

Statistical tables from the 1999 UNESCO Statistical Yearbook

Notes and explanations on country tables - Notes et explications sur les tableaux par pays - Notas y explicaciones sobre tablas de los países

Table III.1 Selected R&D indicators - Indicateurs sélectionnés de R-D - Indicadores seleccionados de I y D

This table presents selected R&D indicators including the number of researchers and R&D technicians per million inhabitants, number of R&D technicians per researcher, R&D expenditure as percentage of GNP, and R&D expenditure per capita and per researcher in national currency. For the indication of national currencies please refer to Table III.3.

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the planning and management of R&D projects. Post-graduate students engaged in R&D are considered as researchers.

Technicians (and equivalent staff) comprise persons whose main tasks require technical knowledge and experience in one or more fields of engineering, physical and life sciences, or social sciences and humanities. They participate in R&D by performing scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers. As distinguished from *technicians* participating in R&D under the supervision of researchers in engineering, physical and life sciences, *equivalent staff* perform the corresponding R&D tasks in the social sciences and humanities.

Other supporting staff includes skilled and unskilled craftsmen, secretarial and clerical staff participating in or directly associated with R&D projects. Included in this category are all managers and administrators dealing mainly with financial and personnel matters and general administration, insofar as their activities are a direct service to R&D.

III.2 Personnel engaged in R&D by category of personnel - Personnel employé dans la R-D par catégorie de personnel - Personal empleado en I y D por categoría de personal

This table gives the total number of researchers, R&D technicians, and other supporting staff as defined above. Data on female R&D personnel by category are also shown when available.

Table III.3 Percentage distribution of gross domestic expenditure on R&D by source of funds - Répartition en pourcentage des dépenses intérieures brutes de R-D par source de fonds - Distribución porcentual del gasto interior bruto en I y D por origen de fondos

Gross domestic expenditure on R&D (GERD) is total intramural expenditure on R&D performed on the national territory during a given period. It includes R&D performed within a country and funded from abroad but excludes payments made abroad for R&D.

The sources of funds for GERD are classified according to the following five categories:

Business enterprise funds include funds allocated to R&D by all firms, organizations and institutions whose primary activity is the market production of goods and services (other than the higher education sector) for sale to the general public at an economically significant price, and those private non-profit institutes mainly serving these firms, organizations and institutions.

Government funds refer to funds allocated to R&D by the central (federal), state or local government authorities. These includes all departments, offices and other bodies which furnish but normally do not sell to the community those common services, other than higher education, which cannot be conveniently and economically provided and administer the state and the economic and social policy of the community. Public enterprises funds are included in the business enterprise funds sector. These authorities also include private non-profit institutes controlled and mainly financed by government.

Higher education funds include funds allocated to R&D by institutions of higher education comprising all universities, colleges of technology, other institutes of post-secondary education, and all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher educational establishments.

Private non-profit funds are funds allocated to R&D by non-market, private non-profit institutions serving the general public, as well as by private individuals and households.

Funds from abroad refer to funds allocated to R&D by institutions and individuals located outside the political frontiers of a country except for vehicles, ships, aircraft and space satellites operated by domestic organisations and testing grounds acquired by such organisations, and by all international organizations (except business enterprises) including their facilities and operations within the frontiers of a country.

Statistical tables from the 1999 UNESCO Statistical Yearbook

III.1

Selected R&D indicators

Indicateurs sélectionnés de R-D

Indicadores seleccionados de I y D

Country	Year	Personnel engaged in R&D			Expenditure for R&D						
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)				
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)				
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)				
Africa - Afrique - África											
Benin	1989	176	54	0.3	...	...	...	
Burkina Faso	1993	...	...	...	0.13	100	...	
	1994	...	...	...	0.07	67	...	
	1995	...	...	...	0.08	81	...	
	1996	16	15	1.0	0.17	196	12 932 444				
	1997	17	16	0.9	0.19	240	14 695 807				
Burundi	1984	(1)(2)	25	(1)(2)	20	(1)(2)	0.8	0.15	38	1 519 272	
	1989	(1)(2)	33	(1)(2)	32	(1)(2)	1.0	0.31	101	3 154 042	
Central African Republic	(1)	1984	78	66	0.8	0.25	268	3 473 424			
		1990	56	32	0.6			
Congo	1983	(3)	435	(4)	0.01	(4)	19	(4)	42 718
	1984	(1)	462	(1)	789	(1)	1.7	0.01	14	29 618	
Egypt	1982	434	146	0.3	...	...	...	
	1983	423	142	0.3	...	...	...	
	1986	410	132	0.3	...	...	...	
	1990	437	305	0.7	...	...	...	
	1991	459	341	0.7	...	...	...	
	1992	...	...	...	0.20	5	...	
	1993	...	...	...	0.20	6	...	
	1994	...	...	...	0.22	7	...	
	1995	...	...	...	0.22	7	...	
1996	...	...	...	0.22	8	...		
Gabon	1983	(1)	231	(1)(5)	31	0.1		

