

Table SPBS-23

S&E articles in engineering, whole count, by region, country, or economy: 1996–2020

(Number)

Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
World	110,493	115,917	118,114	115,839	124,490	134,865	143,867	153,863	181,592	222,470	233,147	242,844	264,687	284,898	309,869	327,494	333,388	351,243	361,249	370,709	389,310	406,250	440,183	465,366	455,906
North America	45,459	46,619	44,839	42,330	43,602	42,586	48,322	50,830	60,735	70,337	67,431	66,780	70,261	70,472	76,735	76,278	77,747	79,376	80,700	78,687	81,440	81,247	86,404	87,483	81,992
Canada	4,820	4,979	4,851	4,531	4,987	4,680	5,888	6,086	7,529	8,889	9,052	9,118	10,086	10,049	11,399	10,426	11,133	11,329	12,176	11,902	12,865	12,450	13,245	13,639	13,407
Greenland	0	0	0	1	1	0	0	0	1	2	1	2	0	0	0	2	0	1	1	0	2	0	6	1	2
Mexico	485	494	536	617	720	839	940	1,069	1,236	1,300	1,756	1,566	1,896	1,970	2,155	2,421	2,265	2,355	2,398	2,411	2,680	2,751	2,705	2,979	2,919
United States	40,711	41,726	40,107	37,728	38,576	37,692	42,364	44,669	53,186	61,580	58,225	57,621	59,809	59,933	64,956	64,963	66,085	67,367	68,177	66,119	67,999	68,001	72,555	72,989	67,849
Central America and Caribbean	83	112	100	98	98	128	162	205	213	283	386	329	343	355	356	354	373	552	423	384	446	381	499	499	520
Antigua and Barbuda	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Bahamas, The	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	1	2	0	2	2	2	3	1	2
Barbados	0	0	2	0	1	2	3	4	4	2	2	1	1	6	1	5	8	5	3	4	7	4	4	7	9
Belize	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	2	0	0	1	0	0	3	1
Costa Rica	3	3	5	7	4	0	5	5	13	10	17	28	26	26	39	32	47	46	32	67	110	67	112	87	110
Cuba	16	13	31	36	40	60	46	72	48	78	116	71	115	102	85	115	109	274	142	148	101	122	150	126	125
Dominica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5	0	1	0	0
Dominican Republic	1	1	0	0	0	1	3	2	6	5	3	2	3	5	3	1	5	4	5	1	3	3	9	14	20
El Salvador	0	0	0	0	0	0	1	1	1	3	11	7	15	6	9	5	4	6	4	4	11	2	29	11	6
Grenada	0	0	0	0	0	2	0	0	1	1	0	0	0	0	1	0	0	1	0	2	1	0	2	2	2
Guatemala	0	0	1	1	1	1	1	0	2	1	4	0	3	3	1	5	3	5	7	2	10	8	6	14	18
Haiti	0	1	0	0	0	0	0	0	0	1	2	2	1	1	1	3	1	5	4	2	5	5	0	1	3
Honduras	1	0	2	0	2	0	1	1	1	0	5	2	1	5	3	5	5	6	6	3	13	10	8	19	38
Jamaica	5	2	6	5	4	3	15	8	8	6	7	11	9	15	3	13	7	8	9	16	14	4	5	13	7
Nicaragua	1	2	0	1	1	0	3	4	5	2	7	6	7	7	6	6	6	2	3	3	5	3	9	6	6
Panama	1	2	2	0	0	4	0	4	7	3	9	10	9	9	23	10	25	20	40	14	20	25	35	43	26
Puerto Rico	46	82	42	46	36	45	74	86	93	131	176	150	112	120	135	116	118	142	136	103	101	109	100	120	113
Saint Kitts and Nevis	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Saint Lucia	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	0	0	0	0	0	1	0	0	0
Saint Vincent and the Grenadines	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
Trinidad and Tobago	9	6	9	2	9	9	11	20	26	38	29	35	42	53	48	42	35	26	37	14	40	20	31	39	41
South America	1,266	1,696	1,719	1,943	2,187	2,474	2,467	3,109	3,337	4,039	5,021	4,299	5,272	6,198	6,566	7,237	7,439	8,559	8,577	9,232	9,801	10,556	10,965	12,300	12,279
Argentina	275	261	250	270	322	445	379	470	429	511	781	495	577	663	740	705	715	755	766	802	954	888	774	817	866
Bolivia	3	6	5	4	8	6	4	6	8	12	11	7	6	12	11	7	11	16	17	21	21	12	26	33	29
Brazil	749	1,119	1,151	1,261	1,490	1,615	1,591	2,101	2,273	2,770	3,128	2,982	3,494	4,365	4,232	4,924	4,873	5,819	5,459	6,170	6,133	6,755	7,061	7,913	7,566
Chile	103	126	143	207	184	181	254	267	291	366	496	371	557	505	712	600	795	712	977	929	1,219	1,114	1,239	1,353	1,549
Colombia	35	34	37	57	58	74	77	106	163	163	301	269	426	505	703	857	846	1,081	1,123	1,083	1,137	1,362	1,426	1,588	1,634
Ecuador	5	6	1	10	3	5	14	6	13	25	24	14	24	27	30	26	44	46	110	188	288	397	433	538	526
Guyana	0	0	0	1	0	1	0	0	1	0	0	3	0	1	2	0	2	1	2	0	3	6	0	1	6

