

TABLE 5-22 
**S&E articles in all fields, by country or economy: 2006 and 2016**

(Number and percent)

Rank	Country or economy	Country or economy economic status	2006	2016	Average annual change (%)	2016 world total (%)	2016 cumulative world total (%)
-	World	na	1,567,422	2,295,608	3.9	na	na
1	China	Developing	189,760	426,165	8.4	18.6	18.6
2	United States	Developed	383,115	408,985	0.7	17.8	36.4
3	India	Developing	38,590	110,320	11.1	4.8	41.2
4	Germany	Developed	84,434	103,122	2.0	4.5	45.7
5	United Kingdom	Developed	88,061	97,527	1.0	4.3	50.0
6	Japan	Developed	110,503	96,536	-1.3	4.2	54.2
7	France	Developed	62,448	69,431	1.1	3.0	57.2
8	Italy	Developed	50,159	69,125	3.3	3.0	60.3
9	South Korea	Developed	36,747	63,063	5.5	2.8	63.0
10	Russia	Developing	29,369	59,134	7.2	2.6	65.6
11	Canada	Developed	49,259	57,356	1.5	2.5	68.1
12	Brazil	Developing	28,160	53,607	6.6	2.3	70.4
13	Spain	Developed	39,271	52,821	3.0	2.3	72.7
14	Australia	Developed	33,100	51,068	4.4	2.2	75.0
15	Iran	Developing	10,073	40,974	15.1	1.8	76.7
16	Turkey	Developing	19,547	33,902	5.7	1.5	78.2
17	Poland	Developed	21,267	32,978	4.5	1.4	79.7
18	Netherlands	Developed	24,461	29,949	2.0	1.3	81.0
19	Taiwan	Developed	25,246	27,385	0.8	1.2	82.2
20	Switzerland	Developed	16,385	21,128	2.6	0.9	83.1
21	Malaysia	Developing	3,230	20,332	20.2	0.9	84.0
22	Sweden	Developed	16,634	19,937	1.8	0.9	84.8
23	Belgium	Developed	13,036	16,394	2.3	0.7	85.6

Rank	Country or economy	Country or economy economic status	2006	2016	Average annual change (%)	2016 world total (%)	2016 cumulative world total (%)
24	Czech Republic	Developed	8,839	15,963	6.1	0.7	86.3
25	Mexico	Developing	9,322	14,529	4.5	0.6	86.9
26	Portugal	Developed	7,136	13,773	6.8	0.6	87.5
27	Denmark	Developed	8,536	13,471	4.7	0.6	88.1
28	Austria	Developed	9,155	12,366	3.1	0.5	88.6
29	Israel	Developed	11,040	11,893	0.7	0.5	89.1
30	South Africa	Developing	5,636	11,881	7.7	0.5	89.7
31	Singapore	Developed	8,205	11,254	3.2	0.5	90.1
32	Egypt	Developing	3,958	10,807	10.6	0.5	90.6
33	Norway	Developed	7,093	10,726	4.2	0.5	91.1
34	Greece	Developed	10,684	10,725	0.0	0.5	91.6
35	Finland	Developed	9,204	10,545	1.4	0.5	92.0
36	Romania	Developed	3,523	10,194	11.2	0.4	92.5
37	Thailand	Developing	4,270	9,581	8.4	0.4	92.9
38	Saudi Arabia	Developing	1,898	9,232	17.1	0.4	93.3
39	Pakistan	Developing	2,809	9,181	12.6	0.4	93.7
40	Argentina	Developing	5,600	8,648	4.4	0.4	94.1
41	Indonesia	Developing	619	7,729	28.7	0.3	94.4
42	New Zealand	Developed	5,607	7,465	2.9	0.3	94.7
43	Ukraine	Developing	5,296	7,375	3.4	0.3	95.0
44	Ireland	Developed	4,857	6,834	3.5	0.3	95.3
45	Chile	Developing	3,122	6,746	8.0	0.3	95.6
46	Hungary	Developed	5,530	6,208	1.2	0.3	95.9
47	Colombia	Developing	1,368	6,120	16.2	0.3	96.2
48	Slovakia	Developed	2,644	5,359	7.3	0.2	96.4
49	Tunisia	Developing	1,980	5,266	10.3	0.2	96.6
50	Algeria	Developing	1,288	4,447	13.5	0.2	96.9



na = not applicable.

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**Note(s)**

The countries or economies shown each produced 5,052 publications or more in 2016. The countries or economies are ranked based on the 2016 total. Serbia ranked 50th for 2016 but was removed from the table as growth could not be computed from 2006 since Serbia and Montenegro divided in 2006. Articles are credited on a fractional-count basis (i.e., for articles from multiple countries or economies, each country or economy receives fractional credit on the basis of the proportion of its participating authors). Detail may not add to total because of countries or economies that are not shown. Proportions are based on the world total, excluding unclassified addresses (data not presented). Average annual change, or compound annual growth rate, is *average growth rate* =  $(\text{year 2 publications} / \text{year 1 publications})^{(1/\text{number of years})} - 1$ . See Appendix Table 5-26 for groupings of regions, countries, or economies. For more information on the International Monetary Fund economic classification of countries, see <https://www.imf.org/external/pubs/ft/weo/2016/01/weodata/groups.htm>. See Appendix Table 5-27.

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**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics; SRI International; Science-Metrix; Elsevier, Scopus abstract and citation database, accessed July 2017.

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