Country	Personnel engaged in R&D						Expenditure for R&D							
	Personnel employé à des travaux de R-D						Dépenses consacrées à la R-D							
	Personal dedicado a actividades de I y D						Gastos destinados a la I y D							
	Year	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher		As percentage of gross national product (GNP)	Per capita (in national currency)		Annual average per researcher (in national currency)					
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur		En pourcentage du produit national brut	Par habitant (en monnaie nationale)		Moyenne annuelle par chercheur (en monnaie)					
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador		En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)		Promedio anual por investigador (en moneda nacional)					
		1984	(1)	221	(1)(5)	30		0.1	(2)	0.01	(2)	1	(2)	2 413
		1985	(1)	235	(1)(5)	28		0.1	(2)	0.01	(2)	1	(2)	2 256
		1986	(1)	255	(1)(5)	25		0.1	(2)	0.01	(2)	1	(2)	1 801
		1987	(1)	234	(1)(5)	22		0.1		...		...		...
Libyan Arab Jamahiriya		1980		362		493		1.4		0.22		8		20 796
Madagascar	(6)	1980	(1)(7)	13	(1)(7)	42	(1)(7)	3.3		0.17		157		12 427 492
	(1)(8)	1985		16		67		4.4		...		...		...
		1986		17		64		3.9		...		...		...
		1987		20		65		3.4		...		...		...
		1988		21		67		3.2		...		...		...
		1989		24		85		3.6		...		...		...
	(9)	1994		12		37		3.0		...		...		...
	(9)	1995		...		...		...		0.18		1 636		...
Mauritius		1980		158		112		0.7		0.43		38		240 132
		1981		187		109		0.6		0.54		54		287 913
		1982		175		171		1.0		0.51		57		325 434
		1983		212		166		0.8		0.32		39		180 569
		1984		262		175		0.7		0.29		39		147 149
		1985		263		188		0.7		0.17		26		97 379
		1986		298		177		0.6		0.28		52		173 443
		1987		227		167		0.7		0.53		122		535 043
		1988		223		112		0.5		0.21		56		249 351
		1989		185		165		0.9	(44)	0.32	(44)	100	(44)	540 415
		1992		361		158		0.4		...		...		...
Nigeria (10)		1983		24		140		5.8		0.24		2		77 857
		1984		23		132		5.9		0.17		2		60 371
		1985		19		87		4.6		0.12		2		58 335
		1986		20		78		4.0		0.12		2		53 582
		1987		15		76		5.3		0.09		2		75 809
Rwanda		1980		10		7		0.8		...		...		...
		1982		12		8		0.7		0.21		48		4 228 549
		1983		12		10		0.9		0.21		51		4 436 250
		1984		12		11		0.9		0.17		45		3 778 986
		1985		...		...		...		0.54		152		12 937 465

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D					
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)			
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)			
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)			
	1995	35	8	0.2	(11)	0.04	(11)	20	(11)	555 564
Senegal (45)	1993	3	5	1.6		0.02		29		11 450 550
	1994	3	4	1.7		0.02		35		14 852 632
	1995	3	4	1.5		0.02		55		24 105 264
	1996	3	4	1.5		0.02		48		21 587 369
	1997	...	...	...		0.01		...		...
Seychelles	1980	32	16	0.5		...		...		...
	1981	32	16	0.5		...		...		...
	1983	282	94	0.3		...		...		...
	1991	58	143	2.5		...		...		...
South Africa	1983	270	164	0.6		0.88		27		96 919
	1985	324	197	0.6		0.93		36		108 316
	1987	359	175	0.5		0.84		42		115 889
	1989	298	138	0.5		0.77		54		178 894
	1991	349	145	0.4		0.93		81		230 217
	1993	1 031	315	0.3		0.70		72		69 750
Togo	1989	81	54	0.7		0.79		974		11 985 560
	1994	98	63	0.6		0.48		627		6 395 349
Tunisia	1993	111	56	0.5		0.30		5		42 303
	1994	115	61	0.5		0.32		6		46 656
	1995	117	58	0.5		0.33		6		51 010
	1996	120	58	0.5		0.33		7		53 550
	1997	125	57	0.5		0.30		7		52 415
Uganda	1992	...	...	...		0.58		887		...
	1993	17	13	0.7		0.60		1 267		76 003 725
	1994	19	14	0.7		0.66		1 553		83 044 826
	1995	20	16	0.8		0.60		1 660		86 802 293
	1996	20	15	0.7		0.57		1 792		90 327 798
	1997	21	14	0.6		...		...		...
North America - Amérique du Nord - América del Norte										
Canada	1981	(15)	1 573	...	...	(16)	1.30	178		113 032