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(Number)

Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Paraguay	0	0	1	0	1	2	1	0	1	3	5	3	3	3	2	15	8	8	15	15	22	26	28	46	36
Peru	13	10	10	11	8	20	8	25	26	46	47	51	41	39	79	70	87	92	113	123	139	192	213	288	401
Suriname	0	1	0	0	0	0	0	0	0	0	0	1	1	2	0	2	1	2	2	3	1	0	0	4	2
Uruguay	9	16	16	13	11	16	23	21	23	32	42	35	46	44	59	64	67	70	80	61	98	77	106	106	109
Venezuela	94	135	136	130	133	160	147	171	167	196	304	185	212	189	169	162	167	158	158	132	114	117	91	87	92
Europe	39,118	40,468	41,017	39,657	42,490	46,279	49,676	52,830	58,297	69,700	72,336	76,367	82,528	88,011	95,280	96,173	105,548	108,005	116,142	120,235	125,385	130,871	133,148	136,828	130,292
EU-27 and UK ^a	31,421	32,581	33,283	32,590	35,462	37,082	40,217	43,439	48,158	59,191	62,614	66,116	72,116	76,892	83,420	84,151	92,634	93,801	100,472	103,138	105,847	109,493	110,348	111,423	105,824
UK	8,013	8,174	8,034	7,683	8,145	8,022	8,388	8,707	10,237	12,009	12,047	12,120	13,067	13,005	13,688	13,750	14,828	14,978	16,361	16,921	18,517	19,274	20,090	19,732	20,026
EU-27 ^b	24,019	25,121	25,984	25,571	28,062	29,919	32,849	36,046	39,516	49,077	52,602	56,106	61,385	66,185	72,327	73,048	80,686	82,020	87,866	90,186	91,881	94,847	95,282	96,292	90,770
Austria	520	570	620	586	671	706	713	969	1,015	1,376	1,382	1,564	1,730	1,847	2,076	2,029	2,346	2,315	2,306	2,574	2,738	2,596	2,737	2,767	2,647
Belgium	811	858	922	866	930	1,035	1,141	1,216	1,492	1,806	1,795	1,957	2,200	2,456	2,519	2,727	3,038	3,032	3,176	3,260	3,348	3,481	3,532	3,631	3,389
Bulgaria	238	159	194	215	131	216	190	261	289	491	361	512	329	502	326	376	322	337	375	350	464	549	734	1,019	758
Croatia	122	137	129	135	175	200	276	284	241	437	343	474	459	615	697	644	628	621	656	729	641	814	857	821	867
Cyprus	18	17	16	24	22	25	20	35	67	102	88	132	135	217	231	237	217	296	261	290	322	349	380	374	408
Czechia	355	307	294	346	383	429	546	618	658	1,060	1,315	1,391	1,364	1,614	2,126	2,229	2,369	2,340	2,883	3,191	3,013	3,342	3,115	3,354	2,688
Denmark	572	593	588	523	663	657	753	865	1,011	1,124	1,192	1,273	1,322	1,541	1,610	1,983	2,108	2,250	2,505	2,771	2,661	2,846	3,218	3,151	3,322
Estonia	43	47	40	50	50	60	48	61	74	124	174	193	249	209	294	248	351	256	357	336	359	305	372	408	441
Finland	670	705	703	679	763	886	982	1,078	1,076	1,510	1,398	1,407	1,492	1,560	1,638	1,590	1,711	1,828	2,084	2,132	2,133	2,178	2,161	2,182	2,189
