

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018			
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
World		126194.00	126,194	136191.00	136,191	145651.00	145,651	156612.00	156,612	184156.00	184,156	225046.00	225,046	235803.00	235,803	246782.00	246,782	271482.00	271,482	291248.00	291,248	316254.00	316,254	336586.00	336,586	342192.00	342,192	362113.00	362,113	373604.00	373,604	383919.00	383,919	401637.00	401,637	421715.00	421,715	433363.00	433,363		
North America		41435.33	44,590	39815.20	43,030	45366.03	49,525	47115.54	52,410	55696.39	61,892	64266.94	71,775	60069.56	68,518	59302.54	67,938	63576.60	72,335	63052.93	72,070	68363.05	78,329	68788.97	79,136	69163.55	80,457	69725.80	82,180	70092.33	84,282	66927.20	82,093	68177.51	84,666	69109.13	86,637	65341.43	84,502		
Canada	High	4187.71	4,962	3956.02	4,657	5070.69	5,982	5060.85	6,257	6234.18	7,707	7415.40	9,127	7319.16	9,205	7461.35	9,411	8323.86	10,428	8228.40	10,318	9273.49	11,773	8438.25	10,773	8887.41	11,410	9363.29	12,531	9139.23	12,357	9632.53	13,286	9375.62	13,083	8864.89	12,884				
Greenland	High	0.17	1	0.00	0	0.00	0	0.00	0	0.00	0	0.48	2	0.25	1	0.14	1	0.00	0	0.00	0	0.27	2	0.00	0	0.83	1	0.00	0	0.05	1	0.00	0	0.08	2	0.00	0	0.56	6		
Mexico	Upper-middle	604.63	731	705.25	849	769.88	953	850.62	1,090	989.37	1,260	1056.57	1,326	1345.72	1,705	1273.10	1,593	1574.03	1,935	1647.32	2,024	1747.58	2,176	2041.90	2,485	1844.02	2,310	1940.06	2,403	1956.68	2,440	2143.87	2,747	2152.17	2,726	2172.22	2,776				
United States	High	36642.82	39,594	35153.93	38,172	39525.46	43,477	41204.07	46,097	48472.84	54,185	55794.50	62,841	51404.43	59,230	50567.95	58,495	53678.70	61,537	53177.21	61,251	57341.97	66,165	58308.56	67,440	58432.12	68,480	58824.21	69,806	58766.52	71,386	55831.29	69,115	56401.03	70,803	57581.34	72,855	54303.77	70,913		
Central America and Caribbean		69.60	101	88.52	131	106.77	168	142.88	206	141.24	230	193.82	294	224.67	347	198.79	324	208.95	347	211.99	371	212.29	354	211.40	362	222.89	396	382.68	567	262.46	436	237.47	398	234.56	427	267.35	448	279.22	488		
Antigua and Barbuda	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.83	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0		
Bahamas, The	High	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.50	2	0.00	0	0.00	0	0.00	0	0.00	0	0.09	1	1.50	2	0.00	0	0.14	2	0.00	0	0.18	2	0.39	2	0.98	3
Barbados	High	0.67	2	3.00	3	2.50	3	1.25	3	2.50	4	0.83	2	1.50	2	0.25	1	0.13	1	4.46	6	0.50	1	1.83	4	4.08	9	2.06	5	1.97	5	1.53	5	5.22	8	2.63	4	2.21	5		
Belize	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	1.00	1	0.20	1	0.00	0	0.13	0	0.00	0	0.13	1	0.83	2	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0		
Costa Rica	Upper-middle	3.83	5	0.00	0	1.80	6	2.87	4	4.67	12	4.20	11	2.63	8	16.54	28	14.13	27	9.53	27	20.60	37	14.25	33	22.89	48	26.00	48	20.04	32	35.33	68	38.04	76	68.22	102	64.08	113		
Cuba	Upper-middle	28.37	41	36.62	59	29.79	49	49.72	71	28.93	49	47.70	78	49.63	87	35.37	70	73.01	119	56.09	104	48.69	81	71.28	119	66.41	116	209.42	279	80.13	140	94.45	147	53.65	102	72.97	120	72.67	136		
Dominica	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	1	1.00	1	1.00	1	0.00	0	1.17	2	2.86	5	0.00	0	0.25	1	0.00	0	0.25	1		
Dominican Republic	Upper-middle	0.00	0	0.33	1	1.20	3	1.33	2	2.21	6	1.20	5	1.33	2	0.92	3	1.67	5	1.35	4	0.13	1	1.00	1	0.13	1	1.74	5	1.83	4	2.06	5	0.25	1	0.33	1	2.37	5	4.65	10
El Salvador	Lower-middle	0.00	0	0.00	0	0.00	0	0.33	1	0.09	1	3.00	3	5.79	9	5.50	6	9.81	14	4.00	6	5.83	9	3.08	5	3.00	4	2.62	6	1.78	4	2.40	4	5.80	10	4.33	5	27.24	33		
Grenada	Upper-middle	0.00	0	2.00	2	0.00	0	0.00	0	0.40	1	0.13	1	0.00	0	0.00	0	0.00	0	0.00	0	0.14	1	0.00	0	0.75	1	0.00	0	0.24	2	0.20	1	0.00	0	0.28	2				
Guatemala	Upper-middle	0.38	1	0.20	1	0.29	1	0.00	0	0.36	1	1.00	3	0.00	0	1.58	3	0.72	2	1.81	3	1.00	1	0.90	5	3.03	2	3.03	2	2.93	8	0.23	2	2.90	9	4.15	10	1.42	4		
Haiti	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	1.08	2	1.13	2	0.10	1	0.50	2	0.38	1	1.38	3	0.00	0	2.87	5	1.30	3	0.46	2	1.82	6	1.60	5	0.00	0		
Honduras	Lower-middle	0.20	1	0.00	0	0.14	1	0.25	1	0.33	1	0.00	0	2.84	5	0.20	1	2.09	5	0.66	3	1.13	5	0.98	6	3.75	7	0.63	3	9.53	13	2.62	9	4.45	9						
Jamaica	Upper-middle	5.00	5	2.07	3	11.38	16	6.83	8	5.88	8	1.83	5	3.25	7	5.83	11	5.48	10	9.67	15	1.63	3	9.05	13	3.00	5	5.33	7	6.42	9	13.67	18	10.88	19	8.71	14	1.97	4		
Nicaragua	Lower-middle	0.00	0	0.00	0	1.67	3	1.40	4	2.95	6	2.33	3	3.25	6	1.79	5	2.71	7	3.17	9	2.00	6	2.25	6	2.69	5	1.00	2	4.25	5	0.49	3	2.23	5	1.71	4	14.50	19		
Panama	High	0.00	0	1.83	4	0.50	1	0.87	3	1.90	7	2.75	5	3.42	8	3.10	9	3.75	9	4.78	10	6.68	18	3.44	9	10.51	26	11.81	20	20.76	42	6.57	16	8.89	22	6.89	28	10.79	34		
Puerto Rico	High	26.21	38	32.80	46	48.11	72	59.69	87	68.13	100	99.24	138	128.56	182	105.94	149	70.29	111	80.24	131	83.62	139	73.66	123	76.99	131	92.93	151	82.37	140	69.54	111	59.15	107	74.17	125	49.13	90		