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D				
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)		
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)		
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)		
	(17)	1982	1 794	909	0.5	*1.42	*203	*113 086	
	(17)	1983	1 819	894	0.5	1.37	211	115 984	
	(17)	1984	1 919	945	0.5	1.41	235	122 281	
	(17)	1985	2 047	996	0.5	1.46	259	126 347	
	(17)	1986	2 151	1 013	0.5	1.49	275	127 765	
	(17)	1987	2 196	1 047	0.5	1.43	284	128 946	
	(17)	1988	2 246	1 042	0.5	1.39	299	132 795	
	(17)	1989	2 265	1 056	0.5	1.41	321	141 596	
	(17)	1990	2 301	1 004	0.4	1.51	347	150 493	
	(17)	1991	2 320	977	0.4	1.55	356	153 390	
			1992	1.57	361	...
	(17)	1993	2 648	1 070	0.4	*1.55	*366	*137 950	
			1994	(15) 2 660	(16) 1.69	411	154 213
			1995	(15) 2 719	(16) 1.68	421	154 838
			1996	1.65	420	...
			1997	(16) 1.66	446	...
			1998	(16) 455	...
Costa Rica	(1)	1988	532	...	...	...	...	...
	(19)	1989	...	...	...	0.18	238	...
	(19)	1990	...	...	...	0.17	275	...
	(19)	1991	...	...	...	0.21	439	...
Cuba		1980	581	676	1.2	0.55	10	17 011	
		1981	699	814	1.2	0.51	12	16 333	
		1982	761	819	1.1	0.57	14	17 483	
		1983	830	846	1.0	0.59	15	17 363	
		1984	953	883	0.9	0.64	17	17 198	
		1985	1 019	914	0.9	0.68	19	17 708	
		1986	986	851	0.9	0.78	21	20 348	
		1987	1 088	869	0.8	0.93	23	...	
		1988	0.81	21	...
		1989	1 145	839	0.7	0.84	22	18 421	
		1991	1 535	893	0.6	...	18	11 337	
		1992	1 370	878	0.6	...	23	16 786	
	1995	1 612	1 121	0.7	...	18	10 683		
El Salvador		1980	(20) 117	338	2.9	...	...	...
		1981	(20) 122	425	3.5	...	...	...

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D						
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)				
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)				
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)				
	1986	...	...	...	(21)	1.94	(21)	70	...	
	1987	(20)	39	356	9.2	(21)	1.79	(21)	74	(21)	1 886 725
	1992	(21)	20	(8)	2.20	(8)	204	(8)	10 623 128
Guatemala	1983	...	...	...	...	0.51	...	7	...	16 598
	(4)(5)	1988	104	112	1.1	(22)	0.16	(22)	4	(22)	37 132
Jamaica (23)	1982	11	6	0.5	...	0.06	...	2	...	131 125	
	1983	12	9	0.7	...	0.07	...	2	...	149 539	
	1984	11	10	0.9	...	0.07	...	3	...	218 827	
	1985	10	14	1.5	...	0.04	...	2	...	171 667	
	1986	8	7	0.8	...	0.04	...	2	...	223 112	
Mexico	1984	226	399	1.8	...	0.58	...	2 156	...	9 552 791	
	1985	...	...	...	...	0.44	...	2 582	...	...
	1986	...	...	...	...	0.34	...	3 183	...	...
	1987	...	...	...	...	0.31	...	7 228	...	...
	1988	...	...	...	...	0.22	...	10 926	...	...
	1993	161	108	0.7	...	0.23	...	32	...	196 038	
	1994	191	106	0.6	...	0.31	...	47	...	244 339	
	1995	214	74	0.3	...	0.33	...	63	...	292 645	
Nicaragua	(1)	1985	191	63	0.3	...	...	...	...	...
	1987	204	85	0.4	...	...	...	...	...	...
Panama	1986	...	...	...	...	0.01	...	1	...	...
	1981	252	...	...	...	...	...	...	...	...
United States	(26)	1980	2 859	(27)	2.32	(27)	277	(27)	96 873
	(26)	1981	2 973	(27)	2.40	(27)	317	(27)	106 649
	(26)	1982	2 993	(27)	2.54	(27)	345	(27)	115 255
	(26)	1983	3 047	(27)	2.58	(27)	375	(27)	123 172
	(26)	1984	3 332	2.72	...	435	...	130 497
	(26)	1985	3 512	2.87	...	483	...	137 537
	(26)	1986	3 671	2.87	...	503	...	137 090
	(26)	1987	3 744	2.88	...	531	...	141 785
	(26)	1988	3 811	2.84	...	*559	...	*146 708
	1989	(15)	3 675	(16)	2.72	...	572	...	155 460
	1990	(16)	2.77	...	608