France	4,449	5,064	4,747	4,838	5,170	5,308	6,269	6,842	7,288	8,494	9,373	9,494	10,395	10,972	11,568	11,798	12,902	13,395	13,388	13,586	13,641	13,689	13,741	13,301	12,661
Germany	6,447	6,766	7,087	6,633	7,262	7,403	7,777	8,474	9,410	11,134	11,714	12,247	13,633	14,291	15,754	15,790	18,432	17,324	19,129	19,777	21,786	20,869	22,562	21,722	20,274
Greece	741	652	731	693	700	859	945	1,099	1,204	1,448	1,730	1,923	1,889	1,985	2,163	2,211	2,162	2,358	2,324	2,496	2,552	2,297	2,266	2,461	2,537
Hungary	368	372	475	356	450	377	446	537	486	600	650	662	683	617	787	719	843	790	924	934	906	978	1,063	1,141	1,092
Ireland	171	191	226	213	276	331	476	422	575	1,029	776	959	981	1,001	1,140	1,183	1,206	1,269	1,351	1,411	1,420	1,368	1,420	1,398	1,381
Italy	3,150	3,142	3,337	3,225	3,727	4,048	4,694	5,282	5,558	6,672	7,394	8,088	8,369	8,979	10,044	10,187	11,304	12,083	13,614	14,773	14,464	15,422	15,518	15,770	15,610
Latvia	34	86	27	37	36	41	80	34	46	87	86	107	212	131	197	267	293	264	323	309	284	396	387	359	325
Lithuania	98	94	97	98	115	173	167	164	230	381	413	486	927	665	812	829	655	670	728	592	577	705	569	518	572
Luxembourg	4	3	7	3	3	8	14	21	29	38	49	53	59	83	85	101	132	170	192	196	220	227	256	281	255
Malta	1	3	4	8	10	14	6	12	10	26	27	28	31	22	43	29	45	56	51	52	56	86	91	93	103
Netherlands	1,827	1,910	1,872	1,817	2,158	2,250	2,396	2,598	3,121	3,732	3,939	3,978	4,376	4,547	5,078	4,772	5,366	5,263	5,472	5,365	5,751	6,033	6,319	6,114	6,075
Poland	1,354	1,301	1,219	1,271	1,443	1,843	1,961	1,806	2,338	2,910	3,149	3,276	4,103	4,006	4,516	4,286	5,147	5,573	6,168	6,387	7,048	7,782	7,594	7,174	6,585
Portugal	350	456	534	494	528	678	638	850	940	1,344	1,503	1,729	1,692	2,113	2,459	2,596	2,942	3,166	3,305	3,486	3,477	3,363	3,411	3,840	3,784
Romania	234	313	506	395	485	391	444	663	686	971	1,201	1,744	2,572	3,198	3,343	2,940	3,029	3,059	2,844	2,896	2,631	3,556	2,594	3,037	2,041
Slovakia	89	100	88	89	85	106	140	159	127	322	280	455	446	445	581	679	977	936	1,285	1,173	1,183	1,545	1,129	1,448	1,208
Slovenia	207	233	195	273	251	269	328	412	355	479	478	555	537	574	628	763	695	715	700	785	698	715	643	821	659
Spain	1,340	1,481	1,665	1,755	1,855	2,119	2,585	2,893	3,477	4,286	4,995	5,318	5,680	6,364	7,014	7,398	7,974	8,299	9,160	8,734	8,902	8,731	9,294	8,998	9,704

