

Table 19. Communications, information, and science and technology

Economy	Per 1,000 people						Internet hosts Per 10,000 people January 1999	Scientists and engineers in R&D Per million people 1985-95	High- technology exports % of mfg. exports 1997	No. of patent applications filed ^a 1996	
	Daily newspapers 1996	Radios 1996	Television sets 1997	Telephone main lines 1997	Mobile telephones 1997	Personal computers 1997				Residents	Nonresidents
	Albania	34	235	161	23	1				..	0.30	..	1	1	18,761
Algeria	38	239	67	48	1	4.2	0.01	..	22	48	150
Angola	12	54	91	5	1	0.7	0.00	..	..	..	..
Argentina	123	677	289	191	56	39.2	18.28	671	15	..	..
Armenia	23	5	218	150	2	..	1.01	..	..	162	20,268
Australia	297	1,385	638	505	264	362.2	420.57	3,166	39	9,196	34,125
Austria	294	740	496	492	144	210.7	176.79	1,631	24	2,506	75,985
Azerbaijan	28	20	211	87	5	..	0.21	..	..	165	16,470
Bangladesh	9	50	7	3	0	..	..	..	0	70	156
Belarus	174	290	314	227	1	..	0.70	2,339	..	701	20,347
Belgium	160	792	510	468	95	235.3	162.39	1,814	23	1,356	59,099
Benin	2	108	91	6	1	0.9	0.02	177	..	..	..
Bolivia	55	672	115	69	15	..	0.78	250	9	17	106
Botswana	27	155	27	56	0	13.4	4.18	..	..	5	56
Brazil	40	435	316	107	28	26.3	12.88	168	18	2,655	29,451
Bulgaria	253	531	366	323	8	29.7	9.05	..	..	318	22,235
Burkina Faso	1	32	6	3	0	0.7	0.16	..	..	..	..
Burundi	3	68	10	3	0	..	0.00	32	..	1	4
Cambodia	..	127	124	2	3	0.9	0.06	..	..	..	..
Cameroon	7	162	81	5	0	1.5	0.00	..	3	..	..
Canada	159	1,078	708	609	139	270.6	364.25	2,656	25	3,316	45,938
Central African Republic	2	84	5	3	0	..	0.00	55	0	..	..
Chad	0	249	2	1	0	..	0.00	..	..	..	..
Chile	99	354	233	180	28	54.1	20.18	..	19	189	1,771
China	..	195	270	56	10	6.0	0.14	350	21	11,698	41,016
Hong Kong, China	800	695	412	565	343	230.8	122.71	98	29	41	2,059
Colombia	49	565	217	148	35	33.4	3.93	..	20	87	1,172
Congo, Dem. Rep.	3	98	43	1	0	..	0.00	..	..	2	27
Congo, Rep.	8	124	8	8	0	..	0.00	..	16	..	..
Costa Rica	91	271	403	169	19	..	9.20	..	14	..	..
Côte d'Ivoire	16	157	61	9	2	3.3	0.16	..	..	..	..
Croatia	114	333	267	335	27	22.0	12.84	1,978	19	259	356
Czech Republic	256	806	447	318	51	82.5	71.79	1,159	13	623	24,856
Denmark	311	1,146	568	633	273	360.2	526.77	2,647	27	2,452	72,151
Dominican Republic	52	177	84	88	16	..	5.79	..	23	..	..
Ecuador	70	342	294	75	13	13.0	1.26	169	12	7	354
Egypt, Arab Rep.	38	316	127	56	0	7.3	0.31	458	7	504	706
El Salvador	48	461	250	56	7	..	1.33	19	16	3	64
Eritrea	..	101	11	6	0	..	0.00	..	..	..	..
Estonia	173	680	479	321	99	15.1	152.98	2,018	24	12	21,144
Ethiopia	2	194	5	3	0	..	0.01	..	0	3	..
Finland	455	1,385	534	556	417	310.7	1,058.13	2,812	26	3,262	61,556
France	218	943	606	575	99	174.4	82.91	2,584	31	17,090	81,418
Georgia	..	553	473	114	6	..	1.27	..	..	289	21,124
Germany	311	946	570	550	99	255.5	160.23	2,843	26	56,757	98,338
Ghana	14	238	109	6	1	1.6	0.10	..	..	..	33
Greece	153	477	466	516	89	44.8	48.81	774	12	434	52,371
Guatemala	31	73	126	41	6	3.0	0.83	99	13	2	102
Guinea	..	47	41	3	0	0.3	0.00	..	..	..	..
Haiti	3	55	5	8	0	..	0.00	..	..	3	6
Honduras	55	409	90	37	2	..	0.16	..	4	10	126
Hungary	189	697	436	304	69	49.0	82.74	1,033	39	832	24,147
India	..	105	69	19	1	2.1	0.13	149	11	1,660	6,632
Indonesia	23	155	134	25	5	8.0	0.75	..	20	40	3,957
Iran, Islamic Rep.	24	237	148	107	4	32.7	0.04	521	..	..	..
Ireland	153	703	455	411	146	241.3	148.70	1,871	62	925	52,407
Israel	291	530	321	450	283	186.1	161.96	..	33	1,363	12,172
Italy	104	874	483	447	204	113.0	58.80	1,325	15	8,860	71,992
Jamaica	64	482	323	140	22	4.6	1.24	8	67	..	..
Japan	580	957	708	479	304	202.4	133.53	6,309	38	340,861	60,390
Jordan	45	287	43	70	2	8.7	0.80	106	26	..	..
Kazakhstan	30	384	234	108	1	..	0.94	..	..	1,024	20,064
Kenya	9	108	19	8	0	2.3	0.23	..	11	15	39,034
Korea, Rep.	394	1,037	341	444	150	150.7	40.00	2,636	39	68,446	45,548
Kuwait	376	688	491	227	116	82.9	32.80	..	4	..	..
Kyrgyz Republic	13	115	44	76	0	..	4.04	703	24	126	20,179
Lao PDR	4	139	4	5	1	1.1	0.00	..	..	..	..
Latvia	246	699	592	302	31	7.9	42.59	1,189	15	197	21,498
Lebanon	141	892	354	179	135	31.8	5.56	..	..	..	..
Lesotho	7	48	24	10	1	..	0.09	..	..	2	37,043
Lithuania	92	292	377	283	41	6.5	27.48	..	21	101	21,249
Macedonia, FYR	19	184	252	204	6	..	2.56	..	..	53	18,934
Madagascar	4	192	45	3	0	1.3	0.04	11	2	7	20,800
Malawi	3	256	2	4	0	..	0.00	..	3	3	39,031
Malaysia	163	432	166	195	113	46.1	21.36	87	67	..	..

