

Table SPBS-22

S&E articles in computer and information sciences, 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	45,476	47,085	51,149	51,407	56,785	61,104	68,550	82,386	104,797	133,242	148,835	161,760	185,303	207,951	228,726	220,202	219,102	206,505	203,377	212,450	232,984	242,002	264,249	300,118	286,686
North America	18,737	19,056	19,610	19,135	20,642	20,662	23,677	28,518	33,005	40,111	42,470	43,058	43,038	43,460	43,857	44,534	44,567	44,657	42,944	45,062	46,685	46,904	50,076	53,824	50,094
Canada	2,355	2,358	2,256	2,361	2,539	2,674	3,318	4,175	5,188	6,526	7,336	7,616	7,590	8,072	7,842	7,649	8,009	7,743	7,601	7,737	8,085	7,789	8,242	8,695	9,194
Greenland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Mexico	91	79	141	135	185	218	241	426	692	856	933	926	964	1,040	991	1,030	1,014	1,289	1,277	1,256	1,296	1,291	1,416	1,682	1,716
United States	16,571	16,920	17,582	16,937	18,284	18,195	20,604	24,518	27,829	33,627	35,167	35,507	35,496	35,405	36,045	36,897	36,585	36,686	35,154	37,189	38,485	39,006	41,665	44,811	40,554
Central America and Caribbean	30	30	26	27	27	26	40	85	86	128	151	177	201	197	225	212	232	255	260	231	235	274	357	393	332
Antigua and Barbuda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Bahamas, The	0	0	0	1	1	1	1	0	0	3	1	0	1	4	2	1	0	0	1	0	1	0	0	1	0
Barbados	0	0	0	2	0	2	3	5	5	2	1	3	6	1	0	5	0	2	3	2	5	2	3	4	0
Belize	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	0	1	0	0	0
Costa Rica	0	3	2	2	1	4	2	3	8	11	15	10	7	3	9	16	30	36	31	43	34	39	89	82	81
Cuba	7	1	9	8	11	9	19	25	21	60	65	68	93	73	115	98	108	139	127	91	92	95	154	147	104
Dominica	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	2	0	0	1
Dominican Republic	1	0	0	0	0	0	0	0	0	2	1	0	0	1	1	1	1	2	0	2	4	3	6	16	10
El Salvador	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	2	0	2	4	1
Grenada	0	1	0	0	0	1	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	2	0
Guatemala	0	0	1	1	0	0	0	0	1	0	0	0	1	2	3	3	6	5	9	9	9	13	12	7	4
Haiti	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	2	1	1	0	0	0
Honduras	0	0	0	1	0	0	0	0	1	0	0	1	1	1	0	1	2	0	1	1	0	1	4	29	47
Jamaica	4	3	0	1	4	0	4	10	8	9	8	8	17	23	18	15	18	20	18	17	13	17	18	7	11
Nicaragua	0	0	0	0	0	1	1	0	1	1	1	1	2	0	5	1	1	1	0	1	7	1	2	3	2
Panama	0	0	0	0	1	0	1	0	1	2	3	0	6	16	10	8	14	10	11	9	8	13	16	32	22
Puerto Rico	18	19	13	10	8	6	8	31	35	30	50	69	55	42	41	35	38	25	37	30	44	54	43	38	39
Saint Kitts and Nevis	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
Saint Lucia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Saint Vincent and the Grenadines	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
Trinidad and Tobago	0	2	0	1	1	2	1	11	6	8	6	15	13	30	20	26	13	14	22	21	15	31	10	25	13
South America	389	522	755	732	864	935	1,213	1,291	1,790	2,111	2,813	2,959	3,434	3,571	3,908	4,238	4,921	5,015	5,729	5,815	6,746	7,399	8,634	9,349	8,865
Argentina	31	47	46	71	80	72	102	70	122	175	208	244	308	292	323	351	343	301	394	342	391	398	445	438	397
Bolivia	0	0	2	2	0	0	1	0	1	0	2	1	2	1	3	4	2	2	3	5	7	5	10	16	13