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Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Sweden	1,094	1,191	1,346	1,410	1,545	1,562	1,652	1,943	2,080	2,411	2,536	2,425	2,569	2,965	3,078	3,217	3,659	3,785	4,178	4,175	4,481	4,448	4,746	4,630	4,521	
Other Europe	8,387	8,764	8,550	7,795	7,922	10,275	10,834	11,079	11,912	12,597	11,984	12,631	13,006	13,731	14,837	15,008	16,401	17,942	19,999	21,678	24,702	26,713	28,624	31,185	30,549	
Other Europe, 2020 ^b	16,267	16,797	16,437	15,323	15,888	18,107	18,984	19,468	21,812	24,226	23,639	24,328	25,641	26,328	28,067	28,296	30,716	32,370	35,657	37,885	42,371	45,142	47,712	50,040	49,525	
Albania	1	3	3	4	2	3	1	1	2	4	9	8	11	16	24	24	21	34	25	25	19	32	33	27	27	
Andorra	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1	1	4	2	1	3	0	2	1	1	
Belarus	320	268	257	231	239	379	457	348	367	345	359	391	288	282	253	225	282	237	205	203	256	247	270	346	287	
Bosnia and Herzegovina	4	6	2	16	6	8	22	21	16	37	32	44	39	76	70	89	107	134	105	155	123	218	176	152	276	
Holy See (Vatican City)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	
Iceland	15	16	20	17	17	15	36	24	15	29	43	67	51	81	72	82	86	105	117	127	160	118	120	134	108	
Kosovo	0	0	0	0	0	0	0	0	0	0	0	0	11	18	33	33	39	50	34	39	69	63	75	64	71	
Liechtenstein	1	2	2	2	4	2	6	3	10	14	15	5	12	8	12	11	14	9	15	7	13	9	6	13	8	
Moldova	26	30	38	23	24	33	37	41	27	64	38	43	38	61	49	44	41	45	39	44	146	84	45	62	124	
Monaco	0	1	2	0	0	1	3	1	4	6	6	7	1	8	7	7	4	10	12	5	5	10	6	7	2	
Montenegro ^c	0	0	0	0	0	0	0	0	0	0	0	20	14	19	22	36	39	43	43	50	85	72	67	57	67	
North Macedonia	14	17	16	13	18	22	11	37	20	33	45	59	36	47	74	61	86	104	74	83	70	94	82	95	61	
Norway	549	585	558	452	517	605	595	656	755	1,014	1,137	1,183	1,201	1,520	1,631	1,809	2,102	2,173	2,317	2,334	2,636	2,898	2,763	2,932	2,937	
Russia	4,530	4,532	4,516	3,983	3,898	5,501	5,940	5,362	5,657	5,385	4,403	4,437	4,315	4,283	4,318	4,339	4,524	5,102	7,140	8,411	9,575	10,846	12,778	14,698	14,184	
San Marino	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	4	9	9	9	4	12	17	12	16	10	
Serbia ^c	0	0	0	0	0	0	0	0	0	0	0	340	407	467	611	764	1,005	976	888	803	999	1,014	867	941	885	
Serbia and Montenegro ^d	193	307	179	218	220	168	179	168	216	267	358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland	1,150	1,097	1,198	1,104	1,235	1,231	1,325	1,626	1,762	2,219	2,308	2,608	2,790	2,702	3,345	3,252	3,660	3,767	4,074	4,134	4,254	4,281	4,540	4,332	4,132	
Turkey	568	634	728	710	767	963	1,124	1,530	1,841	1,991	2,384	2,675	2,893	3,433	3,585	3,499	3,555	4,137	3,845	4,335	5,180	5,580	5,464	5,760	5,641	
Ukraine	1,071	1,335	1,091	1,082	1,040	1,443	1,211	1,398	1,341	1,385	1,036	963	1,099	906	981	1,008	1,191	1,376	1,449	1,364	1,662	1,714	1,906	2,134	2,407	
Middle East	1,815	2,153	2,011	2,024	2,434	2,398	2,638	3,306	3,798	4,488	5,239	5,802	7,016	8,564	10,417	12,471	12,912	14,023	15,112	16,193	18,804	20,187	21,619	24,204	25,652	
Armenia	31	37	43	44	62	40	40	39	45	67	54	73	62	57	59	143	76	59	50	69	46	48	59	69	61	
Azerbaijan	22	30	17	25	32	24	61	61	72	54	59	50	57	79	106	75	82	67	67	77	81	89	168	119	143	
Bahrain	30	18	26	28	22	25	11	28	23	29	27	47	28	36	38	35	33	43	36	27	32	48	127	98	68	
Gaza Strip ^e	4	4	2	0	4	3	4	3	15	14	15	16	13	16	15	18	13	18	25	18	14	18	27	35	36	
Georgia	10	10	13	11	10	20	23	23	43	21	26	28	37	40	54	39	23	39	44	27	66	65	78	115	90	
Iran	182	209	224	281	435	472	623	1,009	1,230	1,726	2,315	2,685	3,730	4,742	6,450	7,715	7,568	7,839	8,453	8,421	10,166	11,284	11,594	12,990	13,160	
Iraq	15	20	10	15	26	15	20	22	22	31	49	45	76	74	106	163	229	339	354	458	528	764	1,063	1,621	2,087	
Israel	846	1,027	856	848	923	953	988	1,107	1,266	1,357	1,379	1,402	1,473	1,569	1,347	1,523	1,517	1,600	1,694	1,852	1,840	1,804	1,874	1,876	1,854	
Jordan	104	116	132	133	142	159	140	177	209	183	218	260	299	312	323	305	293	294	285	306	385	403	515	637	727	
Kuwait	137	176	154	183	145	136	129	142	161	168	198	206	200	213	207	213	233	263	219	242	240	286	349	416	397	
Lebanon	35	46	46	54	84	60	75	86	97	111	139	130	148	137	166	189	234	316	280	337	449	408	477	496	430	

