO received a total of 410,000 applications for utility model patents (up 31.8% year on year), and 421,000 applications for industrial design patents (up 19.9%).

Table 1. Top 10 Domestic Enterprises Regarding the Invention Patent Applications in 2010

NO.	Name of Enterprise	Number (Piece)
1	ZTE Corporation	5660
2	Hongfujin Precision Industry (Shenzhen) Co., Ltd. (Taiwan funded)	2832
3	China Petroleum & Chemical Corporation	2313
4	Huawei Technologies Co., Ltd.	2236
5	Ocean' s King Lighting Technology Co., Ltd.	840
6	Inventec Corporation (Taiwan funded)	775
7	Datang Mobile Communications Equipment Co., Ltd.	714
8	Semiconductor Manufacturing International (Shanghai) Co., Ltd.	711
9	BYD Company Limited	675
10	AU Optronics Corp. (Taiwan funded)	670

Table 2. Top 10 Foreign Enterprises Regarding the Invention Patent Applications in 2010

NO.	Country/Region	Name of Enterprise	Number (Piece)
1	Japan	Sony Corporation	2036
2	Japan	Panasonic Corporation	1723
3	USA	Qualcomm Incorporated	1446
4	ROK	Samsung Electronics Co., Ltd.	1219
5	Japan	Sharp Corporation	1202
6	USA	General Motors Global Technology Operation Company	1110
7	Netherland	Koiniklijke Philips Electronics N.V.	1104
8	USA	General Electric Company	1022
9	Japan	Canon Inc.	1001
10	Japan	Toyota Motor Corporation	935

Table 3. Top 10 Domestic Colleges and Universities Regarding the Invention Patent Applications in 2010

NO.	Name of University/College	Number (Piece)
1	Zhejiang University	2193
2	Tsinghua University	1509
3	Shanghai Jiao Tong University	1113
4	Harbin Institute of Technology	1095
5	Beihang University	1030
6	Southeast University	1020
7	South China University of Technology	805
8	Jiangnan University	758
9	Tianjin University	754
10	Fudan University	657

Table 4. Top 10 Domestic Scientific Research Institutes Regarding the Invention Patent Applications in 2010

NO.	Name of Scientific Research Institutes	Number (Piece)
1	Institute of Microelectronics, Chinese Academy of Sciences	516
2	Dalian Institute of Chemical Physics, Chinese Academy of Sciences	341
3	China Electric Power Research Institute	234
4	Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences	228
5	Institute of Process Engineering, Chinese Academy of Sciences	227
6	Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences	226
7	Institute of Semiconductors, Chinese Academy of Sciences, Chinese Academy of Sciences	215
8	Institute of Metal Research, Chinese Academy of Sciences	207
9	Changchun Institute of Applied Chemistry, Chinese Academy of Sciences	158
10	Institute of Chemistry, Chinese Academy of Sciences	156

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

In 2010, the top ten provinces and municipalities in terms of quantity of patent applications for inventions were Jiangsu, Guangdong, Beijing, Shanghai, Zhejiang, Shandong, Taiwan, Liaoning, Sichuan and Shanxi.

Table 5. Top 10 Provinces, Autonomous Regions and Municipalities in Terms of Invention Patent Applications in 2010

NO.	Province/Autonomous Region/Municipality	Number (Piece)
1	Jiangsu	50298
2	Guangdong	40866
3	Beijing	33466
4	Shanghai	26165
5	Zhejiang	18027
6	Shandong	17259
7	Taiwan	10813
8	Liaoning	9884
9	Sichuan	8342
10	Shaanxi	8138

In 2010, the top ten foreign countries in terms of invention patent applications in China were Japan, United States of America, Germany, Republic of Korea, France, the Netherlands, Switzerland, Sweden, United Kingdom and Italy.