Brazil	291	406	630	575	672	734	949	1,025	1,383	1,596	2,076	2,123	2,504	2,502	2,762	3,010	3,451	3,640	4,047	3,920	4,460	4,830	5,196	5,551	5,237
Chile	33	34	29	53	52	58	77	104	163	184	261	312	325	375	349	380	408	447	544	562	666	615	742	850	791
Colombia	10	5	11	11	20	14	22	50	56	63	121	140	190	284	291	378	542	453	522	692	709	796	1,117	1,190	1,167
Ecuador	2	1	2	1	3	0	1	2	1	5	14	12	8	13	24	17	32	39	77	191	389	559	936	997	1,052
Guyana	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0

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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	1	0	0	0	0	5	1	1	8	4	9	3	8	8	8	11	7	17	17	30	23	32	17	34	20
Peru	1	1	2	1	0	1	1	0	4	8	14	20	29	22	27	31	35	42	50	117	170	226	301	483	429
Suriname	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
Uruguay	2	4	11	5	10	12	13	12	19	21	30	32	37	53	66	69	94	86	105	98	120	88	101	132	107
Venezuela	25	32	28	28	41	52	63	40	62	82	122	119	89	87	111	56	94	83	99	62	68	81	88	78	76
Europe	16,836	17,140	20,030	19,232	22,275	23,243	26,355	30,937	37,383	46,783	52,511	58,666	63,598	67,644	72,935	73,125	74,445	76,079	74,716	77,817	79,993	81,840	84,416	91,017	89,537
EU-27 and UK ^a	14,850	15,375	17,191	16,891	19,853	20,446	23,362	27,426	33,301	41,933	47,213	52,835	57,651	61,159	65,292	65,483	66,206	67,661	66,275	67,728	67,627	67,475	69,892	74,471	71,931
UK	2,934	2,984	3,282	3,297	3,730	3,848	4,277	4,963	5,909	7,674	8,587	9,356	10,062	10,368	10,793	10,482	10,248	11,219	10,962	11,632	11,984	12,631	12,889	13,990	13,482
EU-27 ^b	12,194	12,774	14,340	13,940	16,586	17,094	19,743	23,254	28,350	35,548	40,072	45,215	49,499	52,824	56,747	57,365	58,462	59,257	58,115	59,129	58,800	58,021	60,203	63,897	61,697
Austria	327	382	378	384	483	536	690	770	830	1,214	1,410	1,704	1,823	2,028	2,126	2,231	2,321	2,360	2,370	2,508	2,436	2,442	2,585	2,584	2,418
Belgium	446	466	539	482	566	597	716	854	926	1,273	1,470	1,518	1,773	1,685	1,841	1,969	1,968	1,939	1,877	1,891	1,950	1,822	1,973	2,060	2,045
Bulgaria	72	77	75	43	68	104	91	150	165	141	158	281	298	243	344	353	298	262	256	285	313	361	355	450	859
Croatia	34	38	57	48	132	90	86	256	218	363	375	448	456	532	502	556	526	471	431	492	460	493	530	567	590
Cyprus	11	36	27	28	44	34	48	54	81	108	141	136	171	185	170	220	243	272	249	242	324	337	289	357	357
Czechia	169	178	196	222	256	303	353	468	571	767	969	1,210	1,372	1,397	1,601	1,846	1,672	1,693	1,688	2,043	1,873	1,993	1,804	2,020	1,803
Denmark	287	277	320	317	355	330	394	408	529	660	770	845	882	1,010	1,100	1,174	1,249	1,347	1,352	1,367	1,528	1,437	1,622	1,581	1,818
Estonia	5	6	10	6	14	17	24	30	34	54	63	76	105	105	177	173	176	189	240	228	260	276	252	376	384
Finland	416	492	546	568	755	667	852	946	1,236	1,482	1,711	1,733	1,687	1,778	1,857	1,895	1,951	2,173	2,023	2,189	2,274	2,135	2,309	2,395	2,248
France	2,528	2,394	2,682	2,528	3,058	2,896	3,646	4,016	4,652	6,304	7,036	7,702	8,744	9,155	9,619	9,797	10,425	10,469	10,715	10,679	10,555	10,114	10,363	10,249	9,127
Germany	3,203	3,393	3,876	3,507	3,854	4,067	4,323	5,161	6,139	7,886	8,717	9,538	11,070	11,628	12,916	12,376	12,902	13,331	12,918	12,876	12,875	12,813	13,580	14,618	14,110