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Oman	22	39	37	28	49	55	56	67	87	95	104	127	114	148	138	166	210	202	188	278	251	253	290	325	367
Qatar	8	12	17	13	10	20	28	24	33	47	41	53	87	117	141	167	230	310	516	561	692	597	711	684	762
Saudi Arabia	314	352	372	323	377	316	308	327	329	371	408	427	426	653	793	1,165	1,491	1,918	2,221	2,660	3,080	3,189	3,437	3,782	4,603
Syria	7	9	9	11	13	17	15	17	26	28	23	39	23	23	39	43	46	36	30	42	37	46	43	65	62
United Arab Emirates	53	59	66	32	103	100	119	182	170	217	236	258	310	419	531	600	750	838	840	1,127	1,271	1,308	1,308	1,594	1,698
West Bank ^e	8	11	8	16	14	14	20	27	21	23	13	25	16	23	24	34	27	27	34	44	47	42	60	61	80
Yemen	5	3	8	4	6	2	8	3	1	7	7	11	15	16	18	12	22	19	17	17	24	34	29	69	90
Africa	1,122	1,263	1,247	1,292	1,478	1,549	1,716	1,848	2,468	2,707	2,967	3,259	3,588	4,507	4,812	5,269	5,948	7,065	7,400	7,858	9,828	10,754	12,268	13,101	13,178
Algeria	55	84	98	91	134	134	141	203	339	271	404	431	573	734	756	853	1,098	1,338	1,243	1,485	1,568	1,957	1,848	2,198	1,861
Angola	1	4	1	0	0	1	7	0	2	3	6	2	2	3	2	2	5	5	9	7	2	7	2	4	10
Benin	0	2	2	0	3	3	6	4	2	6	2	4	1	5	4	3	6	6	9	21	20	27	32	28	38
Botswana	4	12	3	8	9	10	4	12	14	20	39	22	26	22	14	28	22	33	23	22	44	45	81	81	75
Burkina Faso	1	3	5	4	2	4	3	16	4	5	9	3	16	14	12	11	23	38	28	32	21	25	23	17	40
Burundi	0	0	0	0	1	0	0	0	1	0	2	0	1	0	2	2	1	3	3	2	2	4	3	4	6
Cabo Verde	0	0	0	1	0	0	0	0	0	0	0	2	0	1	1	0	1	1	1	3	4	5	4	3	1
Cameroon	9	10	9	5	12	16	10	14	14	23	21	20	35	50	50	47	45	48	61	66	79	91	99	106	149
Central African Republic	2	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	0	0	2	2	0	2
Chad	0	0	0	0	0	1	0	0	3	0	1	0	1	2	1	0	0	1	2	2	6	2	4	6	7
Comoros	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	1	3	0	2
Congo, Democratic Republic of the	1	2	2	0	1	0	1	3	2	4	1	0	1	8	2	3	3	6	7	9	7	13	11	9	15
Congo, Republic of the	0	0	4	0	0	0	1	0	1	1	1	1	1	2	1	2	0	11	5	2	5	4	5	2	5
Côte d'Ivoire	5	10	10	5	4	4	3	7	7	6	3	8	3	15	8	11	8	12	11	15	9	10	21	18	32
Djibouti	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0	1	1	3	1	1	2	3	3	4	5
Egypt	380	375	365	387	457	537	536	575	729	688	807	868	908	1,135	1,285	1,327	1,551	1,898	1,990	2,218	2,627	2,640	3,166	3,587	3,631
Equatorial Guinea	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Eritrea	3	1	1	0	0	0	0	2	0	1	0	2	3	1	1	2	1	0	1	0	2	1	1	6	5
Eswatini	0	1	1	0	1	1	1	1	1	3	3	2	0	2	4	5	4	1	3	3	5	2	6	17	9
Ethiopia	2	7	5	19	4	6	7	12	10	16	19	22	18	55	32	51	35	70	84	87	118	167	202	258	350
Gabon	0	0	2	0	0	0	0	1	0	0	1	2	5	3	1	4	4	4	5	2	7	5	13	9	7
Gambia, The	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	2	2	0	2	0	1	0	0
Ghana	21	20	10	25	10	8	10	11	20	21	21	38	79	60	45	60	58	77	79	96	116	150	171	225	295
Guinea	1	1	0	1	0	1	0	0	1	1	2	0	0	0	1	2	0	1	0	2	2	2	1	2	3
Guinea-Bissau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Kenya	17	27	11	14	10	10	23	18	23	26	18	27	28	47	37	46	48	63	65	83	97	95	114	112	182
Lesotho	0	1	0	6	3	0	0	1	1	3	2	1	2	1	2	1	4	2	2	1	1	0	4	0	4