Table 6. Top 10 Foreign Countries in Terms of Patent Applications in China in 2010

NO.	Country	Number (Piece)
1	Japan	33882
2	USA	25380
3	Germany	9867
4	Republic of Korea	7178
5	France	3506
6	The Netherlands	2998
7	Switzerland	2644
8	Sweden	1780
9	UK	1737
10	Italy	1184

(3) Distribution of patent applications by technical fields

In 2010, SIPO completed international patent classification for 364,910 invention patent applications, up by 76,402 or 26.5% year on year. According to the International Patent Classification (IPC) for inventions in 2010, there were more than 10,000 applications respectively in 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) and "Semiconductor devices, Electric solid states devices not otherwise provided for" (H01L). The total amount of patent applications in above-mentioned four fields accounted for nearly 15% of the total.

Table 7. Patent Applicants Classified According to IPC in 2010

Total	A-H	A	B	C	D	E	F	G	H
Number (Piece)	364910	56424	52004	64763	6314	13146	31691	63217	77351
Percentage	100%	15.5%	14.3%	17.7%	1.7%	3.6%	8.7%	17.3%	21.2%

Table 8. Top 10 IPC Sub-Classes of Invention Patent Applications in 2010

Invention	Sub-classes	Number (Piece)	Domestic invention	Sub-classes	Number (Piece)	Foreign invention	Sub-classes	Number (Piece)
1	A61K	16693	1	A61K	14068	1	H01L	4552
2	G06F	16168	2	G06F	12094	2	G06F	4074
3	H04L	11960	3	H04L	9077	3	H04N	2916
4	H01L	10003	4	H04W	7890	4	H04L	2883
5	H04W	9983	5	G01N	5940	5	A61K	2625
6	G01N	7347	6	H01L	5451	6	H04W	2093
7	H04N	6884	7	A23L	5200	7	C07D	1786
8	A23L	5516	8	H04N	3968	8	H01M	1578
9	C07D	4762	9	C12N	3774	9	A61B	1547
10	C12N	4588	10	C02F	3744	10	G02B	1463

(4) Granting of patents

In 2010, SIPO granted 135,000 invention patents, up by 5.5% year on year, in which 80,000, or 59.3% of the total, were granted to domestic applicants, and 55,000 or 40.7% were to foreign applicants. Among the domestic patents granted, 66,000 or 82.5% were service patents, and 14,000 or 17.5% were non-service patents.

Among the domestic service patents for inventions, 40,000 or 60% patents were granted to enterprises, 19,000 or 28.8% to universities and colleges, 6,500 or 9.8% to scientific research institutions, and 500 or 0.8% to organizations .

In 2010, SIPO granted a total of 345,000 utility models and 335,000 industrial designs.

Table 9. Top 10 Domestic Enterprises in Terms of the Amount of Patents Granted in 2010

NO.	Name of Enterprise	Number (Piece)
1	Huawei Technologies Co., Ltd.	2776
2	ZTE Corporation	2434
3	Hongfujin Precision Industrial (Shenzhen) Co., Ltd. (Taiwan funded)	819
4	AU Optronics Corp. (Taiwan funded)	551
5	China Petroleum & Chemical Corporation	516
6	H3C Technologies Co., Limited	442
7	BYD Company Limited	395
8	Semiconductor Manufacturing International (Shanghai) Co., Ltd.	372
9	Tencent Technology Shenzhen Co, Ltd	335
10	Datang Mobile Communications Equipment Co., Ltd.	240

Table 10. Top 10 Foreign Enterprises in Terms of the Amount of Patents Granted in 2010

NO.	Country/Region	Name of Enterprise	Number (Piece)
1	Japan	Panasonic Corporation	1565
2	ROK	Samsung Electronics Co., Ltd.	1495
3	Japan	Sony Corporation	1313
4	Japan	Canon Inc.	904
5	USA	International Business Machines Corporation	875
6	ROK	LG Electronics Corporation	815
7	Netherland	Koinklijke Philips Electronics N.V.	658
8	Japan	Sharp Corporation	608
9	Japan	Toyota Motor Corporation	569
10	Japan	Toshiba Corporation	541