Greece	355	421	497	473	695	650	779	889	1,222	1,529	1,754	1,982	2,161	2,234	2,151	2,183	2,352	2,233	2,365	2,363	2,324	2,113	2,268	2,368	2,355
Hungary	152	202	200	239	238	266	290	333	392	522	570	751	715	777	735	876	878	932	873	768	918	896	905	1,063	1,040
Ireland	86	97	123	121	168	176	250	346	555	792	950	1,109	1,075	1,226	1,325	1,188	1,203	1,180	1,147	1,137	1,308	1,286	1,253	1,414	1,490
Italy	1,827	1,981	2,000	2,034	2,392	2,529	2,884	3,445	4,078	4,972	5,181	6,009	6,283	6,724	7,010	7,147	7,041	7,899	7,634	8,042	7,994	8,327	8,242	8,955	8,785
Latvia	45	56	43	40	25	41	15	34	23	61	55	51	87	93	157	178	188	178	170	226	261	194	184	260	239
Lithuania	40	28	43	30	57	41	50	51	108	97	141	138	130	120	188	131	202	154	171	192	166	194	221	232	221
Luxembourg	5	3	0	2	7	2	7	19	34	43	84	102	162	196	259	270	319	381	423	389	388	389	425	469	435
Malta	2	7	3	0	5	1	5	6	5	11	17	21	37	34	54	45	53	71	53	74	85	79	101	126	123
Netherlands	867	900	1,025	947	1,136	1,178	1,308	1,534	1,882	2,317	2,522	2,801	3,121	3,258	3,365	3,372	3,245	3,360	3,289	3,198	3,032	3,069	3,320	3,619	3,589
Poland	297	289	504	352	464	590	758	633	1,301	1,119	1,706	1,797	2,194	1,816	2,409	2,280	2,853	2,498	2,714	2,992	3,091	2,787	2,911	2,881	3,056
Portugal	190	206	278	290	356	371	429	622	680	785	1,038	1,345	1,479	1,610	1,792	2,183	2,210	2,170	2,331	2,405	2,128	2,145	2,427	2,712	2,537
Romania	108	88	119	95	129	139	152	174	240	389	418	751	941	1,291	1,729	1,433	1,285	1,213	1,057	1,266	1,212	1,059	1,226	1,207	1,507
Slovakia	69	86	88	98	100	135	124	151	184	262	270	331	376	405	482	513	570	550	507	639	657	512	589	695	674
Slovenia	126	145	151	170	212	181	220	347	265	306	307	389	393	437	410	435	434	425	431	472	382	449	490	539	509
Spain	706	875	991	1,139	1,381	1,626	2,064	2,495	3,264	3,781	4,461	5,459	5,575	6,582	6,919	7,279	7,199	7,000	6,634	6,594	6,504	6,533	6,574	6,935	6,380

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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	568	578	682	774	882	789	926	1,078	1,232	1,490	1,612	1,751	1,698	1,842	2,121	2,281	2,402	2,521	2,523	2,629	2,756	2,656	2,754	2,895	2,735
Other Europe	2,204	2,047	3,221	2,624	2,848	3,284	3,476	4,176	4,913	5,876	6,475	7,366	7,550	8,244	9,575	9,705	10,468	10,891	10,902	12,945	15,179	17,510	17,841	20,180	21,247
Other Europe, 2020 ^b	5,098	4,970	6,433	5,876	6,498	7,038	7,679	9,027	10,687	13,380	14,883	16,479	17,337	18,313	20,046	19,820	20,320	21,629	21,409	24,098	26,683	29,600	30,214	33,549	34,046
Albania	3	0	0	1	1	0	0	0	2	0	1	1	4	7	22	35	36	38	33	57	51	30	57	30	28
Andorra	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	1	2	1	0	2	0	1
Belarus	44	85	105	88	83	93	71	64	108	99	83	113	77	121	133	113	111	142	110	87	84	112	99	146	140
Bosnia and Herzegovina	3	2	3	2	3	6	7	14	16	34	27	53	68	53	91	121	145	96	112	111	136	103	150	141	148
Holy See (Vatican City)	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Iceland	5	11	8	13	15	8	10	22	24	41	43	45	78	96	127	125	132	108	110	130	161	131	168	134	125