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S&E articles in engineering, whole count, by region, country, or economy: 1996–2020

(Number)

Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Liberia	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	0	0	2	1	2	0	0
Libya	10	13	10	6	15	17	16	27	33	34	31	43	52	55	63	37	63	79	88	84	79	96	100	93	110
Madagascar	1	1	1	0	0	1	1	1	1	0	1	3	3	5	2	8	8	6	11	10	12	15	10	14	16
Malawi	0	2	0	2	1	3	5	0	2	3	4	2	8	12	7	8	6	13	10	9	10	17	10	29	24
Mali	1	6	6	0	1	2	0	1	2	2	3	3	3	14	7	9	6	8	6	4	6	9	11	20	9
Mauritania	1	0	1	1	1	0	2	1	1	1	1	0	1	3	3	2	1	6	4	5	2	1	8	2	4
Mauritius	1	1	1	9	5	7	7	11	5	5	4	3	3	3	6	4	13	10	13	18	44	49	23	51	26
Morocco	65	79	73	77	118	108	125	110	161	144	150	194	186	192	239	245	250	378	437	369	862	1,048	1,210	1,258	1,308
Mozambique	1	4	1	2	1	5	3	7	5	5	7	6	6	7	5	6	7	3	9	9	9	11	18	24	28
Namibia	2	1	4	2	3	3	1	3	0	12	4	8	7	7	4	8	10	17	18	9	26	31	30	37	36
Niger	4	19	2	1	1	0	2	6	2	4	3	5	4	12	5	3	6	7	10	10	8	9	10	8	13
Nigeria	45	54	55	55	56	45	72	70	134	106	119	113	157	253	250	308	333	380	472	442	616	614	978	1,104	1,331
Rwanda	1	1	1	0	0	0	0	0	0	0	0	2	7	5	4	3	9	4	9	8	9	17	19	28	44
São Tomé and Príncipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Senegal	6	8	5	5	7	6	6	15	9	9	12	8	15	22	12	17	15	24	17	32	35	32	45	48	46
Seychelles	0	0	2	0	0	0	0	0	0	0	0	0	0	1	5	0	2	0	0	2	0	0	0	0	0
Sierra Leone	2	0	0	0	0	1	0	1	4	0	1	0	0	2	0	2	2	0	2	0	3	7	10	7	13
Somalia	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	0	1	1
South Africa	430	449	453	457	471	494	533	543	636	899	926	1,020	862	1,077	1,284	1,234	1,533	1,488	1,663	1,559	2,127	2,150	2,556	2,657	2,572
South Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	1	2	0	1	1
Sudan	6	3	10	6	10	1	2	4	8	12	11	20	14	22	17	36	32	39	47	46	64	73	95	90	90
Tanzania	7	7	9	11	10	4	13	9	12	20	7	10	19	21	20	27	28	38	34	60	44	63	63	113	106
Togo	0	1	1	0	1	0	1	0	2	1	0	1	4	5	0	2	3	5	3	6	6	5	7	9	7
Tunisia	34	47	72	61	107	102	145	154	268	309	329	371	554	661	677	903	761	1,053	1,020	1,176	1,308	1,530	1,605	1,321	1,269
Uganda	0	2	4	8	6	4	10	5	21	55	5	18	13	28	21	41	26	32	30	33	41	42	39	58	72
Zambia	4	11	8	15	5	2	20	5	4	19	7	7	11	15	5	6	15	13	18	11	24	27	26	39	37
Zimbabwe	6	9	19	22	18	16	15	26	15	15	21	16	10	12	13	12	27	20	27	32	45	55	111	87	93
Asia	26,237	28,591	32,393	32,618	37,703	44,995	46,486	52,086	65,063	85,236	95,954	102,545	113,621	127,466	138,965	153,523	151,384	164,889	168,755	177,613	188,498	200,521	230,955	251,712	258,146
Afghanistan	0	0	1	0	1	0	2	0	0	1	1	2	0	1	1	8	7	3	3	3	5	17	15	36	23
Bangladesh	45	69	65	58	91	74	84	76	100	100	121	118	229	182	186	251	362	460	402	377	477	635	546	903	844
Bhutan	1	0	0	0	0	0	0	0	2	2	10	1	3	1	5	2	0	2	4	4	2	10	10	8	11
Brunei	3	3	4	6	3	2	3	3	6	6	19	7	5	20	7	13	23	21	73	77	87	63	149	70	105
Burma	0	0	1	0	1	0	0	1	0	1	6	9	28	15	5	16	9	6	15	12	20	16	30	54	127
Cambodia	1	0	0	1	0	2	0	1	3	3	1	5	7	7	9	7	11	8	20	16	21	24	24	38	48
China	7,808	8,557	11,841	11,602	14,705	20,836	21,180	23,884	34,040	48,564	56,843	60,849	68,628	79,222	86,745	99,023	92,475	101,991	106,925	114,974	122,563	132,324	151,386	170,803	174,091
India	2,192	2,052	2,285	2,115	2,466	2,332	2,713	2,722	3,222	4,207	5,416	5,423	6,515	7,418	8,333	10,144	12,715	13,854	15,119	15,108	18,080	20,086	25,144	23,773	28,218