Saint Kitts and Nevis	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Saint Lucia	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.33	2	0.00	0	0.40	2	0.00	0	0.00	0	0.00	0	0.05	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	1.00	1		
Saint Vincent and the Grenadines	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1		
Trinidad and Tobago	High	4.94	8	8.67	11	9.40	14	18.33	23	22.38	36	26.94	39	19.82	27	19.71	35	26.50	43	32.95	51	37.58	51	28.42	41	29.85	39	19.73	26	34.72	41	10.39	14	31.38	43	16.42	22	23.09	29		
South America		1900.83	2,205	2188.56	2,518	2101.11	2,497	2597.03	3,112	2769.92	3,332	3337.74	4,002	4076.20	4,846	3554.09	4,303	4394.65	5,308	5345.37	6,331	5530.92	6,711	6188.07	7,372	6244.82	7,571	7310.57	8,736	7108.15	8,814	7632.52	9,437	7994.54	10,023	8462.71	10,472	8734.29	10,939		
Argentina	High	266.64	319	382.81	450	312.97	381	358.97	471	328.97	440	407.50	514	605.82	743	382.62	499	449.08	570	511.78	680	581.42	764	548.86	730	559.63	742	565.70	758	615.78	809	641.10	842	751.37	974	68					

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		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Ecuador	Upper-middle	2.00	2	2.20	6	10.73	14	2.50	5	6.04	9	14.31	24	5.59	13	3.22	9	8.20	23	11.45	26	15.63	30	11.37	24	26.73	49	23.25	50	59.92	115	83.80	193	168.93	297	239.68	402	344.37	540		
Guyana	Upper-middle	0.00	0	0.33	1	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.67	1	0.00	0	0.33	1	1.50	2	0.00	0	0.63	2	0.17	1	0.00	0	1.04	3	2.25	5	0.00	0	0.00	0	0.00	0
Paraguay	Upper-middle	1.00	1	2.25	3	0.08	1	0.00	0	1.00	1	1.50	3	6.00	6	0.61	2	1.83	3	1.53	3	0.64	2	8.12	17	3.13	7	5.03	10	6.33	17	7.55	16	14.47	23	17.13	28	15.06	25		
Peru	Upper-middle	3.83	7	12.18	20	4.57	8	16.05	27	12.58	23	24.59	42	25.75	39	20.56	51	23.41	43	18.28	39	54.14	80	38.54	66	50.29	89	51.46	96	62.93	109	77.97	132	95.08	144	129.97	193	148.52	212		
Suriname	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	1.00	1	0.13	1	0.00	0	0.83	2	0.67	2	2.37	4	0.00	0	1.15	4	0.00	0	1.00	1	0.00	0	0.00	0
Uruguay	High	8.67	11	10.64	15	17.30	23	12.88	21	12.46	23	20.12	32	24.31	35	24.17	35	28.44	45	33.55	50	45.27	65	44.03	72	52.68	74	46.47	75	56.93	81	42.32	65	79.70	106	57.31	90	51.44	85		
Venezuela	Upper-middle	102.58	141	123.31	167	108.80	158	117.86	175	120.70	174	127.20	188	179.02	252	127.69	187	152.46	214	127.32	187	106.08	163	109.12	168	117.92	173	113.46	164	91.12	149	70.36	136	61.16	123	55.56	117	43.46	98		
Europe		39838.95	42,692	43696.82	46,590	46617.32	50,331	48610.48	53,614	53134.68	58,839	64155.72	70,761	66325.88	73,234	70888.35	78,077	76963.78	84,859	81957.22	90,357	87974.80	97,119	89421.92	99,111	97438.38	108,137	100461.69	112,184	107110.66	119,960	110659.91	124,495	113657.38	129,143	117741.41	134,348	113838.28	132,078		
EU		32960.96	35,735	34581.02	37,505	37140.07	40,822	39488.36	44,157	43455.39	48,800	53661.15	60,132	56333.53	63,292	60140.01	67,498	66084.81	74,173	70393.95	79,031	75519.26	84,932	76775.78	86,675	83772.73	94,812	85299.70	97,370	90397.19	103,756	92241.21	106,659	92769.83	108,865	95260.48	112,387	89745.90	108,501		
Austria	High	538.47	673	580.53	705	555.55	713	733.37	971	775.66	1,034	1048.49	1,379	1046.54	1,398	1200.03	1,589	1268.17	1,742	1390.65	1,886	1552.06	2,089	1509.56	2,049	1718.75	2,344	1755.65	2,429	1647.53	2,394	1865.79	2,654	1899.52	2,813	1803.88	2,637	1735.90	2,630		
Belgium	High	758.73	935	860.99	1,053	913.59	1,160	905.51	1,256	1050.31	1,476	1332.45	1,835	1324.44	1,827	1411.74	1,973	1577.76	2,248	1814.11	2,505	1820.29	2,577	1959.30	2,809	2140.06	3,105	2183.12	3,154	2184.99	3,242	2122.61	3,337	2199.84	3,457	2197.00	3,524	2011.52	3,391		
Bulgaria	Upper-middle	104.63	128	173.74	221	143.00	193	186.03	221	203.62	298	350.84	495	262.62	367	376.07	526	242.05	339	398.39	523	289.76	343	250.03	330	242.28	330	285.76	396	242.88	403	260.17	358	359.74	473	423.14	556	602.44	721		
Croatia	High	169.53	184	194.35	205	227.50	250	257.60	292	209.30	240	395.56	438	299.56	347	428.14	474	415.22	463	547.96	627	634.18	714	571.94	657	536.45	632	548.45	667	550.49	679	619.84	783	530.12	680	676.85	834	657.88	843		
Cyprus	High	16.66	23	16.70	22	10.50	21	19.36	37	30.93	69	55.96	105	44.82	87	72.47	131	78.73	142	137.98	221	147.30	236	147.08	247	141.17	223	196.47	302	175.49	274	202.33	307	215.22	337	213.28	347	220.64	388		
Czechia	High	302.67	383	342.73	423	422.58	532	497.90	621	510.63	665	869.75	1,083	1078.71	1,308	1169.21	1,376	1130.40	1,388	1435.24	1,692	1869.83	2,136	2015.89	2,296	2061.92	2,364	2024.74	2,387	2446.22	2,889	2773.11	3,298	2548.24	3,055	2793.21	3,401	2302.70	2,959		
Denmark	High	537.18	680	521.78	670	589.63	787	639.40	878	719.93	1,002	860.60	1,147	866.30	1,205	930.67	1,338	920.25	1,340	1135.72	1,603	1130.04	1,663	1434.02	2,051	1523.11	2,184	1630.84	2,347	1796.78	2,604	1995.16	2,917	1792.71	2,769	1940.80	2,965	1900.98	3,154		
Estonia	High	42.01	52	54.45	64	44.12	53	46.09	59	58.43	76	96.06	126	142.72	174	164.50	195	226.19	259	172.89	210	247.06	297	208.84	257	286.29	354	199.90	264	292.14	370	252.52	353	268.11	370	235.51	323	218.85	356		