Table 11. Top 10 Domestic Universities and Colleges in Terms of the Amount of Patents Granted in 2010

NO.	Name of University/College	Number (Piece)
1	Zhejiang University	1030
2	Tsinghua University	832
3	Shanghai Jiao Tong University	746
4	Harbin Institute of Technology	636
5	Beihang University	592
6	Southeast University	397
7	Tianjin University	333
8	Huazhong University of Science and Technology	314
9	Xi'an Jiaotong University	310
10	South China University of Technology	306

Table 12. Top 10 Domestic Scientific Research Institutes in Terms of the Amount of Patents Granted in 2010

NO.	Name of Scientific Research Institute	Number (Piece)
1	Institute of Chemistry, Chinese Academy of Sciences	133
2	Institute of Computing Technology, Chinese Academy of Sciences	126
3	Dalian Institute of Chemical Physics, Chinese Academy of Sciences	123
4	Institute of Electrical Engineering, Chinese Academy of Sciences	103
5	Institute of Photonics, Chinese Academy of Sciences	100
6	Changchun Institute of Applied Chemistry, Chinese Academy of Sciences	97
7	Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences	94
8	Institute of Microelectronics, Chinese Academy of Sciences	93
9	Institute of Metal Research, Chinese Academy of Sciences	88
10	Guiyang Aluminium Magnesium Design&Research Institute	86

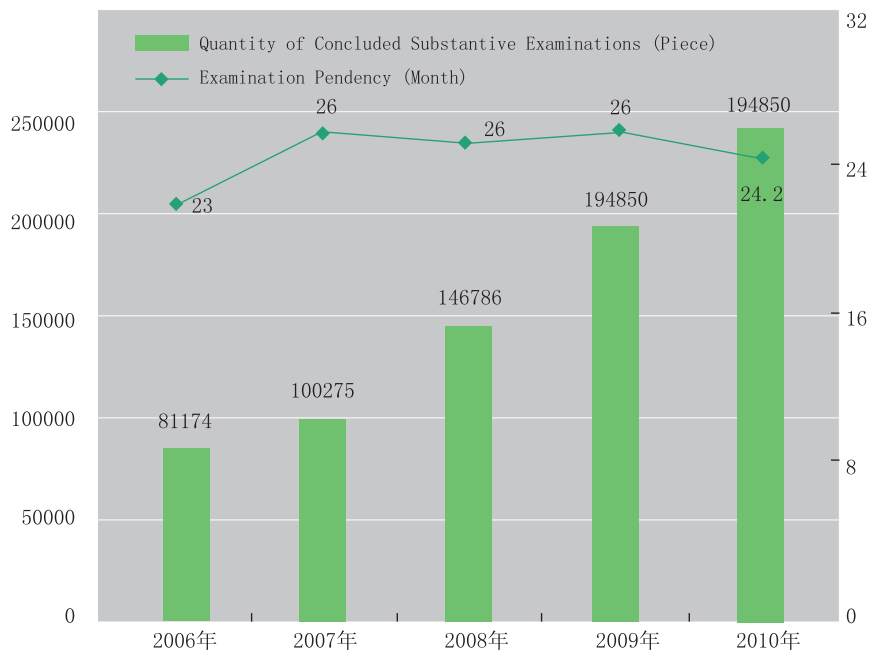
(5) The amount of valid patents in China

There are 2,216,082 valid patents in China, among which 564,760 or 25.5% are invention patents, 857,968 or 38.7% are utility models and 793,354 or 34.5% are industrial designs. There are 1,825,403 owned by domestic owners, accounting for 80.9%, and 365,611 owned by foreign owners, accounting for 19.1%.