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S&E articles in engineering, whole count, by region, country, or economy: 1996–2020

(Number)

Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Indonesia	70	60	53	58	71	88	101	77	105	131	188	165	209	262	401	418	562	770	617	910	1,200	2,205	5,604	7,869	8,366
Japan	11,229	12,073	12,037	12,012	12,874	12,888	13,192	15,061	15,781	17,767	18,054	18,622	18,575	20,122	20,106	19,540	19,443	20,690	18,286	18,397	17,622	17,591	18,941	18,686	16,626
Kazakhstan	34	21	22	20	27	40	44	51	45	48	39	40	46	40	81	56	96	156	234	347	406	514	618	768	788
Kyrgyzstan	6	5	4	7	4	14	6	2	12	17	19	8	10	3	3	15	12	11	11	11	14	23	23	45	28
Laos	0	0	1	1	0	0	3	3	19	5	6	3	7	6	9	10	18	15	19	19	13	24	18	23	20
Malaysia	89	111	117	126	159	173	357	405	455	565	724	871	1,353	1,657	2,272	2,801	3,480	3,759	3,993	4,237	4,839	4,236	4,713	5,244	5,650
Maldives	1	1	0	0	0	0	0	1	1	0	0	0	1	0	4	0	0	0	0	0	1	0	1	2	4
Mongolia	1	0	0	2	4	3	5	4	13	11	20	25	20	32	30	46	35	23	27	39	24	33	49	66	81
Nepal	4	9	4	3	11	10	14	8	20	36	19	22	25	31	32	42	54	44	63	76	86	96	96	126	181
North Korea	1	1	0	0	1	0	1	1	2	4	2	5	7	5	2	7	27	13	13	9	22	35	33	43	43
Pakistan	47	29	45	43	63	55	56	76	91	133	176	220	295	375	432	581	732	846	945	1,139	1,552	1,803	2,116	2,566	2,869
Papua New Guinea	6	7	7	6	7	6	1	3	3	0	0	3	2	1	5	4	4	5	6	2	15	7	13	12	9
Philippines	11	16	10	12	28	25	33	29	26	49	46	63	52	86	102	86	102	125	141	292	307	250	321	525	516
Singapore	689	986	991	1,207	1,538	1,581	1,677	1,882	2,372	2,608	2,634	2,593	2,848	2,793	3,289	3,294	3,501	3,788	4,011	4,266	4,592	4,910	5,203	5,009	4,999
South Korea	1,942	2,238	2,504	3,030	3,116	3,995	4,083	4,739	5,277	6,543	6,848	8,484	9,034	9,515	10,910	11,072	12,421	12,891	13,608	14,406	14,223	14,487	15,912	15,837	16,426
Sri Lanka	14	18	17	23	22	15	25	51	61	53	75	97	121	73	60	82	92	101	134	163	328	255	378	409	449
Taiwan	2,256	2,584	2,634	2,532	2,829	3,208	3,351	3,757	4,349	5,557	6,058	6,444	6,930	7,464	7,885	8,218	7,608	8,349	7,590	6,745	6,581	6,010	6,067	5,907	6,011
Tajikistan	1	1	3	3	1	2	4	2	1	3	3	2	10	5	10	7	11	5	5	17	12	10	14	20	35
Thailand	126	165	206	166	245	273	413	438	465	654	830	876	1,225	1,163	1,469	1,572	1,780	1,468	1,501	1,571	1,819	1,998	2,032	2,671	2,441
Timor-Leste	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	5	5	2
Turkmenistan	4	1	3	0	0	2	2	0	0	1	1	0	0	0	1	0	1	1	7	1	2	1	1	2	1
Uzbekistan	16	21	31	32	35	45	42	33	43	41	33	46	34	47	38	44	31	38	32	33	52	35	43	78	274
Vietnam	23	28	14	37	41	33	31	58	73	127	68	110	156	164	270	301	404	566	583	685	887	922	1,422	1,884	3,064
Australia and Oceania	2,203	2,518	2,587	2,443	2,761	3,057	3,240	3,694	4,090	5,343	5,690	6,047	6,667	6,748	7,787	9,518	9,208	10,453	10,754	11,449	11,778	12,593	13,602	13,718	14,634
Australia	1,888	2,178	2,232	2,106	2,438	2,669	2,932	3,261	3,648	4,795	5,024	5,397	5,885	5,972	6,921	8,498	8,204	9,501	9,672	10,425	10,640	11,393	12,206	12,447	13,220