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D					Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D				
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher		As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)			
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur		En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)			
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador		En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)			
	1991	(15)	3 743	...	...	(16)	2.81	626	167 259
	1992		...	...	...	(16)	2.74	639	...
	1993		3 676	...	...	(16)	2.61	633	172 042
	1994		...	...	...	(16)	2.52	639	...
	1995		...	...	...	(16)	2.61	688	...
	1996		...	...	...	(16)	2.64	720	...
	1997		...	...	...	(16)	2.63	...	...
South America - Amérique du Sud - América del Sur											
Argentina	1982		363	...	...	...	...	...	...
	1985		*357	*235	*0.7	...	...	...	...
	1988		*351	*198	*0.6	...	...	...	...
	1995		660	147	0.2	0.38	30	44 915	...		
Bolivia	1990		...	...	...	1.30	27	...	...
	1991	(12)	250	(12) 154	(12) 0.6	1.67	43	168 293	...		
	1992		158	...	...	...	...	...	...
	1993		159	...	...	...	...	...	...
	1994		164	...	...	...	...	...	...
	1995		162	...	...	...	...	...	...
	1996		172	...	...	...	...	...	...
Brazil	(1)(13) 1981		175	...	...	...	...	...	...
	(1)(13) 1982		256	...	...	...	...	...	...
	(1)(13) 1983		299	...	...	...	...	...	...
	(1)(13) 1984		362	...	...	...	...	...	...
	(1)(13) 1985		391	...	...	...	...	...	...
	1994		...	...	...	0.82	18	...	...
	1995	(14)	168	(14) 59	(14) 0.3	0.84	33	194 140	...		
	1996		...	...	...	0.81	37	...	...
Chile	(1) 1980		358	...	...	...	...	...	...
	(1) 1985		429	...	...	...	...	...	...
	(1) 1987		435	...	...	...	...	...	...
	(1) 1988		366	233	0.6	...	...	...	...
	(1) 1989		412	...	...	...	...	...	...
	(1) 1990		423	...	...	...	...	...	...

Country	Year	Personnel engaged in R&D			Expenditure for R&D			
		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D			
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D			
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)	
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)	
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)	
	(1)	1991	430	...	...	...	...
		1992	433	...	...	...	...
		1993	438	...	...	0.90	11 584	26 465 080
		1994	445	...	...	0.83	12 538	28 193 782
		1995	...	...	...	0.67	12 017	...
		1996	...	...	...	0.68	13 879	...
Colombia	(18)	1982	37	35	0.9	0.12	93	2 543 189
Ecuador		1990	102	...	...	...	...	...
		1993	...	...	...	0.01	69	...
		1994	...	...	...	0.01	171	...
		1995	133	42	0.3	0.02	387	2 921 490
		1996	...	...	...	0.01	461	...
	1997	146	...	...	0.02	1 318	9 273 748	
Guyana (3)		1980	124	330	2.7	0.06	2	8 766
		1982	115	230	2.0	0.23	4	31 461
Peru	(24)	1981	...	...	...	0.30	2	3 954
	(24)	1982	...	...	...	0.27	3	...
	(24)	1983	...	...	...	0.29	5	...
	(24)	1984	...	...	...	0.25	9	...
		1994	*631	*189	*0.3	...	...	...
	(25)	1996	232	10	...	...	...	...
(25)	1997	233	...	...	...	...	...
Uruguay		1987	687	...	...	...	...	...
Venezuela (19)		1980	...	...	...	0.29	57	(1) 231 767
		1981	...	...	...	0.30	65	...
		1982	...	...	...	0.35	73	...
		1983	...	...	...	0.36	74	(1) 261 931
		1984	...	...	...	0.34	82	...
		1985	...	...	...	0.32	83	...
		1986	...	...	...	0.28	74	...
		1987	...	...	...	(28) 0.37	(28) 137	...
		1988	...	...	...	(28) 0.39	(28) 176	...
	1989	...	...	...	(28) 0.27	(28) 205	...	

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D				
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)		
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)		
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)		
	1990	(28)	0.54	(28)	608	...
	1991	*214	*33	*0.2	(28)	0.49	(28)	717	(28) *3 361 555
	1992	*209	*32	*0.2	(28)	0.49	(28)	960	...
Asia - Asie - Asia									
Armenia	1997	1 485	177	0.1
Azerbaijan	1993	3 302	268	0.1	0.55	127	38 379		
	1994	3 103	197	0.1	0.32	886	285 316		
	1995	2 850	180	0.1	0.19	3 138	1 101 267		
	1996	2 791	188	0.1	0.21	4 226	1 514 223		
Bangladesh	1993	51	32	0.6	0.01	1	7 072		
	1994	47	18	0.4	0.04	3	57 981		
	1995	52	33	0.6	0.03	3	45 036		
China	1988	...	...	...	0.67	9	...
	1989	...	...	...	0.67	10	...
	1990	...	...	...	0.68	11	...
	1991	...	...	...	0.68	...	...
	1992	...	...	...	0.64	...	...
	1993	...	...	...	0.75	22	...
	1994	349	...	...	0.67	26	73 473
	1995	347	(29)	200	(29)	0.61	29	82 589	
	1996	454	...	...	0.61	33	72 416
1997	...	...	...	0.66	...	...	
Cyprus	1991	196	222	1.1	0.18	7	35 815		
	1992	209	235	1.1	0.18	8	37 946		
India	1980	...	...	...	0.56	12	117 229
	1981	...	...	...	0.59	14	...
	1982	*131	85	*0.6	*0.68	*17	*128 715		
	1983	...	...	...	0.67	19	...
	1984	*134	97	*0.7	0.78	24	*177 914		
	1985	...	...	...	0.80	27	...
	1986	*137	90	*0.7	0.84	32	*226 741		
	1987	...	...	...	0.87	36	...