Note: For data comparability and coverage, see the Technical Notes. Figures in italics are for years other than those specified.

STATES AND MARKETS

Economy	Per 1,000 people						Internet hosts Per 10,000 people January 1999	Scientists and engineers in R&D Per million people 1985-95	High- technology exports % of mfg. exports 1997	No. of patent applications filed ^a 1996	
	Daily newspapers 1996	Radios 1996	Television sets 1997	Telephone main lines 1997	Mobile telephones 1997	Personal computers 1997				Residents	Nonresidents
	Mali	1	49	10	2	0				0.6	0.00
Mauritania	1	150	89	5	0	5.3	0.06	..	..	..	..
Mexico	97	324	251	96	18	37.3	11.64	213	33	389	30,305
Moldova	59	720	302	145	1	3.8	1.17	1,539	9	290	20,245
Mongolia	27	139	63	37	1	5.4	0.08	943	2	114	20,882
Morocco	26	241	160	50	3	2.5	0.20	..	27	90	237
Mozambique	3	39	4	4	0	1.6	0.08	..	8	..	..
Myanmar	10	89	7	5	0	..	0.00	..	..	..	..
Namibia	19	143	32	58	8	18.6	15.79	..	..	..	..
Nepal	11	37	4	8	0	..	0.07	..	0	..	..
Netherlands	305	963	541	564	110	280.3	358.51	2,656	44	4,884	61,958
New Zealand	223	1,027	501	486	149	263.9	360.44	1,778	11	1,421	26,947
Nicaragua	32	283	190	29	2	..	1.47	214	38	..	..
Niger	0	69	26	2	0	0.2	0.02	..	..	..	..
Nigeria	24	197	61	4	0	5.1	0.03	15	..	..	..
Norway	593	920	579	621	381	360.8	717.53	3,678	24	1,550	25,628
Pakistan	21	92	65	19	1	4.5	0.23	54	4	16	782
Panama	62	299	187	134	6	..	2.66	..	14	31	142
Papua New Guinea	15	91	24	11	1	..	0.25	..	..	..	..
Paraguay	50	182	101	43	17	..	2.18	..	4	..	..
Peru	43	271	143	68	18	12.3	1.91	625	10	52	565
Philippines	82	159	109	29	18	13.6	1.21	157	56	163	2,634
Poland	113	518	413	194	22	36.2	28.07	1,299	12	2,414	24,902
Portugal	75	306	523	402	152	74.4	50.01	1,185	11	105	71,544
Romania	..	317	226	167	9	8.9	7.42	1,382	7	1,831	22,139
Russian Federation	105	344	390	183	3	32.0	10.04	3,520	19	18,138	28,149
Rwanda	0	102	..	3	0	..	0.00	24	..	..	..
Saudi Arabia	59	319	260	117	17	43.6	0.15	..	29	27	810
Senegal	5	141	41	13	1	11.4	0.21	..	55	..	..
Sierra Leone	5	251	20	4	0	..	0.03	..	..	..	..
Singapore	324	739	354	543	273	399.5	210.02	2,728	71	215	38,403
Slovak Republic	185	580	401	259	37	241.6	33.27	1,821	15	201	22,865
Slovenia	206	416	353	364	47	188.9	89.83	2,544	16	301	21,686
South Africa	30	316	125	107	37	41.6	34.67	938	..	..	..
Spain	99	328	506	403	110	122.1	67.21	1,210	17	2,689	81,294
Sri Lanka	29	210	91	17	6	4.1	0.29	173	..	50	21,138
Sweden	446	907	531	679	358	350.3	487.13	3,714	34	7,077	76,364