Finland	High	691.47	775	822.98	946	877.88	1,014	953.66	1,133	942.56	1,143	1347.63	1,603	1168.05	1,429	1214.77	1,503	1258.53	1,569	1296.07	1,623	1311.76	1,689	1314.80	1,672	1369.54	1,798	1476.32	1,959	1589.00	2,189	1606.77	2,251	1506.64	2,215	1551.97	2,261	1453.06	2,227		
France	High	4343.46	5,162	4528.35	5,388	5220.32	6,360	5529.96	6,915	5754.29	7,406	6705.87	8,570	7352.85	9,426	7579.37	9,800	8209.03	10,719	8629.26	11,315	8981.26	11,815	9133.05	12,133	9852.31	13,235	10184.52	13,883	9936.66	13,843	9903.27	14,005	9604.98	14,010	9696.84	14,155	8715.98	13,352		
Germany	High	6360.76	7,265	6424.13	7,421	6551.84	7,904	6934.09	8,624	7471.40	9,476	8969.85	11,310	9414.20	11,939	10025.63	12,659	11084.64	14,013	11799.09	14,661	12805.53	16,081	12985.46	16,257	15061.59	18,887	14158.66	18,080	15375.68	19,822	15716.64	20,432	17158.45	22,321	16511.90	21,644	16129.37	21,736		
Greece	High	613.58	721	739.00	878	825.56	971	936.96	1,117	1067.07	1,250	1234.97	1,496	1469.88	1,770	1654.31	1,978	1603.30	1,947	1669.08	2,049	1792.20	2,213	1824.48	2,276	1800.21	2,247	1917.55	2,440	1856.57	2,397	1997.07	2,615	1989.10	2,626	1762.56	2,367	1642.68	2,245		
Hungary	High	358.76	445	314.63	379	368.69	461	424.59	541	386.73	495	454.31	608	518.77	651	506.80	654	559.42	705	502.08	636	669.94	811	626.84	762	692.62	878	633.59	832	741.83	960	770.46	971	686.96	923	809.13	1,024	814.12	1,066		
Ireland	High	234.44	278	280.66	338	380.21	482	315.93	431	450.57	597	809.05	1,039	604.60	786	770.66	1,003	768.00	1,022	750.67	1,026	873.15	1,184	890.51	1,236	873.57	1,259	971.45	1,319	1011.07	1,435	971.45	1,482	955.09	1,482	900.07	1,407	851.35	1,423		
Italy	High	3358.61	3,780	3643.96	4,145	4091.59	4,755	4599.27	5,426	4742.50	5,730	5760.28	6,870	6276.90	7,513	6777.30	8,145	7116.28	8,636	7586.29	9,169	8316.01	10,150	8443.30	10,431	9270.98	11,509	10039.95	12,515	11179.84	14,081	12161.03	15,319	11444.90	14,766	12219.89	15,766	11633.31	15,367		
Latvia	High	26.65	33	35.20	39	59.68	79	23.93	33	33.96	44	68.00	85	63.81	85	91.51	111	185.66	211	119.02	139	181.75	202	243.08	275	249.54	288	228.55	268	278.26	328	261.21	317	238.66	300	335.82	402	283.63	342		
Lithuania	High	104.79	114	144.74	174	150.31	169	142.20	172	199.64	231	342.40	381	388.43	421	429.99	482	887.27	964	627.15	684	761.47	819	783.43	847	582.72	663	595.02	677	653.48	743	503.52	618	474.97	597	574.43	724	414.53	562		
Luxembourg	High	2.50	3	4.58	9	8.97	12	12.47	21	18.07	28	23.15	40	25.79	47	31.74	54	30.32	61	38.48	87	38.94	83	54.75	101	66.86	138	94.41	178	108.39	195	101.20	199	113.51	222	126.75	244	122.36	240		
Malta	High	4.75	8	9.85	13	3.48	6	7.83	11	8.03	10	13.50	29	15.89	29	19.10	28	21.33	33	14.64	23	28.28	41	31.83	44	43.74	59	35.73	51	34.48	52	42.83	57	63.59	81	59.38	85				
Netherlands	High	1756.41	2,184	1846.44	2,258	1907.78	2,428	1981.60	2,642	2307.68	3,158	2817.93	3,754	2877.25	3,935	2928.81	4,002	3282.84	4,516	3416.23	4,690	3694.96	5,166	3472.10	4,892	3815.81	5,503	3797.58	5,453	3808.86	5,667	3630.41	5,531	3716.66	5,890	3957.77	6,108	3720.02	6,066		
Poland	High	1285.25	1,436	1664.64	1,849	1731.83	1,970	1521.14	1,811	2064.60	2,371	2507.54	2,940	2768.89	3,161	2896.55	3,285	3743.82	4,204	3672.79	4,115																				

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Spain	High	1627.56	1,873	1908.07	2,190	2242.65	2,645	2369.26	2,911	2795.95	3,467	3533.76	4,310	4039.46	4,979	4327.68	5,375	4622.96	5,801	5223.35	6,522	5545.81	7,029	5940.05	7,595	6353.59	8,173	6615.67	8,586	7239.92	9,487	6789.88	9,062	6591.84	9,146	6423.29	9,078	6551.74	9,335
Sweden	High	1406.27	1,630	1337.84	1,613	1382.18	1,696	1590.93	2,006	1678.21	2,126	1946.62	2,477	2005.43	2,617	1906.56	2,546	2051.72	2,678	2265.54	3,061	2342.86	3,193	2438.35	3,349	2740.48	3,751	2887.74	4,021	2976.34	4,334	3055.66	4,618	3013.28	4,641	3025.60	4,829		
United Kingdom	High	7132.25	8,221	6921.85	8,074	7164.23	8,526	7169.92	8,858	8308.55	10,395	9611.26	12,223	9494.41	12,406	10332.93	13,517	10194.95	13,490	10293.34	13,926	10570.15	14,265	11108.57	15,218	11081.46	15,573	11636.34	16,930	11867.77	17,666	12526.00	19,164	12609.45	19,693	12085.41	19,721		
Other Europe		6877.99	7,867	9115.80	10,192	9477.25	10,906	9122.12	11,177	9679.29	11,831	10494.57	12,744	9992.36	12,206	10748.34	12,995	10878.97	13,344	11563.28	14,011	12455.54	15,199	12646.13	15,467	13665.65	16,870	15161.99	18,671	16713.47	20,642	18418.70	22,604	20887.55	25,572	22480.93	27,412	24092.38	29,390
Albania	Upper-middle	1.00	1	1.12	3	1.67	2	0.67	1	1.77	3	1.83	3	5.55	9	4.23	9	7.25	11	13.57	17	21.38	26	17.22	28	16.58	26	21.13	33	18.22	28	16.73	27	12.95	21	22.30	36	19.61	33
Andorra	High	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0	0.40	1	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.71	2	0.50	1	1.21	3	0.00	0	0.87	2		
