

Statistics of Patents of the World's Most Innovative Universities

7

7.1 World Universities

Patents are the significant factor in ranking universities in terms of innovation. Therefore, in this chapter, we are presenting statistics on patents of different ranked universities in order to encourage other universities to enter the ranking if they work on registering patents. We are especially drawing the attention to the percentage of the number of registered patents in comparison with the number of patents submitted by universities, as we notice that this percentage is lower than 50% for a lot of American universities while it is higher for Asian universities. Table 7.1 shows the number of patents submitted to patent offices by world universities, the number of accepted patents, and the percentage between the number of registered patents and the number of submitted patents in 2018 [27]. Note that the table is based on world university rankings order shown in Table 7.1, and also on all registered patents of any university in a globally-recognized patent office.

The table shows that a limited number of universities succeeded in getting 80% of the patents they submitted to be

accepted while the majority of universities did not exceed 50%, and some universities only got the quarter out of what they submitted to the patent offices in the USA, UK, and Japan to be accepted.

7.2 European Universities

Table 7.2 shows the number of patents submitted to patent offices by European universities, the number of accepted patents, and the percentage of the number of registered patents to the number of submitted patents in 2018 [28].

7.3 Asia-Pacific Universities

Table 7.3 shows the number of patents submitted to patent offices by Asia-Pacific universities, the number of accepted patents, and the percentage of the number of registered patents to submitted patents in 2018 [29].

Table 7.1 Number of patents filed by the institutions, the patents granted and the ratio for the World's Most Innovative Universities (2018)

Rank	Institution	Patents filed	Patents granted	Ratio (%)
1	Stanford University	691	287	41.50
2	Massachusetts Institute of Technology (MIT)	1480	666	45.00
3	Harvard University	977	296	30.30
4	University of Pennsylvania	557	174	31.20
5	University of Washington	536	179	33.40
6	University of Texas System	1023	352	34.40
7	KU Leuven	300	120	40.00
8	Imperial College London	297	99	33.30
9	University of North Carolina Chapel Hill	368	131	35.60
10	Vanderbilt University	231	106	45.90
11	Korea Advanced Institute of Science & Technology (KAIST)	1000	798	79.80
12	Ecole Polytechnique Federale de Lausanne	213	87	40.80
13	Pohang University of Science & Technology (POSTECH)	372	293	78.80
14	University of California System	2533	889	35.10
15	University of Southern California	294	78	26.40
16	Cornell University	534	228	42.70
17	Duke University	344	114	33.10
18	University of Cambridge	224	89	39.70
19	Johns Hopkins University	906	278	30.70
20	University of Tokyo	985	538	54.60
21	California Institute of Technology	596	350	58.70
22	Osaka University	583	307	52.70
23	University of Michigan System	608	268	44.10
24	Northwestern University	322	143	44.40
25	University of Wisconsin System	266	181	68.00
26	Kyoto University	688	360	52.30
27	University of Minnesota System	259	107	41.30
28	University of Illinois System	349	160	45.80
29	Georgia Institute of Technology	284	128	45.10
30	University of Utah	308	117	38.00
31	University of Erlangen Nuremberg	211	110	52.10
32	Ohio State University	208	106	51.00
33	Columbia University	632	169	26.70
34	Seoul National University	869	650	74.80
35	University of Toronto	267	90	33.70
36	Tohoku University	625	382	61.10
37	University of Pittsburgh	294	120	40.80
38	Yale University	273	89	32.60
39	Sungkyunkwan University	241	186	77.20
40	University of Oxford	469	123	26.20
41	University of Colorado System	318	108	34.00

(continued)

Table 7.1 (continued)