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D		
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)
	1988	*146	100	*0.7	0.86	41	*281 219
	1989	...	...	...	0.83	45	...
	1990	*151	114	*0.8	0.80	50	*326 973
	1991	...	...	...	0.75	53	...
	1992	133	112	0.8	0.73	57	425 616
	1993	...	...	...	0.77	68	...
	1994	*149	108	*0.7	0.73	75	*499 698
Indonesia	1980	...	...	...	(19) 0.35	(19) 1 064	...
	1981	...	...	...	(19) 0.36	(19) 1 302	...
	1982	(1) 110	(1) 21	(1) 0.2	(19) *0.50	(19) *1 877	(19) *17 092 671
	1983	...	...	...	(19) 0.37	(19) 1 682	(19) 14 585 497
	1984	(1) 152	(1) 26	(1) 0.2	(19) 0.33	(19) 1 701	(19) 11 207 070
	1985	(1) 127	(1) 24	(1) 0.2	(19) 0.27	(19) 1 447	(19) 11 442 345
	1986	(1) 174	...	...	(19) 0.25	(19) 1 418	(19) 8 161 440
	1987	(1) 176	...	...	(19) 0.16	(19) 1 031	...
	1988	(1) 182	...	...	(19) 0.19	(19) 1 467	(19) 8 092 984
	(4) 1994	...	...	...	0.07	1 259	...
Iran, Islamic Republic of	1985	68	39	0.6	...	...	...
	1994	560	166	0.3	0.48	9 722	17 372 181
Israel	1984	4 828	1 033	0.2	...	...	...
	1989	...	...	...	2.23	430	...
	1990	...	...	...	2.15	499	...
	1992	...	...	...	2.17	733	...
	1993	...	...	...	2.21	831	...
	1994	...	...	...	2.25	971	...
	1995	...	...	...	2.14	1 050	...
	1996	...	...	...	...	*1 169	...
	1997	...	...	...	2.35	...	...
Japan	(12)(17) 1980	3 778	745	0.2	2.19	44 914	11 891 239
	(12)(17) 1981	3 934	769	0.2	2.33	50 824	12 919 126
	(12)(17) 1982	4 048	769	0.2	2.42	55 063	13 602 762
	(12)(17) 1983	4 156	782	0.2	2.55	60 150	14 473 153
	(12)(17) 1984	4 425	809	0.2	2.63	65 706	14 849 046
	(12)(17) 1985	4 538	822	0.2	2.77	73 573	16 215 806
	(12)(17) 1986	4 737	839	0.2	2.74	75 680	15 979 593

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D			
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)	
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)	
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)	
	(12)(17)	1987	4 840	840	0.2	2.80	80 596	16 653 078
	(12)(17)	1988	5 016	840	0.2	2.83	86 700	17 284 709
	(12)(17)	1989	5 175	857	0.2	2.94	96 004	18 553 968
	(12)(17)	1990	5 395	844	0.2	3.03	105 866	19 625 529
	(12)(17)	1991	5 558	916	0.2	2.99	111 081	19 987 873
	(12)(17)	1992	5 671	869	0.2	...	...	...
		1993 (15)	5 138	...	...	(16) 2.86	109 864	21 384 344
	(12)(17)	1994	6 293	827	0.1	2.82	108 644	17 266 949
		1995 (15)	5 368	...	...	(16) 2.96	114 833	21 395 584
		1996 (15)	4 909	...	...	(16) 2.80	112 549	22 928 184
Jordan (30)		1981	...	...	...	*0.11	*1	...
		1982	...	...	...	*0.14	*1	*1 898
		1983	...	...	...	*0.17	*1	...
		1984	*108	*8	*0.1	*0.28	*2	*13 115
		1985	*98	*8	*0.1	*0.28	*2	*13 753
		1986	...	...	...	0.27	2	13 367
		1987	*97	*7	*0.1	*0.26	*2	*13 249
		1988	*96	*9	*0.1	*0.26	*2	*13 222
		1989	94	10	0.1	*0.26	*2	*13 230
Kazakstan		1993	...	...	...	0.37	7	...
		1994	...	...	...	0.36	92	...
		1995	...	...	...	0.30	181	...
		1996	...	...	...	0.35	299	...
		1997	...	...	...	0.32	327	...
Korea, Republic of (1)(31)		1980	484	195	0.4	0.57	5 554	11 485 660
		1981	536	228	0.4	0.64	7 579	14 148 638
		1982	725	298	0.4	0.87	11 664	16 088 600
		1983	808	490	0.6	1.00	15 626	19 358 886
		1984	921	624	0.7	1.19	20 685	22 475 110
		1985	1 017	592	0.6	1.46	28 309	27 853 206
		1986	1 141	739	0.6	1.64	36 921	32 381 256
		1987	1 267	790	0.6	...	...	...
		1988	1 344	849	0.6	...	...	...
		1989	1 560	911	0.6	1.91	66 337	...