Belarus	Upper-middle	180.48	210	293.33	332	344.42	423	237.46	336	272.43	366	273.27	357	266.29	357	306.32	395	210.56	287	222.78	289	178.07	252	182.31	232	201.17	285	174.74	243	134.96	205	132.28	202	175.80	261	159.59	254	186.51	281
Bosnia and Herzegovina	Upper-middle	1.35	4	7.36	11	12.92	21	14.58	21	8.43	13	25.25	37	20.42	33	29.08	45	30.25	38	55.85	78	53.04	72	70.33	96	72.53	110	96.98	134	70.82	102	118.09	160	87.90	133	162.68	231	110.92	182
Holy See (Vatican City)	na	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.46	2	0.00	0		
Iceland	High	14.04	18	10.82	15	20.31	30	16.30	23	11.42	14	22.79	29	28.57	45	38.31	68	31.93	55	42.28	79	38.19	71	39.72	81	52.25	85	50.12	99	55.13	109	66.10	130	80.51	157	58.53	139	48.40	113
Kosovo	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	8.33	12	13.50	18	21.93	33	22.25	42	31.77	50	20.89	37	28.30	43	48.44	72	37.85	70	50.99	84
Liechtenstein	High	3.00	4	1.13	2	2.44	6	1.70	3	4.79	9	7.15	13	7.49	14	1.83	4	9.34	14	2.35	8	4.56	12	4.38	11	7.77	14	5.21	10	6.22	16	1.84	7	9.56	16	4.50	9	2.15	5
Moldova	Lower-middle	19.59	24	25.33	34	24.46	36	25.54	41	16.97	26	46.13	66	23.20	38	29.16	42	22.44	39	38.68	60	31.02	45	26.95	45	27.90	41	31.83	47	24.26	39	28.50	47	101.99	146	62.38	89	24.52	48
Monaco	High	0.06	1	0.08	1	3.07	4	1.00	1	1.92	4	2.29	6	4.45	8	2.50	7	0.47	2	3.77	9	2.77	7	4.57	7	2.15	4	6.37	11	1.67	5	2.20	6	3.70	10	0.91	4		
Montenegro ^a	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	11.03	19	10.00	14	11.68	19	13.02	22	18.73	36	19.95	39	27.41	45	27.52	48	32.03	48	57.22	87	51.26	75	45.03	71
North Macedonia	Upper-middle	13.84	17	18.58	23	6.17	10	23.20	37	11.78	17	21.28	35	25.76	45	37.12	60	23.26	36	27.29	48	48.94	75	43.33	65	59.76	84	81.64	105	52.81	74	58.59	83	56.40	76	61.98	98	57.64	82
Norway	High	430.20	544	510.47	624	485.57	603	520.03	696	566.78	762	803.12	1,046	840.12	1,165	924.22	1,232	910.65	1,249	1167.28	1,549	1246.86	1,662	1400.88	1,867	1592.70	2,155	1632.34	2,241	1707.66	2,399	1782.94	2,519	1906.83	2,723	2056.80	2,937	1932.03	2,831
Russia	Upper-middle	3480.22	3,903	4963.14	5,443	5389.92	6,014	4460.99	5,402	4670.94	5,607	4547.50	5,460	3841.97	4,513	3975.03	4,640	3848.63	4,467	3845.84	4,411	3971.60	4,520	3962.76	4,551	4088.33	4,731	4623.65	5,296	6475.23	7,354	7812.58	8,797	8881.47	10,013	10012.66	11,254	12098.62	13,539
San Marino	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	3	0.50	1	0.67	1	1.54	4	3.08	9	3.07	4	6.13	14	5.73	12	3.96	12				
Serbia ^a	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	276.54	340	338.84	416	386.05	470	522.70	625	667.45	794	864.84	1,024	832.15	995	759.11	912	672.82	844	847.01	1,045	842.83	1,061	661.76	860
Serbia and Montenegro ^b	Lower-middle	173.03	202	142.10	166	140.22	179	128.43	170	180.13	219	217.79	268	310.98	367	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Switzerland	High	969.08	1,216	970.82	1,232	993.95	1,343	1208.83	1,644	1258.76	1,772	1619.42	2,243	1616.01	2,323	1872.81	2,644	1942.01	2,846	1878.63	2,757	2268.25	3,381	2227.54	3,303	2496.44	3,716	2635.81	3,971	2714.16	4,216	2774.18	4,297	2717.23	4,361	2766.90	4,387	2666.15	4,428
Turkey	Upper-middle	691.90	790	870.17	988	1003.49	1,139	1351.66	1,566	1624.65	1,862	1769.42	2,022	2116.04	2,434	2419.07	2,735	2574.82	2,964	3065.82	3,475	3196.21	3,639	3099.47	3,581	3085.90	3,635	3685.21	4,329	3351.45	3,992	3753.78	4,469	4518.66	5,345	4879.58	5,733	4560.68	5,429
Ukraine	Lower-middle	900.20	ne	1301.36	1,421	1048.65	1,209	1131.48	1,374	1048.53	1,280	1136.84	1,363	885.52	1,046	820.69	974	909.90	1,092	787.41	921	836.92	1,001	856.77	1,021	1051.73	1,242	1222.67	1,431	1136.76	1,377	1376.05	1,666	1291.21	1,614	1621.64	1,976		
Middle East		2047.00	2,441	2065.45	2,435	2230.15	2,694	2751.75	3,374	3167.74	3,863	3666.36	4,532	4354.21	5,273	4798.16	5,871	6017.22	7,194	7314.70	8,719	9095.21	10,749	10562.91	12,667	11021.75	13,466	11518.96	14,555	12579.78	16,134	12872.06	16,911	15256.09	19,944	16499.11	21,383	17018.06	22,248
Armenia	Upper-middle	47.47	56	31.68	40	31.75	41	29.48	39	35.47	47	49.92	64	40.93	55	51.20	71	48.85	64	45.06	58	49.01	61	118.90	141	62.17	77	46.32	62	32.20	53	51.66	72	33.19	50	33.93	56		
Azerbaijan	Upper-middle	24.92	29	22.20	24	54.82	60	41.77	56	50.72	69	49.01	62	51.45	68	41.98	48	46.75	57	52.19	76	95.34	117	65.51	84	68.53	86	56.07	73	48.92	70	60.03	75	59.43	86	73.86	90	128.97	170
Bahrain	High	16.19	20	22.00	26	5.00	8	27.92	32	18.70	25	18.83	22	22.04	27	32.03	46	15.35	26	27.42	35	31.09	42	24.00	32	25.12	43	23.12	38	15.46	27	19.11	36	35.68	55	69.00	103		
Gaza Strip ^c	Lower-middle	3.00	4	0.75	3	1.75	4	2.00	3	11.33	15	8.67	14	10.17	15	9.13	16	5.96	13	9.73	16	10.60	1																

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Kuwait	High	132.14	151	115.10	135	113.92	137	116.54	146	127.86	157	129.28	170	157.06	198	157.39	210	151.78	204	149.58	213	163.69	221	164.78	222	177.43	234	190.74	267	170.60	246	201.20	280	186.85	278	183.48	296	169.34	296