Kosovo	0	0	0	0	0	0	0	0	0	0	0	0	3	5	15	27	25	19	14	22	36	37	41	38	24
Liechtenstein	0	1	0	0	2	0	1	1	3	2	2	5	17	11	18	14	9	11	17	10	16	15	25	16	27
Moldova	11	9	4	4	9	7	5	6	14	20	18	16	13	13	16	16	23	14	25	20	11	22	13	15	18
Monaco	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	1	0	1	0	1	0	0	2	1	2
Montenegro ^c	0	0	0	0	0	0	0	0	0	0	0	25	26	23	48	48	65	71	66	81	54	84	69	58	80
North Macedonia	4	18	24	10	24	17	24	19	29	51	44	60	69	89	104	160	151	106	125	134	113	170	136	137	168
Norway	174	162	152	155	191	250	230	349	445	583	823	901	1,059	1,172	1,206	1,067	1,181	1,104	1,104	1,170	1,275	1,287	1,505	1,672	1,735
Russia	834	607	1,110	926	1,005	1,075	1,161	1,116	1,223	1,469	1,287	1,391	1,467	1,490	1,909	1,801	2,008	2,310	2,901	4,061	5,564	7,047	6,723	7,791	8,808
San Marino	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	1
Serbia ^c	0	0	0	0	0	0	0	0	0	0	0	313	283	443	508	793	867	720	535	634	622	649	681	627	532
Serbia and Montenegro ^d	116	101	167	203	142	202	131	197	124	309	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland	519	560	661	580	714	750	850	1,127	1,312	1,588	1,764	1,985	2,029	2,215	2,295	2,382	2,428	2,559	2,548	2,526	2,512	2,421	2,641	2,704	2,673
Turkey	206	181	276	192	277	255	309	485	815	1,009	1,314	1,554	1,502	1,869	1,999	2,194	2,325	2,467	2,572	2,780	3,089	3,401	3,443	3,890	4,018
Ukraine	303	346	752	484	420	683	734	835	842	739	930	998	928	744	1,240	956	1,151	1,338	854	1,318	1,748	2,284	2,392	3,108	3,057
Middle East	1,037	968	1,158	1,046	1,249	1,223	1,513	1,790	2,377	2,816	3,854	4,485	6,024	6,682	7,831	8,499	8,129	8,146	8,564	9,513	10,122	10,863	11,667	15,214	16,663
Armenia	43	8	12	9	21	9	13	13	18	19	14	16	11	13	32	26	18	66	32	42	51	38	35	87	33
Azerbaijan	6	4	7	9	6	6	8	12	12	29	16	20	28	97	43	80	182	50	45	37	74	86	48	77	82
Bahrain	4	5	2	2	3	4	6	8	8	9	18	10	28	28	48	41	33	39	25	26	27	39	60	91	153
Gaza Strip ^e	2	1	1	5	0	0	4	0	1	1	2	5	5	5	12	11	21	14	6	17	15	12	17	39	60
Georgia	8	7	20	13	10	13	23	24	25	35	32	22	19	31	41	50	56	35	33	36	39	40	45	65	55
Iran	44	85	73	66	119	132	234	354	601	873	1,184	1,756	2,766	3,261	3,756	3,928	2,972	2,739	2,953	3,234	3,469	3,647	3,650	4,245	5,075
Iraq	2	3	5	1	5	5	1	17	3	3	49	26	53	51	114	133	195	154	226	245	333	499	845	1,565	1,738
Israel	768	668	837	744	862	820	983	1,006	1,213	1,268	1,648	1,546	1,889	1,657	1,875	1,785	1,975	1,795	1,883	1,817	1,820	1,961	1,909	2,188	1,927
Jordan	13	22	32	26	24	33	24	58	77	95	127	162	223	232	358	326	291	293	285	364	406	558	687	961	820
Kuwait	42	32	35	45	39	39	46	43	40	59	75	98	102	145	142	182	115	136	146	135	158	144	197	190	219
Lebanon	8	15	18	17	30	21	36	47	73	106	143	150	143	215	199	253	297	294	314	344	335	319	423	455	402

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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
Oman	6	9	11	4	8	14	24	22	41	23	38	61	66	94	80	104	114	111	93	121	153	125	192	216	237
Qatar	0	0	1	1	0	6	5	9	17	14	46	51	99	82	117	138	284	447	483	557	590	560	552	676	782
Saudi Arabia	84	98	89	89	98	92	73	103	110	115	190	255	309	471	704	1,010	1,199	1,561	1,687	2,059	2,062	2,220	2,329	3,118	4,020