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D		
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)
	1990	1 645	1 000	0.6	1.88	78 142	47 513 780
	1991	1 762	250	0.1	1.95	96 081	54 535 501
	1992	2 032	350	0.2	2.10	114 163	56 205 568
	1993	...	...	...	(16) 2.32	139 451	...
	1994	2 637	318	0.1	2.60	177 247	67 220 221
	1995 (15)	2 235	...	...	(16) 2.71	210 030	93 977 523
	1996 (15)	2 193	...	...	(16) 2.82	239 896	109 400 803
Kuwait	1993	205	63	0.3	0.27	11	53 292
	1994	227	70	0.3	0.23	11	44 791
	1995	232	72	0.3	0.20	10	42 855
	1996	236	73	0.3	0.16	10	42 353
	1997	230	71	0.3	0.16	11	45 928
Kyrgyzstan	1993	847	93	0.1	...	...	...
	1994	722	72	0.1	0.26	7	9 233
	1995	718	71	0.1	0.31	11	14 123
	1996	573	56	0.1	0.22	11	17 787
	1997	584	50	0.1	0.20	13	22 148
Malaysia	(1)(31) 1983	182	...	...	...	...	...
	(31) 1988	327	69	0.2	...	...	...
	1992	88	89	1.0	0.40	30	337 233
	1994	117	42	0.4	0.35	32	267 367
	1996	93	32	0.3	0.24	27	290 069
Mongolia	1995	910	176	0.2	...	...	...
Pakistan (32)	1981	59	74	1.3	...	...	...
	1982	60	79	1.3	0.77	28	456 075
	1983	...	...	...	0.77	33	...
	1984	...	...	...	0.84	40	...
	1985	...	...	...	0.83	42	...
	1986	90	134	1.5	0.95	51	562 981
	1987	...	...	...	0.92	52	...
	1988	60	83	1.4	...	...	...
	(33) 1990	56	79	1.4	...	...	...
	1997	72	13	0.2	...	...	...

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D						Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D					
		Researchers per million inhabitants		Technicians per million inhabitants		Number of technicians per researcher		As percentage of gross national product (GNP)		Per capita (in national currency)		Annual average per researcher (in national currency)	
		Chercheurs par million d'habitants		Techniciens par million d'habitants		Nombre de techniciens par chercheur		En pourcentage du produit national brut		Par habitant (en monnaie nationale)		Moyenne annuelle par chercheur (en monnaie)	
		Investigadores por millón de habitantes		Técnicos por millón de habitantes		Número de técnicos por investigador		En porcentaje del producto nacional bruto (PNB)		Por persona (en moneda nacional)		Promedio anual por investigador (en moneda nacional)	
Philippines	1980	(1)	112	(1)	51	(1)	0.5	...	...	(1)	...
	1981	(1)	152	(1)	68	(1)	0.5	0.19	11	(1)	70 615		
	1982	(1)	156	(1)	69	(1)	0.4	...	...	(1)	...
	1983	(1)	85	(1)	36	(1)	0.4	0.15	10	(1)	117 112		
	1984	(1)	91	(1)	35	(1)	0.4	0.13	12	(1)	127 000		
	1992		157		22		0.1	*0.22	*47		*295 236		
Qatar	1982		...		...		...	0.05	50		...
	1983		...		...		...	0.07	59		...
	(8) 1984		...		...		...	0.06	43		421 516
	1985		...		...		...	0.03	20		...
	1986	(1)	594	(1)	159	(1)	0.3	(34) 0.04	(34) 18	(1)(34)	29 040		
Singapore (31)	1981		485		328		0.7	(31) 0.30	(31) 34	(1)	68 651		
	1984		908		514		0.6	(31) 0.53	(31) 82	(1)	89 255		
	1987		1 187		539		0.5	(31) 0.87	(31) 133	(1)	111 485		
	1990		1 426		...		...	(31) 0.94	(31) 212	(1)	148 442
	1995		2 318		301		0.1	(31) 1.13	(31) 412	(1)	177 592		
Sri Lanka	1983		...		...		...	0.18	14		112 227
	1984		166		38		0.2	0.18	17		98 053		
	1985		174		44		0.2	...	...		...
	1996		191		47		0.2	0.19	78		408 933		
Syrian Arab Republic	1997		30		25		0.8	0.20	92		3 109 091		
Tajikistan	1992		722		...		...	...	...		...
	1993		666		...		...	...	...		...
Thailand	1980		...		...		...	0.39	55		...
	1982		...		...		...	0.40	68		...
	1983		...		...		...	0.24	44		...
	1984		...		...		...	0.34	66		...
	1985		...		...		...	0.34	68		...
	1987		105		53		0.5	0.21	51		481 022		
	1989		87		33		0.4	0.16	54		613 973		
	1990		...		...		...	0.18	68		...