Lebanon	Upper-middle	57.41	76	42.90	55	60.22	76	52.59	82	64.71	93	72.84	109	83.27	136	76.24	131	95.32	149	86.54	135	116.39	169	134.77	203	157.30	244	213.72	324	198.52	309	231.04	350	286.22	441	270.70	416	314.81	454
Oman	High	37.13	51	45.80	60	46.21	60	45.94	64	59.55	87	62.29	92	81.05	116	69.61	114	103.68	146	89.71	142	104.43	169	104.43	190	109.76	198	179.25	292	149.06	266	154.94	286	163.57	298				
Qatar	High	9.18	11	10.95	21	18.27	28	15.20	27	21.98	37	28.99	49	29.11	52	28.09	60	53.60	101	67.38	119	81.81	155	101.56	186	139.18	254	168.41	341	283.94	561	274.40	616	342.19	739	318.51	645	356.80	729
Saudi Arabia	High	303.21	386	276.87	324	267.12	320	304.40	365	281.71	342	308.80	395	324.97	407	341.18	443	342.14	467	496.66	678	506.89	805	706.57	1,218	911.85	1,571	1152.59	2,023	1311.30	2,464	1466.83	2,857	1754.59	3,353	1815.74	3,450	1804.54	3,422
Syria	Low	9.20	13	13.33	16	7.96	15	8.57	16	19.08	27	18.49	28	12.21	23	28.65	37	18.53	25	14.21	26	26.40	37	29.88	42	32.78	47	19.51	32	32.26	44	24.62	38	33.93	48	26.13	45		
United Arab Emirates	High	79.21	109	77.91	110	97.87	129	137.36	189	116.95	172	142.98	214	149.68	235	147.49	261	184.54	307	258.36	421	328.50	538	381.81	613	500.35	782	564.19	868	557.07	893	720.62	1,171	800.55	1,313	904.03	1,462	749.19	1,286
West Bank ^c	Lower-middle	13.72	16	8.27	13	10.53	20	15.75	26	12.02	22	12.48	22	8.17	13	18.46	29	6.71	17	14.25	25	14.51	24	21.03	34	16.16	29	18.39	32	17.92	38	26.63	50	26.75	53	27.25	47	35.23	64
Yemen	Low	3.25	6	1.50	2	4.96	8	2.46	4	0.25	1	4.08	6	3.53	7	5.97	10	6.74	16	6.01	17	8.43	16	6.58	13	14.01	24	6.13	19	5.21	20	7.12	25	11.07	35	8.30	32		
Africa		1281.00	1,544	1324.30	1,587	1450.71	1,762	1552.03	1,919	2075.19	2,560	2195.98	2,793	2333.05	2,968	2642.66	3,371	2834.08	3,674	3600.24	4,655	3778.03	4,930	4141.57	5,436	4727.45	6,132	5506.66	7,257	5787.13	7,767	6099.34	8,203	7680.04	10,233	8449.00	11,277	8851.54	11,932
Algeria	Upper-middle	110.42	138	105.27	138	111.95	139	173.63	220	289.05	356	227.66	294	335.64	417	343.59	451	452.77	587	586.63	760	590.31	787	699.84	893	913.44	1,126	1112.12	1,380	1046.11	1,307	1284.01	1,562	1341.87	1,630	1675.23	2,059	1408.89	1,770
Angola	Lower-middle	0.50	1	1.00	1	4.47	7	0.14	1	0.14	1	0.57	3	3.11	7	0.42	2	0.00	0	1.17	2	0.40	2	0.38	2	1.95	5	2.88	6	2.86	7	0.42	2	4.77	11	2.00	2		
Benin	Low	1.47	3	1.33	3	2.92	5	2.00	4	1.50	3	1.08	3	0.14	1	1.64	4	1.00	1	1.67	3	0.83	2	0.77	3	1.70	6	2.22	5	4.49	8	9.29	18	9.08	15	10.57	24	14.98	34
Botswana	Upper-middle	5.33	7	6.57	9	3.25	5	11.33	14	8.58	16	10.23	19	25.36	38	14.81	21	18.92	26	13.52	22	24.91	30	16.05	31	17.55	29	19.37	34	18.79	30	12.48	20	47.04	76	19.22	44	23.36	53
Burkina Faso	Low	0.92	2	0.70	3	1.25	2	5.13	13	2.57	4	1.42	4	2.04	5	1.32	4	7.15	14	7.70	14	4.93	11	8.87	21	15.35	34	10.66	25	14.76	36	10.24	23	10.52	25	9.83	24		
Burundi	Low	0.11	1	0.00	0	0.00	0	0.00	0	0.11	1	0.00	0	0.83	2	0.00	0	0.33	1	0.00	0	0.15	2	0.25	1	0.17	1	0.50	3	0.25	2	0.38	2	0.51	4	0.55	4		
Cabo Verde	Lower-middle	0.00	0	0.00	0	0.00	0	0.67	1	0.00	0	0.00	0	0.00	0	0.75	2	0.00	0	0.50	1	0.33	1	0.00	0	0.58	2	0.33	1	0.42	2	0.75	3	0.92	4	1.08	5	1.56	4
Cameroon	Lower-middle	7.76	12	11.70	16	8.00	11	9.94	14	9.41	17	10.40	17	12.06	21	14.12	20	21.51	37	29.91	49	29.84	49	31.84	46	31.30	46	31.72	52	36.53	60	39.82	64	53.76	82	70.99	101	65.88	107
Central African Republic	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.05	1	0.80	1	0.79	2	0.76	2	0.82	2	0.00	0	0.00	0	1.50	2	1.25	2
Chad	Low	0.25	1	0.00	0	0.50	1	0.50	1	0.49	3	0.00	0	0.20	1	0.20	1	0.10	1	0.15	2	0.50	1	0.00	0	0.00	0	0.17	1	0.13	1	0.50	1	1.24	6	1.08	2	1.14	4
Comoros	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.20	5	0.00	0	0.00	0	0.13	1	0.67	1	0.54	3		
Congo, Democratic Republic of the	Low	0.22	1	0.00	0	0.33	1	1.38	3	0.89	2	1.73	4	0.25	1	0.00	0	0.33	1	3.19	8	0.45	2	1.42	3	0.69	3	1.97	6	2.99	9	2.72	9	6.28	13	3.93	11		
Congo, Republic of the	Lower-middle	0.00	0	0.88	2	1.00	1	0.00	0	1.25	2	0.50	1	1.04	4	0.33	1	0.40	1	1.08	3	0.26	1	1.07	2	0.75	2	4.55	9	3.71	7	0.55	2	2.75	5	1.68	4	1.62	5
Côte d'Ivoire	Lower-middle	3.10	4	2.33	4	2.20	3	3.20	7	1.01	5	3.33	6	0.75	2	4.89	7	3.60	4	6.98	13	3.21	6	6.99	12	5.02	8	4.06	11	5.67	13	3.63	7	4.56	9	10.19	21		
Djibouti	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.13	1	0.00	0	0.50	1	0.00	0	0.50	1	0.25	1	0.33	1	0.13	1	1.40	4	0.95	3	0.33	1	0.88	2	0.63	3	1.42	3
Egypt	Lower-middle	424.65	508	489.81	565	481.85	571	514.57	611	671.51	774	574.67	706	672.56	828	723.42	888	737.22	947	911.65	1,181	982.23	1,298	1019.07	1,372	1174.89	1,603	1371.88	1,921	1453.38	2,103	1541.84	2,299	1796.23	2,672	1927.59	2,854	2227.99	3,220
Equatorial Guinea	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	1	0.00	0	0.10	1	0.00	0	0.00	0	0.05	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Eritrea	Low	0.00	0	0.00	0	0.00	0	1.13	2	0.00	0	0.17	1	0.00	0	1.00	2	1.83	3	0.33	1	0.17	1	1.33	2	2.00	2	0.00	0	0.35	2	0.00	0	0.54	3	0.38	2	0.00	0
