

APPENDIX TABLE 8-28 
**Citation of S&E articles in USPTO patents, by cited field and cited country and sector: 2013–16**

(Number)

Field and sector	2013	2014	2015	2016
All fields, all sectors	582,179	640,922	633,407	615,028
Foreign	301,659	336,684	337,309	329,291
Unknown country	3,098	3,232	2,913	2,744
United States	277,423	301,006	293,185	282,993
Federal government	11,738	12,428	12,114	11,396
Industry	51,465	56,946	52,842	49,392
Academic	181,090	195,796	193,748	189,995
FFRDCs	5,476	6,011	5,644	5,562
Nonprofit	14,893	16,213	16,367	15,195
State and local government	296	309	269	333
Joint and unknown sectors	12,466	13,304	12,199	11,119
Engineering	76,400	86,803	85,372	84,644
Foreign	45,567	52,782	53,182	53,440
Unknown country	472	535	439	426
United States	30,362	33,485	31,752	30,778
Federal government	863	882	891	802
Industry	7,491	7,742	7,067	6,616
Academic	18,817	21,478	20,635	20,291
FFRDCs	877	1,071	981	1,098
Nonprofit	1,049	1,091	935	859
State and local government	8	8	10	19
Joint and unknown sectors	1,256	1,212	1,231	1,093
Astronomy	127	154	118	183
Foreign	83	98	78	116
Unknown country	0	0	0	0



Field and sector	2013	2014	2015	2016
United States	44	56	39	67
Federal government	4	4	6	8
Industry	9	10	8	10
Academic	22	27	18	40
FFRDCs	8	13	5	7
Nonprofit	1	1	0	0
State and local government	0	0	0	0
Joint and unknown sectors	1	0	2	3
Chemistry	58,913	62,812	64,151	62,141
Foreign	34,934	37,721	39,236	38,039
Unknown country	84	69	47	42
United States	23,895	25,022	24,868	24,060
Federal government	772	796	769	745
Industry	4,233	4,644	4,729	4,175
Academic	16,815	17,357	17,186	17,135
FFRDCs	991	1,088	1,015	981
Nonprofit	603	633	701	589
State and local government	3	2	3	11
Joint and unknown sectors	478	503	465	425
Physics	55,656	65,772	63,730	60,958
Foreign	31,703	38,739	39,037	37,653
Unknown country	125	150	99	92
United States	23,828	26,883	24,594	23,213
Federal government	731	771	709	657
Industry	6,466	7,476	6,244	5,334
Academic	13,894	15,502	14,761	14,577
FFRDCs	1,720	1,976	1,905	1,756



Field and sector	2013	2014	2015	2016
Nonprofit	269	307	290	278
State and local government	1	4	3	4
Joint and unknown sectors	747	848	682	607
Geosciences	3,757	4,480	4,092	3,894
Foreign	2,237	2,673	2,537	2,481
Unknown country	38	44	43	41
United States	1,482	1,763	1,512	1,372
Federal government	117	137	97	113
Industry	305	392	319	263
Academic	858	964	887	794
FFRDCs	85	96	59	70
Nonprofit	18	23	29	12
State and local government	9	9	7	6
Joint and unknown sectors	91	142	114	115
Mathematics	1,143	1,252	1,206	1,153
Foreign	580	680	617	631
Unknown country	3	2	3	2
United States	560	570	586	520
Federal government	7	14	11	8
Industry	59	49	49	28
Academic	441	447	472	437
FFRDCs	25	28	15	19
Nonprofit	10	11	10	9
State and local government	0	1	0	0
Joint and unknown sectors	18	20	28	20
Computer sciences	59,078	66,851	65,084	67,353
Foreign	26,703	30,161	30,373	32,046



Field and sector	2013	2014	2015	2016
Unknown country	426	489	420	411
United States	31,950	36,201	34,291	34,896
Federal government	188	191	175	211
Industry	9,207	10,370	9,423	9,510
Academic	20,676	23,775	23,046	23,611
FFRDCs	383	345	363	384
Nonprofit	535	552	412	349
State and local government	1	2	1	0
Joint and unknown sectors	960	967	870	832
Agricultural sciences	4,190	4,576	4,305	4,023
Foreign	2,627	2,982	2,913	2,811
Unknown country	8	8	6	4
United States	1,555	1,586	1,385	1,207
Federal government	256	241	216	211
Industry	173	165	141	120
Academic	1046	1098	966	813
FFRDCs	2	4	3	8
Nonprofit	3	4	7	4
State and local government	1	0	2	0
Joint and unknown sectors	73	73	51	51
Biological sciences	187,154	201,708	200,568	188,592
Foreign	89,416	97,835	97,006	90,565
Unknown country	446	446	403	393
United States	97,292	103,428	103,158	97,634
Federal government	5,525	5,894	5,879	5,359
Industry	16,734	18,323	17,523	16,341
Academic	64,309	67,669	68,108	65,163



Field and sector	2013	2014	2015	2016
FFRDCs	1,148	1,172	1,067	1,003
Nonprofit	6,011	6,646	7,087	6,505
State and local government	144	153	125	158
Joint and unknown sectors	3,420	3,571	3,369	3,107
Medical sciences	131,580	142,320	140,547	137,371
Foreign	66,049	71,236	70,522	69,312
Unknown country	1,458	1,459	1,418	1,304
United States	64,073	69,625	68,606	66,755
Federal government	3,187	3,414	3,303	3,227
Industry	6,478	7,447	6,981	6,593
Academic	42,673	45,930	46,085	45,458
FFRDCs	234	214	217	224
Nonprofit	6,156	6,740	6,713	6,440
State and local government	126	131	113	132
Joint and unknown sectors	5,219	5,750	5,195	4,680
Other life sciences	1,887	1,981	1,996	2,185
Foreign	726	766	825	983
Unknown country	16	14	23	17
United States	1,145	1,201	1,148	1,185
Federal government	43	43	31	27
Industry	249	259	280	340
Academic	532	619	583	595
FFRDCs	2	1	2	7
Nonprofit	193	155	151	116
State and local government	0	0	5	1
Joint and unknown sectors	126	123	96	99
Psychology	1,305	1,244	1,282	1,518



Field and sector	2013	2014	2015	2016
Foreign	547	508	512	688
Unknown country	12	7	5	7
United States	747	729	764	823
Federal government	24	20	20	22
Industry	41	40	43	25
Academic	606	574	621	702
FFRDCs	1	0	2	0
Nonprofit	30	40	22	24
State and local government	2	0	0	0
Joint and unknown sectors	43	55	57	49
Social sciences	989	969	956	1,013
Foreign	486	503	468	526
Unknown country	12	9	7	5
United States	491	457	481	482
Federal government	21	20	7	8
Industry	20	30	36	38
Academic	400	356	379	380
FFRDCs	2	2	8	6
Nonprofit	15	9	11	10
State and local government	0	0	0	2
Joint and unknown sectors	33	40	40	38

FFRDC = federally funded research and development center; USPTO = U.S. Patent and Trademark Office.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics; SRI International; Science-Metrix; PatentsView and USPTO patent data; Elsevier, Scopus abstract and citation database (<https://www.scopus.com/>), accessed April 2017 (patent data) and July 2017.

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