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D		
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)
	1991	...	...	...	0.16	70	402 795
	1993	114	45	0.4	0.15	78	686 844
	1995	118	41	0.3	0.13	89	749 999
	1996	103	39	0.4	0.13	94	915 558
Turkey	1984	202	128	0.6	0.59	2 624	13 000 303
	1985	224	147	0.7	0.55	3 823	17 068 553
	1990	221	...	...	0.34	23 501	106 610 303
	1991	210	...	...	0.53	58 252	278 711 668
	1992 (15)	217	...	...	(16) 0.49	92 037	426 056 924
	1993 (15)	230	...	...	(16) 0.44	148 194	645 067 196
	1994 (15)	241	...	...	(16) 0.36	232 259	967 584 385
	1995	259	...	...	0.38	481 582	1 861 321 749
	1996 (15)	291	...	...	(16) 0.45	1 070 526	3 688 259 065
Uzbekistan	1992	1 763	314	0.2	...	...	...
Viet Nam (19)	1983	...	...	...	...	6	...
	1984	...	...	...	...	9	...
	1985	334	...	...	...	9	(3) 24 900
Europe - Europa - Europa							
Austria	1981	890	815	0.9	1.15	1 635	1 837 162
	1982	...	...	...	*1.20	*1 830	...
	1983	...	...	...	*1.21	*1 964	...
	1984	1 009	904	0.9	*1.26	*2 148	*2 130 464
	1985	...	...	...	1.27	2 274	...
	1986	...	...	...	*1.31	*2 468	...
	1987	...	...	...	*1.32	*2 571	...
	1988	...	...	...	*1.31	*2 662	...
	1989	1 147	1 101	1.0	1.38	2 998	2 615 226
	1990	...	...	...	*1.35	*3 152	...
	1991	...	...	...	(16) 1.50	(16) 3 734	...
	1992	...	...	...	(16) 1.49	(16) 3 880	...
	1993	1 627	812	0.5	1.50	4 022	2 472 058
	1994	...	...	...	(16) 1.56	(16) 4 362	...
	1995	...	...	...	(16) 1.56	(16) 4 500	...

Country	Year	Personnel engaged in R&D			Expenditure for R&D				
		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D				
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D				
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)		
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)		
Pais	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)		
	1996	...	...	...	(16)	1.54	(16)	4 566	...
	1997	...	...	...	(16)	1.53	(16)	4 732	...
	1998	...	...	...	...	...	(16)	4 985	...
Belarus	1992	3 259	509	0.2	...	...	...	...	...
	1993	2 939	402	0.1	...	1.12	...	1 060	360 354
	1994	2 517	345	0.1	...	1.03	...	17 592	6 990 418
	1995	2 288	302	0.1	...	1.12	...	127 607	55 780 565
	1996	2 248	266	0.1	...	1.07	...	184 561	82 128 066
Belgium	1981	(15) 1 294	...	...	...	...	...	...	...
	1982	(15) 1 362	...	...	...	...	...	...	...
	1983	(15) 1 364	...	...	(16)	1.63	...	6 773	4 966 779
	1984	(15) 1 412	...	...	(16)	1.65	...	7 375	5 224 012
	1985	...	...	...	...	1.70	...	8 099	...
	1986	1 592	(29) 2 078	(29) 1.3	...	1.69	...	8 485	5 331 309
	1987	1 624	(29) 2 093	(29) 1.3	(16)	1.69	...	8 883	(15)(16) 5 471 400
	1988	1 681	(29) 2 033	(29) 1.2	...	1.65	...	9 216	5 482 705
	1989	1 772	(29) 2 037	(29) 1.1	...	1.70	...	10 329	5 830 598
	1990	1 856	(29) 2 041	(29) 1.1	...	1.70	...	10 909	5 878 462
	1991	*1 815	(29) 2 201	(29) *1.2	...	*1.67	...	*11 232	*6 189 727
	1993	...	...	...	(16)	1.60	...	11 636	...
	1994	(15) 2 242	...	...	(16)	1.58	...	12 074	5 387 226
	1995	(15) 2 272	...	...	(16)	1.60	...	12 662	5 573 140
Bulgaria	1980	4 368	1 183	0.3	...	...	...	...	...
	1981	4 654	1 334	0.3	...	...	...	...	...
	1982	4 792	1 403	0.3	...	...	...	...	...
	1983	4 856	1 389	0.3	...	...	...	...	...
	1984	5 034	1 393	0.3	...	...	...	...	...
	1985	5 359	1 462	0.3	...	...	...	...	...
	1986	5 186	1 262	0.2	...	...	...	...	...
	1987	5 691	1 312	0.2	...	...	...	...	...
	1988	5 628	1 409	0.3	...	...	...	...	...
	1989	5 806	1 391	0.2	...	...	...	...	...
	1990	6 034	1 407	0.2	...	...	...	...	...
	1991	5 733	1 316	0.2	...	...	...	...	...
	1992	4 384	1 247	0.3	...	1.67	...	383	...
	1993	3 178	910	0.3	...	1.21	...	413	129 672