Eswatini	Lower-middle	0.17	1	0.50	1	1.00	1	1.17	2	0.33	1	1.08	3	2.08	3	1.33	2	0.00	0	1.33	2	2.00	4	4.27	6	2.67	4	0.67	1	1.33	3	0.52	3	2.16	5	0.45	2	1.74	6
Ethiopia	Low	1.67	3	3.55	6	4.25	7	7.68	12	4.63	10	6.79	16	10.43	19	11.67	23	9.15	18	31.06	51	16.17	31	20.91	52	15.09	34	32.56	71	42.26	88	41.72	78	57.63	120	84.47	164	100.95	194
Gabon	Upper-middle	0.00	0	0.13	1	0.00	0	0.50	1	0.00	0	0.53	2	0.00	0	0.75	2	2.08	5	1.53	3	0.11	1	1.70	5	0.56	4	0.86	5	0.21	2	1.31	7	1.47	4	3.23	13		
Gambia, The	Low	0.00	0	0.00	0	0.00	0</																																

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Guinea-Bissau	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0
Kenya	Lower-middle	5.20	8	7.27	12	17.11	22	9.32	18	13.30	22	15.89	25	9.21	17	11.82	27	11.74	27	25.85	44	17.11	36	26.32	49	32.11	60	31.31	68	42.59	84	38.17	96	44.32	100	54.82	110		
Lesotho	Lower-middle	1.25	3	0.00	0	0.00	0	0.33	1	0.21	2	1.08	3	1.33	2	0.10	1	0.67	2	0.50	1	0.97	2	0.50	1	1.69	4	0.33	2	0.17	1	0.50	1	0.00	0	1.73	3		
Liberia	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.33	1	0.67	1	0.00	0	0.33	1	0.00	0	0.13	1	0.73	3	0.83	1	0.42	2
Libya	Upper-middle	13.00	18	13.00	18	9.78	15	20.25	26	23.21	32	30.18	42	24.17	32	34.10	46	40.35	54	31.10	50	36.92	57	19.37	33	36.44	58	45.50	76	51.67	92	47.38	89	33.02	77	59.04	104	43.83	91
Madagascar	Low	0.00	0	0.14	1	1.00	1	0.00	0	0.50	1	0.00	0	0.17	1	1.83	3	0.88	3	2.66	5	0.67	2	3.90	8	3.30	8	5.83	11	5.01	11	5.06	10	7.57	15	4.74	9		
Malawi	Low	0.33	1	1.13	2	3.33	4	0.00	0	1.17	2	0.56	2	1.66	3	0.17	1	3.91	8	6.96	13	2.74	8	4.28	9	2.52	7	6.65	15	4.80	11	3.06	9	5.19	12	7.80	16	2.93	9
Mali	Low	1.00	1	1.25	2	0.00	0	0.33	1	1.21	3	1.00	2	0.93	3	1.73	4	0.87	3	4.27	13	0.67	3	1.72	5	1.38	6	2.00	5	0.78	4	1.92	4	1.62	8	4.43	13		
Mauritania	Lower-middle	0.33	1	0.00	0	0.58	2	0.00	0	0.67	1	0.33	1	0.25	1	0.33	1	0.33	1	1.04	3	0.53	2	0.63	2	0.80	3	2.35	6	1.36	5	1.25	5	0.83	1	2.98	8		
Mauritius	Upper-middle	4.67	5	5.31	8	4.83	7	10.83	12	4.50	5	2.16	5	3.50	4	2.50	3	5.00	5	2.90	4	4.25	6	2.25	4	11.48	14	7.52	12	10.30	14	17.29	22	36.81	45	40.45	51	14.03	18
Morocco	Lower-middle	91.82	117	86.93	112	105.32	134	81.11	112	122.23	164	116.29	156	106.55	154	139.64	204	130.80	196	149.06	206	154.97	248	166.38	250	168.27	266	262.37	380	360.34	476	263.56	378	740.41	891	933.72	1,109	962.48	1,133
Mozambique	Low	1.00	1	2.67	4	3.00	3	4.83	8	2.00	4	1.91	6	3.09	7	3.03	7	1.83	6	5.96	8	2.08	6	3.33	6	2.58	7	1.87	4	5.24	11	1.12	8	2.44	8	4.09	11	4.94	16
Namibia	Upper-middle	2.50	3	1.25	2	0.33	1	1.58	3	0.33	1	8.40	13	1.70	4	5.83	8	2.84	7	2.17	6	0.82	3	3.43	8	4.23	11	6.42	16	9.81	18	6.53	12	13.94	30	8.91	27	19.43	38
Niger	Low	0.53	2	0.00	0	0.45	2	0.93	4	0.70	2	0.70	3	0.67	2	2.08	4	1.39	5	4.48	12	0.51	3	2.23	6	2.23	7	2.06	11	2.79	11	2.53	10	3.15	7	1.56	10		
Nigeria	Lower-middle	59.24	63	43.95	51	77.19	90	77.65	90	131.77	149	110.79	133	96.45	121	115.12	133	132.49	165	236.82	275	233.83	272	263.45	324	277.99	338	292.64	375	359.64	484	383.96	506	499.21	697	477.57	684	776.76	1,083
Rwanda	Low	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	1.50	2	5.25	7	3.95	5	4.03	6	1.88	4	3.34	9	1.58	4	3.84	8	2.43	8	1.88	11	4.06	19	9.05	18
São Tomé and Príncipe	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Senegal	Low	3.95	7	2.61	6	3.73	7	5.87	14	4.09	8	5.71	14	3.50	11	6.32	16	7.24	22	6.17	14	7.03	16	8.22	19	11.20	25	16.52	34	16.71	19	16.52	34	16.71	39	18.74	37	25.50	49
Seychelles	High	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	5.00	5	0.00	0	0.83	2	0.00	0	0.00	0	0.58	2	0.00	0	0.00	0	0.00	0
Sierra Leone	Low	0.00	0	1.00	1	0.00	0	0.33	1	2.75	4	0.00	0	0.50	1	0.00	0	0.00	0	1.00	2	0.00	0	0.76	2	1.14	2	0.07	1	0.57	2	0.00	0	1.92	5	0.64	7	1.44	9
Somalia	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.25	1	0.50	1	0.00	0	1.17	2	0.00	0
South Africa	Upper-middle	405.47	469	433.64	494	434.64	517	457.25	541	513.73	646	732.16	907	742.82	909	842.28	1,041	700.91	865	861.14	1,089	1067.85	1,312	977.74	1,254	1299.56	1,588	1230.13	1,567	1348.20	1,744	1260.11	1,625	1755.44	2,242	1610.71	2,158	1609.52	2,216
South Sudan	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	2	0.20	1	1.00	1	0.00	0	0.17	1	0.50	2	0.00	0		
Sudan	Lower-middle	7.25	10	0.33	1	1.33	2	3.08	5	3.63	8	6.83	9	5.63	11	13.03	18	9.23	15	9.00	22	9.54	18	22.88	36	16.58	29	19.59	38	16.40	50	15.87	44	29.14	65	27.77	76	30.47	91
Tanzania	Low	8.23	12	3.25	4	9.22	12	7.62	10	10.04	13	14.32	24	2.63	6	3.88	9	12.08	18	9.93	20	13.69	22	23.10	35	11.20	30	14.54	40	16.71	37	25.34	59	20.35	50	27.99	63	30.41	63
Togo	Low	0.50	1	0.00	0	0.50	1	0.00	0	0.58	2	0.20	1	0.00	0	1.00	1	3.25	4	2.32	5	0.00	0	1.13	2	1.33	3	2.56	5	1.03	3	2.60	5	1.19	5	1.84	5	1.41	7
Tunisia	Lower-middle	85.11	112	74.73	97	108.75	149	110.39	153	207.08	270	229.86	313	230.36	318	291.10	390	430.60	561	555.87	705	506.52	685	719.99	927	587.63	781	870.35	1,100	821.22	1,062	941.36	1,226	1007.08	1,340	1193.46	1,579	1224.38	1,631