Cook Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Fiji	1	6	1	5	1	6	1	11	12	9	13	18	17	9	12	14	17	26	28	35	32	36	44	41	42
Kiribati	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0
Marshall Islands	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	0	0
Micronesia, Federated States of	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	2	0	0
Nauru	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Zealand	335	357	372	355	340	400	323	463	462	576	696	692	823	825	929	1,127	1,077	1,018	1,162	1,105	1,214	1,283	1,503	1,378	1,520
Niue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
Samoa	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Solomon Islands	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	1

Table SPBS-23

S&E articles in engineering, whole count, by region, country, or economy: 1996–2020

(Number)

Region, country, or economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Tonga	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	2
Tuvalu	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vanuatu	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	3	0	1	2
Unassigned	3,555	2,242	1,904	1,791	2,124	1,684	2,426	3,125	3,563	4,812	5,160	6,041	4,663	2,831	2,096	1,937	1,841	1,725	936	599	714	785	993	1,734	2,638

EU = European Union; UK = United Kingdom.

^a The UK was a part of the EU for data purposes from 1973 to 2019.^b Beginning in 2020, the UK was no longer a member of the EU.^c Beginning in 2006, Serbia and Montenegro represented individual countries.^d Serbia and Montenegro represented a single country for data purposes from 1992 to 2006.^e West Bank and Gaza Strip are separate entities in this list but are grouped in the World Bank Lending Groups classification list. Here, the economic status of the group is applied to both individual regions.**Note(s):**

Article counts refer to publications from selected journals and conference papers in S&E from Scopus. Articles are classified by their year of publication and are assigned to a region, country, or economy on the basis of the institutional address(es) of author(s) listed in the article. Articles are credited on a whole count basis. In whole counting, each region, country, or economy with a collaborating author on an article is credited with one count. The sum of the whole count for regions, countries, or economies does not add to the world total because of multiple counts of coauthored publications. Some publications have incomplete address information for coauthored publications in the Scopus database. The Unassigned category count is the sum of whole counts for publications that cannot be assigned to a region, country, or economy.

Source(s):

National Center for Science and Engineering Statistics; Science-Metrix; Elsevier, Scopus abstract and citation database, accessed May 2021.

Science and Engineering Indicators