Rank	Institution	Patents filed	Patents granted	Ratio (%)
42	Tufts University	173	45	26.00
43	Baylor College of Medicine	229	52	22.70
44	Tsinghua University	742	490	66.00
45	Technical University of Munich	177	79	44.60
46	Kyushu University	554	286	51.60
47	Tokyo Institute of Technology	348	210	60.30
48	University College London	232	69	29.70
49	ETH Zurich	275	81	29.50
50	Purdue University System	291	119	40.90
51	University of Chicago	186	73	39.20
52	Oregon Health & Science University	153	54	35.30
53	University of Manchester	123	37	30.10
54	Indiana University System	235	87	37.00
55	Universite de Montpellier	205	128	62.40
56	University of Munich	107	45	42.10
57	Technical University of Denmark	364	110	30.20
58	Emory University	227	72	31.70
59	Peking University	437	258	59.00
60	Sorbonne University	329	164	49.80
61	University of British Columbia	199	69	34.70
62	Delft University of Technology	136	115	84.60
63	National University of Singapore	459	152	33.10
64	Princeton University	164	74	45.10
65	University of Zurich	167	61	36.50
66	Hanyang University	431	341	79.10
67	Case Western Reserve University	189	69	36.50
68	Yonsei University	539	407	75.50
69	Rutgers State University New Brunswick	229	989	432
70	Boston University	137	43	31.40
71	University of Massachusetts System	237	89	37.60
72	Johannes Gutenberg University of Mainz	88	34	38.60
73	Wake Forest University	130	52	40.00
74	Keio University	184	102	55.40
75	Korea University	508	435	85.60

Table 7.2 Number of patents filed by the institutions, the patents granted, and the ratio for European Most Innovative Universities (2018)

Rank	Institution	Patents filed	Patents granted	Ratio (%)
1	KU Leuven	300	120	40.00
2	Imperial College London	297	99	33.30
3	University of Cambridge	224	89	39.70
4	Federal Institute of Technology in Lausanne (EPFL)	213	87	40.80
5	University of Erlangen Nuremberg	211	110	52.10
6	Technical University of Munich	177	79	44.60
7	University of Manchester	123	37	30.10
8	University of Munich	107	45	42.10
9	Technical University of Denmark	364	110	30.20
10	Swiss Federal Institute of Technology Zurich	275	81	29.50
11	University College London	232	69	29.70
12	Delft University of Technology	136	115	84.60
13	University of Zurich	167	61	36.50
14	University of Oxford	469	123	26.20
15	University of Basel	57	22	38.60
16	University of Montpellier	205	128	62.40
17	Leiden University	75	38	50.40
18	Pierre & Marie Curie University—Paris 6	329	164	49.80
19	University of Paris Descartes—Paris 5	166	58	34.90
20	Ruprecht Karl University Heidelberg	144	47	32.60
21	Johannes Gutenberg University of Mainz	88	34	38.60
22	Free University of Berlin	115	37	32.20
23	Eindhoven University of Technology	50	25	50.00
24	University of Freiburg	167	81	48.50
25	University of Paris Sud—Paris 11	163	86	52.80
26	Charité Medical University of Berlin	85	23	27.10
27	Humboldt University of Berlin	111	36	32.40
28	Grenoble Alpes University	146	71	48.50
29	Dresden University of Technology	209	122	58.40
30	University of Bordeaux	169	95	56.20
31	Karlsruhe Institute of Technology	183	95	51.90
32	University of Oslo	92	27	29.30
33	Ghent University	235	107	45.50
34	University of Birmingham	93	30	32.30
35	University of Claude Bernard—Lyon 1	319	211	66.10
36	University of Glasgow	59	18	30.50
37	Queen Mary University London	71	26	36.60
38	King's College London	93	23	24.70
39	Technical University of Berlin	111	59	53.20
40	RWTH Aachen University	157	58	36.90
41	University of Strasbourg	166	63	38.00
42	Free University of Brussels	97	31	32.00
43	University of Copenhagen	95	23	24.20

(continued)

Table 7.2 (continued)

Rank	Institution	Patents filed	Patents granted	Ratio (%)
44	Polytechnic University of Milan	107	81	75.70
45	University of Edinburgh	111	28	25.20
46	Grenoble Institute of Technology	75	60	80.00
47	Vrije University of Brussels	72	27	37.50
48	Utrecht University	77	65	83.80
49	Ecole Polytechnique	91	75	82.40
50	Goethe University Frankfurt	57	17	29.80
51	University of Paris Diderot—Paris 7	164	52	31.70
52	University of Munster	99	34	34.30
53	Cardiff University	62	29	46.80
54	Catholic University of Louvain	81	21	25.90
55	Hannover Medical School	51	26	51.00
56	Erasmus University Rotterdam	89	19	21.70
57	University of Amsterdam	72	27	37.50
58	University of Dundee	61	16	26.20
59	University of Aix-Marseille	241	106	44.00
60	University of Leicester	56	20	35.70
61	Saarland University	58	29	50.00
62	University of Sheffield	69	14	20.30
63	Eberhard Karls University of Tübingen	93	34	36.60
64	Vienna University of Technology	104	76	73.10
65	Trinity College Dublin	83	18	21.70
66	University of Milan	50	33	66.00
67	University of Paul Sabatier—Toulouse III	145	71	49.00
68	University of Leeds	64	22	34.40
69	University of Barcelona	93	57	61.30
70	University of Southampton	79	30	38.00
71	University of Stuttgart	80	33	41.30
72	University of Würzburg	51	19	37.30
73	University of Lorraine	104	83	79.80
74	University of Geneva	55	23	41.80
75	University of Twente	63	31	49.20