Uganda	Low	4.07	6	3.75	5	9.17	11	2.43	6	11.68	20	45.04	55	1.83	3	11.18	18	8.04	13	11.65	24	9.46	22	21.55	40	14.77	27	16.23	31	15.91	30	16.92	34	23.04	48	15.63	37	12.30	35
Western Sahara	na	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.25	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Zambia	Lower-middle	2.50	4	1.25	2	17.96	20	1.04	3	2.98	5	12.28	17	2.67	5	2.75	6	9.72	12	11.00	15	2.92	5	4.25	6	6.50	13	6.88	15	11.09	19	12.97	24	13.61	27	11.66	23		
Zimbabwe	Low	16.75	19	11.00	15	11.08	15	14.27	24	9.62	14	9.53	15	12.31	20	9.28	15	5.17	10	7.38	11	7.22	15	4.25	13	18.95	28	11.97	19	19.28	29	20.58	33	24.30	43	25.80	46	34.03	60
Asia		36225.81	38,208	43641.76	45,588	43984.17	46,471	49342.43	52,675	62296.66	66,107	81013.08	85,556	91929.10	97,075	98235.40	103,780	110334.03	116,466	122988.95	129,683	134296.78	141,949	148540.96	156,942	145198.57	154,677	158753.20	169,290	1622									

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018			
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Bhutan	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	1.25	2	1.33	2	6.83	10	1.75	2	1.67	3	1.00	1	2.83	5	1.25	2	0.00	0	1.63	3	2.25	4	2.62	4	0.57	2	5.27	9	7.20	9		
Brunei	High	4.07	5	1.20	2	2.17	4	3.33	4	4.42	7	1.41	5	9.15	20	5.94	9	5.48	9	7.44	16	2.04	4	6.47	11	13.92	20	11.70	20	45.54	74	32.41	85	38.16	94	21.55	59	111.19	153		
Burma	Lower-middle	0.11	1	0.00	0	0.00	0	0.17	1	0.00	0	0.50	2	5.25	6	6.90	9	24.67	28	12.25	15	2.38	4	12.57	19	7.10	11	4.33	6	7.79	15	4.92	14	9.66	19	6.57	16	12.81	23		
Cambodia	Lower-middle	0.00	0	1.50	2	0.00	0	0.13	1	2.33	3	1.00	2	0.67	2	1.32	5	2.80	8	2.33	5	2.69	10	2.77	8	2.41	11	2.43	8	5.29	18	4.62	14	5.51	20	5.38	23	7.41	22		
China	Upper-middle	13776.79	14,478	20210.73	20,894	19611.06	20,594	22346.47	23,651	32477.18	34,105	46726.58	48,805	54519.33	56,938	58459.13	61,264	66356.27	69,589	76501.38	80,311	83643.95	88,152	95401.96	100,456	88307.66	93,908	97847.36	104,299	101656.04	109,065	109337.51	117,683	115495.76	124,982	123617.24	134,537	134541.80	146,814		
India	Lower-middle	2291.19	2,567	2184.95	2,399	2545.42	2,758	2513.96	2,823	3008.14	3,360	3880.26	4,353	5008.11	5,606	4974.12	5,554	6145.77	6,788	6927.60	7,666	7823.22	8,656	9552.13	10,542	12080.46	13,195	13013.63	14,276	14554.47	15,813	14561.93	15,941	17300.52	18,959	20846.47	22,609	23849.77	25,921		
Indonesia	Lower-middle	58.77	82	61.08	92	70.89	106	46.13	75	73.46	116	75.30	130	103.67	189	97.71	162	127.65	210	154.30	275	268.34	403	250.96	433	346.16	562	583.75	804	531.54	771	779.73	1,069	1074.98	1,396	2251.12	2,606	5641.33	6,192		
Japan	High	12325.05	13,156	12221.11	13,129	12342.52	13,456	13848.70	15,308	14496.17	16,092	15745.91	17,564	16376.99	18,317	16751.08	18,760	17102.49	19,126	18202.27	20,284	18154.94	20,327	17731.58	19,885	17718.73	19,945	18799.03	21,226	16345.43	18,767	16483.27	19,025	15215.10	17,961	15598.67	18,390	14951.81	18,113		
Kazakhstan	Upper-middle	17.18	24	32.71	37	36.69	42	32.71	37	38.82	44	37.51	51	26.69	33	37.51	51	27.98	36	31.90	42	60.13	84	50.46	64	73.35	95	118.64	161	185.38	245	246.95	371	310.83	431	356.23	546	384.76	622		
Kyrgyzstan	Lower-middle	4.88	5	12.39	16	4.03	6	1.10	2	10.49	14	12.12	20	14.29	18	5.07	8	7.50	12	2.33	3	2.40	3	9.66	16	7.24	12	6.94	13	6.22	11	5.92	11	8.07	14	14.59	23	13.43	27		
Laos	Lower-middle	0.00	0	0.00	0	2.13	3	2.10	3	18.00	19	1.11	4	1.79	4	0.70	3	1.86	7	2.37	6	4.43	10	3.65	10	5.92	18	6.69	15	6.71	18	6.30	20	7.12	14	8.78	20	6.12	16		
Malaysia	Upper-middle	136.53	165	143.35	178	308.26	361	351.03	424	367.20	467	461.14	569	603.00	751	716.01	887	1169.08	1,386	1415.25	1,699	1964.84	2,380	2506.96	3,027	2873.19	3,557	3122.89	3,880	3574.41	4,418	4112.60	5,042	4544.31	5,601	3784.96	4,805	3947.00	5,134		
Maldives	Upper-middle	0.00	0	0.00	0	0.00	0	0.50	1	0.33	1	0.00	0	0.00	0	0.00	0	0.03	1	0.00	0	1.24	4	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.07	1	0.04	1
Mongolia	Lower-middle	1.85	4	1.38	2	1.33	3	2.43	4	4.96	12	6.43	12	10.64	16	15.54	25	11.33	19	16.88	32	16.60	31	31.35	44	23.23	36	11.16	27	15.33	27	23.08	40	11.75	24	15.51	35	16.01	43		
Nepal	Low	9.75	11	6.43	10	11.83	14	2.98	6	10.66	19	19.48	35	9.83	18	11.32	21	14.21	26	16.57	32	17.84	33	17.84	34	26.89	48	14.15	43	27.63	63	36.55	66	49.94	93	45.83	94	42.34	96		
North Korea	Low	0.55	5	0.25	1	0.33	1	1.00	1	0.35	2	1.66	10	1.42	7	0.98	6	1.84	7	1.35	6	1.00	2	1.34	7	7.03	32	3.51	14	3.18	14	3.55	9	8.13	23	12.33	35	18.11	30		
Pakistan	Lower-middle	46.40	66	36.92	52	47.57	62	54.15	78	75.86	97	115.29	134	137.50	185	179.77	233	232.63	308	300.44	400	332.89	455	412.04	601	488.99	749	582.48	878	697.65	1,048	791.93	1,210	1061.22	1,657	1201.49	1,879	1458.84	2,319		
Papua New Guinea	Lower-middle	5.00	5	4.92	7	1.00	1	2.60	3	2.00	3	0.25	1	0.00	0	1.83	3	0.83	2	0.83	2	4.67	5	1.29	3	3.50	4	2.50	5	3.10	7	0.90	2	6.45	11	3.86	6	5.27	10		
Philippines	Lower-middle	22.81	28	19.07	25	22.43	31	16.86	30	17.19	27	27.64	46	29.18	46	36.38	65	27.62	51	49.09	84	63.72	102	53.40	86	60.79	103	87.52	136	89.60	146	260.64	315	248.09	312	185.84	261	224.96	295		