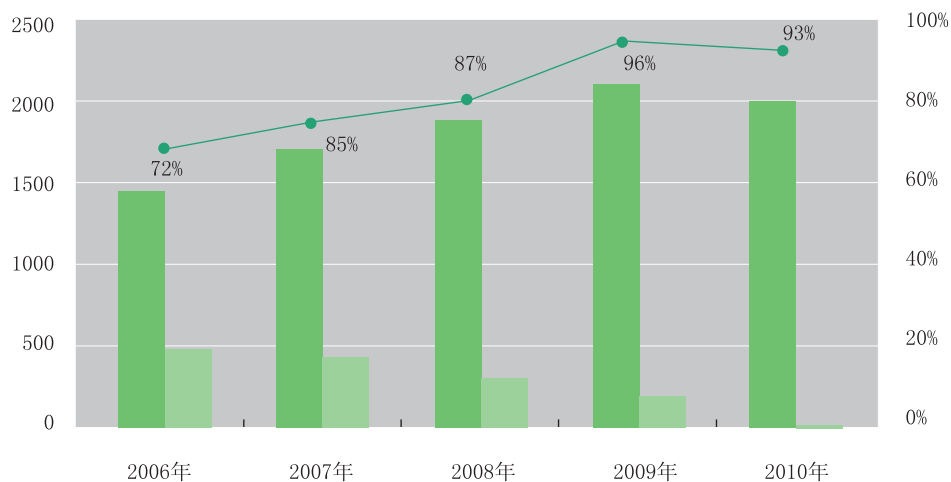
2. Patent Examination

In 2010, the amount of the examined and concluded applications of three kinds of patents continued to increase rapidly. In detail, SIPO had delivered 262,526 First Office Actions with a year on year growth rate of 14.8%, completed the substantive examination of 237,304 patent applications with a year on year growth rate of 21.8%, completed the examination of 387,000 utility models applications with a year on year growth rate of 47.3%, and completed the examination of 440,346 industrial designs applications with a year on year growth rate of 13.2%.

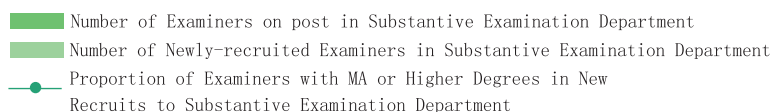
In 2010, the pendency for substantive examination of invention patent applications was 24 months, for utility models 4.3 months and 3 months for industrial designs.



Changes in the Quantity of Concluded Substantive Examinations and Examination Pendency during the 11th Five-year Program



Changes in the Number of Substantive Examiners and their Academic Degrees during the 11th Five-year Program

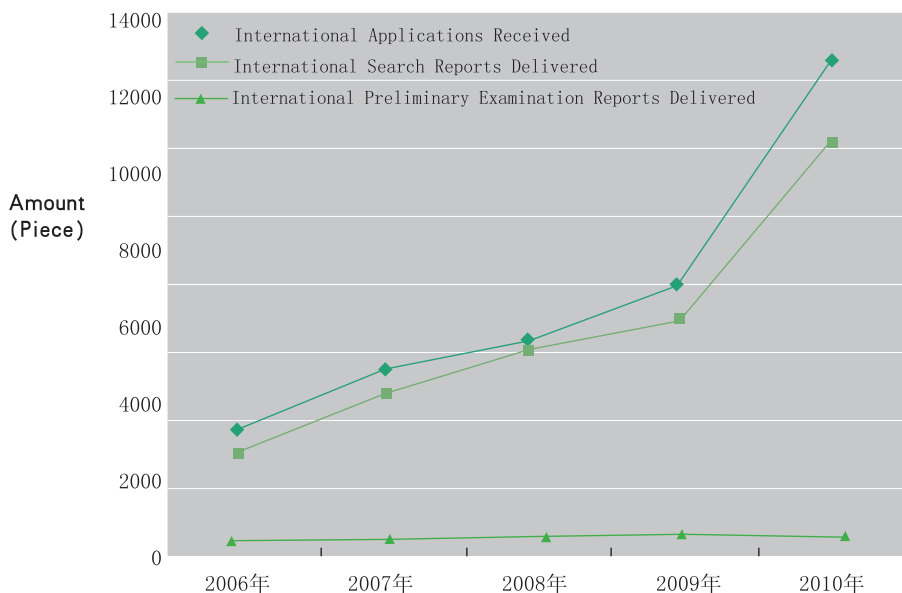


3. PCT International Applications

As a Receiving Office of the Patent Cooperation Treaty (PCT), SIPO received a total of 12,917 PCT applications, up 61.5% year on year. Among those received applications, 11,394 were filed in Chinese, and 1,523 in English. During the 11th Five-year Plan period, SIPO had received 36,500 PCT applications in total.