Table 7.3 Number of patents filed by the institutions, the patents granted, and the ratio for Asia-Pacific most innovative universities (2018)

Rank	Institution	Patents filed	Patents granted	Ratio
1	Korea Advanced Institute of Science and Technology (KAIST)	1000	798	79.80
2	University of Tokyo	985	538	54.60
3	Pohang University of Science and Technology (POSTECH)	372	293	78.80
4	Seoul National University	869	650	74.80
5	Tsinghua University	742	490	66.00
6	Osaka University	583	307	52.70
7	Kyoto University	688	360	52.30
8	Sungkyunkwan University	241	186	77.20
9	Tohoku University	625	382	61.10
10	National University of Singapore	459	152	33.10
11	Hanyang University	431	341	79.10
12	Peking University	437	258	59.00
13	Yonsei University	539	407	75.50
14	Kyushu University	554	286	51.60
15	Korea University	508	435	85.60
16	Tokyo Institute of Technology	348	210	60.30
17	Fudan University	137	77	56.20
18	Keio University	184	157	85.40
19	Shanghai Jiao Tong University	187	97	51.90
20	Gwangju Institute of Science and Technology	174	144	82.80
21	Zhejiang University	213	132	62.00
22	Chinese University of Hong Kong	74	46	62.20
23	Hokkaido University	291	169	58.10
24	Kyung Hee University	246	197	80.10
25	Monash University	165	34	20.60
26	Nanyang Technological University	423	168	39.70
27	Ajou University	183	153	83.60
28	Huazhong University of Science and Technology	174	132	75.90
29	Hiroshima University	165	110	66.70
30	Kumamoto University	123	73	59.30
31	Nagoya University	391	201	51.40
32	Beijing University of Chemical Technology	80	63	78.80
33	East China University of Science and Technology	129	74	57.40
34	Tokyo Medical & Dental University (TMDU)	121	37	30.60
35	Tianjin University	167	103	61.70
36	University of Sydney	162	44	27.20
37	Ewha Woman's University	171	135	78.90
38	Hong Kong University of Science and Technology	111	49	44.10
39	University of Auckland	114	41	36.00
40	Shinshu University	124	74	59.70
41	South China University of Technology	253	137	54.20
42	University of Queensland	161	49	30.40

(continued)

Table 7.3 (continued)

Rank	Institution	Patents filed	Patents granted	Ratio
43	Kanazawa University	67	42	62.70
44	China University of Petroleum	75	53	70.40
45	University of Melbourne	89	26	29.20
46	Southeast University China	188	127	67.60
47	University of Hong Kong	122	71	58.20
48	University of Tsukuba	108	56	51.90
49	Catholic University of Korea	166	132	79.50
50	Nanjing University	120	84	70.00
51	University of New South Wales Sydney	118	47	39.80
52	Chiba University	95	58	61.10
53	Xi'an Jiaotong University	113	81	71.70
54	Chonbuk National University	168	136	81.00
55	Chonnam National University	117	105	89.70
56	China University of Mining and Technology	315	236	74.90
57	Pusan National University	164	123	75.00
58	Dalian University of Technology	97	68	70.10
59	kayama University	151	97	64.20
60	Kyungpook National University	245	196	80.00
61	Harbin Institute of Technology	81	63	77.80
62	Nankai University	60	39	65.00
63	Chung-Ang University	101	95	94.10
64	Inha University	58	50	86.20
65	Sun Yat-sen University	107	47	43.90
66	Sichuan University	73	42	57.50
67	Shandong University	71	51	71.80
68	University of Electronic Science and Technology of China	57	36	63.20
69	University of Ulsan	93	66	71.00
70	Waseda University	102	52	51.00
71	Indian Institutes of Technology System (IIT)	192	90	46.90
72	Kobe University	96	48	50.00
73	Konkuk University	86	67	77.90
74	Xiamen University	66	35	53.00
75	Tongji University	84	40	47.60

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