Syria	0	3	1	1	2	1	5	1	20	2	23	13	51	20	16	19	27	14	6	16	14	16	21	47	67
United Arab Emirates	5	9	13	18	27	43	43	83	136	180	270	327	281	332	385	522	482	539	501	648	794	809	913	1,595	1,576
West Bank ^e	2	3	3	0	2	0	1	3	1	4	6	7	9	10	15	26	19	22	19	28	42	46	65	106	78
Yemen	1	2	2	2	0	0	0	2	2	2	6	4	4	16	19	28	23	39	29	33	36	51	48	121	92
Africa	477	327	520	526	503	490	738	635	998	1,123	1,574	1,952	2,274	2,977	3,162	3,679	4,247	4,978	5,047	5,979	7,560	8,142	8,420	10,242	9,764
Algeria	23	22	34	32	30	65	60	84	112	175	295	352	351	462	479	683	736	823	840	1,005	1,164	1,391	1,256	1,580	1,355
Angola	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	2	3	2	2	1	3	4	10	6
Benin	2	0	0	0	1	0	1	0	0	1	0	1	2	2	5	2	5	7	6	8	9	18	11	26	18
Botswana	4	2	1	2	0	1	2	3	9	3	24	14	11	8	5	15	9	7	9	28	28	33	30	36	28
Burkina Faso	0	0	0	0	0	0	0	1	0	0	4	2	2	0	2	4	4	7	3	6	11	5	13	7	12
Burundi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	12	4
Cabo Verde	0	0	0	0	0	0	0	0	0	0	3	2	0	2	0	2	1	1	3	1	0	1	2	4	5
Cameroon	1	1	1	2	3	3	3	5	5	13	4	7	23	18	8	13	28	26	27	28	39	31	63	58	82
Central African Republic	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Chad	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	3	3	1	1	1	0	5	4	1
Comoros	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Congo, Democratic Republic of the	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2	1	1	1	3	6
Congo, Republic of the	0	0	0	0	1	0	0	0	1	1	1	0	1	1	0	0	1	0	0	2	2	2	1	2	3
Côte d'Ivoire	0	0	0	0	0	0	0	0	2	2	0	0	2	1	4	4	2	2	0	2	2	5	8	4	8
Djibouti	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2	1	0	0	0	3	2	0
Egypt	148	123	166	112	205	187	221	221	273	329	399	534	627	857	890	836	1,037	1,110	1,001	1,172	1,510	1,314	1,545	2,243	2,327
Equatorial Guinea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0
Eritrea	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	3	0	1	0	0	0	1	0	0	0
Eswatini	0	0	1	1	0	0	3	1	0	0	1	1	1	0	0	0	0	1	1	2	2	4	4	5	8
Ethiopia	1	0	2	0	1	0	0	0	1	1	6	2	3	18	33	20	44	27	37	83	48	69	92	182	201
Gabon	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	1	0	1	1	1	0	0	1	0
Gambia, The	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	1	1	0	1	1	1
Ghana	2	2	2	0	1	1	0	0	0	2	2	5	7	13	12	13	36	26	27	32	40	61	93	129	114
Guinea	0	0	0	1	0	0	0	0	0	2	1	0	1	0	0	0	0	1	1	0	0	1	0	0	1
Guinea-Bissau	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
Kenya	10	1	1	7	3	0	2	4	0	3	3	10	1	28	15	21	13	42	37	43	59	70	57	116	126
Lesotho	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	1	2	3	1	2	1

Table SPBS-22

S&E articles in computer and information sciences, 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	1	1	0	0	1	0	2	0	0	1	0	0	0	0	0
Libya	4	3	4	4	9	4	0	3	10	4	12	22	24	44	84	24	42	60	62	61	38	56	50	81	125
Madagascar	2	0	1	0	0	0	0	0	0	2	2	2	6	1	3	4	2	8	7	7	3	4	11	5	15
Malawi	0	0	0	0	1	1	0	0	2	2	1	4	1	1	3	4	10	7	12	17	8	11	6	10	13
Mali	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4	6	3	4	1	3	3	8	9
Mauritania	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	2	1	0	4	6	1