As an International Searching Authority and an International Preliminary Examination Authority, SIPO has delivered 10,453 international search reports in 2010, up 54.3% year on year. A total of 393 international preliminary examination reports were delivered, down 6.4% year on year. During the 11th Five-year Plan, a total of 31,316 PCT international search reports and 1,928 international preliminary examination reports had been produced.

In 2010, SIPO received 62,317 PCT applications that entered China's national phase, up 14.6% year on year, of which 62,076 were invention patents applications and 241 were utility model applications. During the 11th Five-year Plan, SIPO had received a total of 275,439 PCT applications that entered China's national phase.



The Amount of PCT International Applications, International Searchings and International Preliminary Examinations the 11th Five-year Plan

4. Registration Applications for Layout Designs of Integrated Circuits

In 2010, SIPO received 1,108 registration applications for layout designs of integrated circuits, with 1,009 registrations published and certificated. During the 11th Five-year Plan, a total of 3,513 registration applications had been received by SIPO, and 3,120 registrations had been published and certificated.

5. Reexamination and Patent Invalidation

(1) Requests for reexamination received and cases concluded

Compared with 2009, 2010 saw an increase of 3,174 requests for reexamination, or a growth of 34.5%, to a total number of 12,369. Of all the requests received in 2010, 12,299 cases were related to invention patent applications, on which rejection decisions had been made and then subject to appeals, accounting for 99.4% of the total number, 49 cases were related to utility models, accounting for 0.4%, and 21 cases were related to industrial designs, accounting for 0.2%.

In 2010, 9,005 requests in total were resolved, including 8,939 patent applications for inventions, 18 for utility models and 48 for industrial designs.

Since 1985, the Patent Reexamination Board has received 43,957 reexamination requests, and concluded 34,114 reexamination cases by the end of 2010.

(2) Patent invalidation requests received and cases concluded

In 2010, the Patent Reexamination Board received 2,411 invalidation requests, or a growth of 7.3% year on year. Among the received requests, 509 were related to invalidation of invention patents accounting for 21.1%, 1,147 were related to utility models, accounting for 47.6%, and 755 were related to industrial designs, accounting for 31.3%.

In 2010, 1,946 invalidation requests were resolved, involving 388 patent applications for inventions, 984 for utility models and 574 for industrial designs.

Since 1985, the Patent Reexamination Board has received 25,745 invalidation requests in total, and concluded 23,664 cases by the end of 2010.

(3) Patent administrative litigation

In 2010, concerned parties submitted 878 cases to Beijing No.1 Intermediate People's Court and Beijing High People's Court, of which 169 cases were against the reexamination decisions, 706 were against the decisions on requests for invalidation of patent rights and 3 were against other notices.

In 2010, Beijing No.1 Intermediate People's Court tried and closed 635 cases of various decisions made by the Patent Reexamination Board, among which 111 cases were related to reexamination decision, 521 were to examination decision on invalidation requests and 3 to other decisions.

In 2010, Beijing High People's Court tried and closed 408 cases of various decisions made by the Patent Reexamination Board, 72 of which were related to reexamination decision, 335 were to examination decision on invalidation requests and 1 to other decisions.

(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, SIPO had received 5 requests for revocation of layout designs of integrated circuits. 2 requests had been examined and resolved by December 31,2010.

(5) Construction and functioning of circuit court

Since 2008, the Patent Reexamination Board set up 7 circuit courts in the areas where invalidation disputes are occurred most frequently.