Singapore	High	1386.77	1,557	1417.36	1,588	1480.19	1,696	1617.41	1,917	2073.65	2,437	2217.42	2,643	2141.57	2,688	2101.51	2,661	2389.93	3,022	2169.21	2,836	2592.08	3,370	2589.50	3,372	2646.09	3,604	2777.17	3,886	2937.16	4,159	3013.44	4,452	3247.18	4,803	3316.41	5,029	3252.65	5,183		
South Korea	High	3001.42	3,312	3806.34	4,138	3780.44	4,228	4382.10	5,014	4893.14	5,599	5741.42	6,647	6167.19	7,150	7637.86	8,709	8539.17	9,649	8758.30	9,917	10070.64	11,460	10231.73	11,718	11234.82	12,921	11773.06	13,528	12448.31	14,333	13201.63	15,165	13004.59	15,030	13313.94	15,320	13810.24	16,078		
Sri Lanka	Lower-middle	15.67	20	8.92	15	23.26	28	28.80	51	34.74	64	31.56	57	54.69	70	68.13	95	87.00	122	41.75	74	42.35	66	43.39	81	58.22	95	64.46	106	95.34	143	114.65	168	265.18	330	196.75	270	273.05	353		
Taiwan	High	2776.11	2,929	3135.20	3,293	3208.06	3,398	3628.27	3,884	4176.99	4,479	5214.78	5,552	5877.72	6,264	6232.78	6,671	6664.60	7,174	7147.19	7,698	7580.48	8,156	7847.33	8,461	7172.71	7,875	7898.08	8,612	7115.41	7,859	6161.94	6,920	5897.02	6,772	5389.21	6,306	5097.77	6,114		
Tajikistan	Low	1.00	1	2.00	2	3.50	4	1.57	2	0.00	0	1.33	3	2.40	3	3.54	10	4.92	9	1.19	4	4.92	9	4.75	6	6.30	11	2.99	5	3.08	18	2.99	5	3.08	12	7.09	15				
Thailand	Upper-middle	207.83	250	220.25	272	347.79	433	338.00	449	360.04	473	512.29	664	667.48	842	718.60	915	1074.64	1,297	949.04	1,147	1297.86	1,544	1366.53	1,644	1532.72	1,804	1304.02	1,563	1241.46	1,517	1425.84	1,747	1517.57	1,884	1721.62	2,107	1596.88	1,982		
Timor-Leste	Lower-middle	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	2	1.29	4		
Turkmenistan	Upper-middle	0.00	0	3.00	3	0.60	1	0.00	0	0.00	0	0.11	1	0.25	1	0.00	0	0.00	0	0.00	0	1.50	2	0.00	0	0.33	3	2.3	7	0.25	1	0.13	2	0.10	1	0.10	1				
Uzbekistan	Lower-middle	41.73	47	45.31	49	42.82	47	28.06	38	47.93	56	34.25	44	34.52	41	35.75	49	27.81	40	34.41	47	29.79	42	31.34	49	25.79	36	31.02	42	34.81	43	24.27	38	44.04	59	21.88	38	26.83	42		
Vietnam	Lower-middle	26.67	41	20.59	31	20.29	29	28.99	59	43.01	77	81.83	124	34.61	68	60.10	102	96.75	162	97.16	166	167.90	272	191.09	308	229.97	406														

TABLE SSA-8

S&E articles in engineering, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Marshall Islands	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.13	1	0.00	0	0.00	0	0.67	1	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0
Micronesia, Federated States of	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.83	3	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.47	2
Nauru	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
New Zealand	High	272.86	340	332.11	404	258.43	323	338.75	459	353.38	467	412.72	571	501.93	697	516.46	718	629.38	827	639.44	858	673.75	936	834.84	1,145	776.69	1,092	727.83	1,038	837.52	1,205	739.56	1,088	793.16	1,221	815.15	1,247	884.85	1,404
Niue	na	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Palau	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0	0.00	0	0.20	1
Samoa	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.17	1	0.00	0	0.00	0	0.00	0	0.00	0
Solomon Islands	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.40	1	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.17	1		
Tonga	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1		
Tuvalu	Upper-middle	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Vanuatu	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.42	2	0.00	0	0.00	0	0.00	0	0.85	3	0.00	0	0.00	0	0.00	0
Unassigned	na	972.44	2,168	707.10	1,676	1094.48	2,467	1543.08	3,173	1620.71	3,613	1924.31	4,869	1939.37	5,199	2321.91	6,217	1894.80	4,722	1213.56	2,808	969.51	2,123	1234.89	2,414	1019.83	2,060	784.44	1,715	339.42	884	224.87	599	276.83	715	242.05	730	300.35	912

na = not applicable; country data do not exist.

EU = European Union.

^a Beginning in 2006, Serbia and Montenegro represented individual countries.^b Serbia and Montenegro represented a single country for data purposes from 1992 to 2006. Its economic status is that of 2005.^c 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 either on a fractional- or whole-count basis. Fractional counts of articles are those produced by authors from different countries, where each country receives fractional credit on the basis of the proportion of its participating authors. For the fractional-count basis, the sum of the regions, countries, or economies may not add to the world total because of rounding. 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 fractional or whole counts for publications that cannot be assigned to a region, country, or economy. For more information on the 2019 World Bank Country and Lending Groups classification of income groups, see <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed June 2019.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation; Science-Matrix; Elsevier, Scopus abstract and citation database, accessed June 2019.