Switzerland	330	969	536	661	147	394.9	315.52	..	28	2,699	75,576
Syrian Arab Republic	20	274	68	88	0	1.7	0.00	..	1	..	..
Tajikistan	20	..	281	38	0	..	0.12	709	..	32	19,570
Tanzania	4	278	21	3	1	1.6	0.04	..	..	..	..
Thailand	65	204	234	80	33	19.8	3.35	119	43	203	4,355
Togo	4	217	19	6	1	5.8	0.24	..	..	..	..
Tunisia	31	218	182	70	1	8.6	0.07	388	11	46	128
Turkey	111	178	286	250	26	20.7	4.30	261	9	367	19,668
Turkmenistan	..	96	175	78	0	..	0.55	..	..	66	18,948
Uganda	2	123	26	2	0	1.4	0.05	..	..	..	38,497
Ukraine	54	872	493	186	1	5.6	3.13	3,173	..	3,640	22,862
United Kingdom	332	1,445	641	540	151	242.4	240.99	2,417	41	25,269	104,084
United States	212	2,115	847	644	206	406.7	1,131.52	3,732	44	111,883	111,536
Uruguay	116	610	242	232	46	21.9	46.61	688	8	25	182
Uzbekistan	3	452	273	63	0	..	0.10	1,760	..	914	21,088
Venezuela	206	471	172	116	46	36.6	3.37	208	10	182	1,822
Vietnam	4	106	180	21	2	4.6	0.00	308	..	37	22,206
Yemen, Rep.	15	64	273	13	1	1.2	0.01	..	0	..	..
Zambia	14	121	80	9	0	..	0.31	..	..	6	93
Zimbabwe	18	96	29	17	1	9.0	0.87	..	6	30	181
World	.. w	380 w	280 w	144 w	40 w	58.4 w	75.22 w				
Low income	..	147	162	32	5	4.4	0.17				
Excl. China & India	13	133	59	16	1	..	0.23				
Middle income	75	383	272	136	24	32.4	10.15				
Lower middle income	63	327	247	108	11	12.2	4.91				
Upper middle income	95	469	302	179	43	45.5	19.01				
Low and middle income	..	218	194	65	11	12.3	3.08				
East Asia & Pacific	..	206	237	60	15	11.3	1.66				
Europe & Central Asia	99	412	380	189	13	17.7	13.00				
Latin America & Carib.	71	414	263	110	26	31.6	9.64				
Middle East & N. Africa	33	265	140	71	6	9.8	0.25				
South Asia	..	99	69	18	1	2.1	0.14				
Sub-Saharan Africa	12	172	44	16	4	7.2	2.39				
High income	286	1,300	664	552	188	269.4	470.12				

a. Other patent applications filed in 1996 include those filed under the auspices of the African Intellectual Property Organization (75 by residents, 20,863 by nonresidents), the African Regional Industrial Property Organization (10 by residents, 20,347 by nonresidents), the European Patent Office (38,546 by residents, 48,068 by nonresidents), and the Eurasian Patent Organization (39 by residents, 18,055 by nonresidents). The original information was provided by the World Intellectual Property Organization (WIPO). The International Bureau of WIPO assumes no liability or responsibility with regard to the transformation of these data.