Mauritius	0	0	1	17	12	4	16	4	12	8	15	20	17	19	30	20	17	39	32	27	35	34	30	83	71
Morocco	9	13	27	31	33	34	24	34	38	62	73	76	150	243	202	350	525	436	598	826	1,311	1,394	1,467	1,782	1,661
Mozambique	0	1	0	0	0	0	0	1	1	1	3	0	2	2	0	6	1	7	2	2	2	1	6	6	10
Namibia	0	0	0	0	0	0	0	0	0	1	0	9	2	2	6	12	9	15	29	33	32	44	60	32	49
Niger	0	0	0	1	0	0	0	0	1	0	0	0	2	1	1	0	2	0	1	2	3	0	2	5	6
Nigeria	6	6	6	8	4	4	8	13	14	20	19	33	42	76	85	147	120	201	226	254	313	357	491	652	615
Rwanda	0	0	0	0	0	0	0	2	0	1	2	2	3	1	5	2	5	5	4	6	8	13	25	23	34
São Tomé and Príncipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Senegal	0	0	3	0	3	0	1	2	1	5	5	8	10	14	18	25	37	23	32	37	42	62	116	96	105
Seychelles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1
Sierra Leone	0	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	2	2	1	0	3	2
Somalia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	1	8	3
South Africa	237	121	212	252	122	120	242	188	335	273	408	471	469	558	547	764	649	900	771	1,050	1,111	1,545	1,259	1,644	1,307
South Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
Sudan	2	1	6	0	4	2	0	0	2	3	6	8	7	14	25	31	46	142	40	67	139	99	161	141	60
Tanzania	4	1	4	3	0	1	0	1	3	4	2	10	10	18	9	24	16	19	24	19	25	35	39	50	58
Togo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	4	4	3	0
Tunisia	12	28	46	50	59	61	156	67	174	209	291	359	505	582	683	649	855	1,051	1,241	1,208	1,666	1,586	1,623	1,385	1,526
Uganda	0	1	0	0	0	0	0	0	3	1	4	12	9	13	21	34	27	30	14	26	19	35	46	49	54
Zambia	1	0	0	0	0	0	0	1	1	0	1	1	0	1	5	2	3	8	5	7	8	11	9	11	8
Zimbabwe	6	2	1	4	11	1	0	2	0	2	1	2	0	1	2	2	4	6	13	19	12	11	11	9	17
Asia	9,618	11,091	12,015	12,927	14,495	17,797	19,530	24,573	35,747	47,949	55,199	61,407	79,785	98,719	113,233	104,220	102,152	88,860	89,253	93,694	110,332	117,729	136,103	160,289	152,818
Afghanistan	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	0	0	2	0	12	19	7	33	16
Bangladesh	4	19	13	12	11	6	12	106	50	74	152	226	251	321	495	332	645	379	728	665	880	1,228	1,167	2,513	1,735
Bhutan	0	0	0	0	0	0	0	0	0	1	2	3	2	2	2	2	1	2	6	2	5	3	5	9	4
Brunei	5	2	3	1	4	2	3	2	1	1	1	1	2	4	5	7	18	17	22	38	52	43	23	53	63
Burma	0	0	1	1	0	1	0	1	1	34	4	7	9	52	29	59	6	6	3	12	19	41	91	122	166
Cambodia	0	0	0	0	0	0	0	0	0	2	0	3	1	2	1	0	3	1	3	6	5	10	16	14	14
China	2,552	2,687	3,580	3,046	4,259	7,287	7,607	9,397	16,480	24,540	28,762	32,250	47,129	61,610	73,042	59,989	58,301	46,418	45,516	45,239	54,700	59,530	73,439	90,135	88,751
India	743	916	822	1,046	890	822	1,143	1,652	2,059	2,553	3,240	4,047	5,647	6,783	8,521	11,444	11,216	12,167	13,714	18,891	22,852	22,658	28,074	26,729	28,387

Table SPBS-22

S&E articles in computer and information sciences, 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	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Tuvalu	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Vanuatu	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Unassigned	1,543	856	844	648	612	550	648	793	798	1,482	2,214	2,822	2,812	1,074	791	725	522	430	327	290	368	418	583	2,379	3,150

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