Country	Personnel engaged in R&D					Expenditure for R&D				
	Year	Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D					
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D					
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)			
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)			
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)			
	1994	1 476	897	0.6	0.88	539	364 928			
	1995	1 647	906	0.6	...	...	...
	1996	1 747	967	0.6	0.57	1 083	620 162			
Croatia	1988	2 156	1 064	0.5	...	...	...
	1989	2 224	1 041	0.5	...	...	...
	1990	2 056	988	0.5	...	...	...
	1991	1 920	874	0.5	...	...	...
	1992	1 979	847	0.4	1.06	7	3 052			
	1993	2 005	739	0.4	0.99	91	45 010			
	1994	1 959	684	0.3	0.87	164	83 396			
	1995	1 984	698	0.4	1.00	210	105 531			
	1996	1 916	714	0.4	1.03	238	123 813			
Czech Republic	1991	...	...	...	(16)	2.13	1 476	...		
	1992	(15)	1 947	...	...	(16)	1.84	1 406	721 918	
	1993	(15)	1 320	...	...	(16)	1.36	1 194	904 088	
	1994	(15)	1 291	...	...	(16)	1.26	1 258	974 334	
	1995	...	1 156	693	0.6	1.12	1 355	1 171 563		
	1996	(15)	1 252	...	...	(16)	1.11	1 576	1 258 762	
	1997	(15)	1 222	...	...	(16)	1.20	1 891	1 548 283	
Denmark	1981	(15)	1 324	...	...	(16)	1.14	872	658 571	
	1982	...	1 417	(29)	1 949	(29)	1.4	1.19	1 034	729 566
	1983	...	1 500	(29)	2 045	(29)	1.4	1.24	1 192	794 294
	1984	...	1 589	(29)	2 133	(29)	1.3	1.28	1 349	848 948
	1985	...	1 676	(29)	2 219	(29)	1.3	1.31	1 505	897 864
	1986	...	1 794	(29)	2 301	(29)	1.3	1.38	1 724	961 069
	1987	...	1 911	(29)	2 380	(29)	1.2	1.48	1 942	1 016 164
	1988	...	2 025	(29)	2 495	(29)	1.2	1.55	2 131	1 052 465
	1989	...	2 138	(29)	2 609	(29)	1.2	1.62	2 319	1 084 839
	1990	...	2 239	(29)	2 635	(29)	1.2	1.70	2 529	1 129 596
	1991	...	2 338	(29)	2 660	(29)	1.1	1.78	2 736	1 170 222
	1992	(15)	2 488	...	...	...	(16)	1.81	2 882	1 158 309
	1993	...	2 635	(29)	2 644	(29)	1.0	1.86	3 025	1 147 883
	1995	(15)	3 054	...	...	...	(16)	1.97	3 549	1 162 280
	1996	(15)	3 122	...	...	...	(16)	2.08	3 893	1 246 825
	1997	(15)	3 190	...	...	...	(16)	1.95	4 121	1 291 650
	1998	(15)	3 259	...	...	...	...	(16)	4 348	1 333 972

Country	Year	Personnel engaged in R&D						Expenditure for R&D					
		Personnel employé à des travaux de R-D						Dépenses consacrées à la R-D					
		Personal dedicado a actividades de I y D						Gastos destinados a la I y D					
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher			As percentage of gross national product (GNP)	Per capita (in national currency)		Annual average per researcher (in national currency)			
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur			En pourcentage du produit national brut	Par habitant (en monnaie nationale)		Moyenne annuelle par chercheur (en monnaie)			
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador			En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)		Promedio anual por investigador (en moneda nacional)			
Estonia (35)	1993	2 494	452	0.2			0.60	86		34 144			
	1994	2 153	563	0.3			0.73	144		66 727			
	1995	...	...	...			0.61	169		80 606	
	1996	2 079	372	0.2			0.57	204		98 344			
	1997	2 017	391	0.2			0.57	247		122 382			
Federal Republic of Yugoslavia	1991	1 180	526	0.4			...	...		...
	1995	1 099	515	0.5			...	...		...
Finland	1981	2 025	(29) 1 726	(29)	0.9				
	1983	2 257	(29) 1 910	(29)	0.8				
	1984	...	...	...			*1.52	*922		...	
	1985	...	...	...			*1.61	*1 064		...	
	1986	...	...	...			*1.72	*1 208		...	
	1987	(15) 2 146	...	...			(16) 1.80	1 376		641 169	
	1988	...	...	...			*1.83	*1 568		...	
	1989	(8) 2 278	(29)(8) 1 988	(29)(8)	0.9			*1.88	*1 797		*788 725		
	1990	...	...	...			(16) 1.97	1 975		...	
	1991	(8) 2 282	(29)(8) 2 093	(29)(8)	0.9			2.15	2 031		890 095		
	1992	...	...	...			(16) 2.28	2 064		...	
	1993	(15) 3 010	...	...			(16) 2.33	2 110		701 104	
	1994	...	...	...			(16) 2.44	2 348		...	
	1995	2 799	(29)(8) 1 996	(29)	0.7			2.46	2 529		903 526		
	1996	...	...	...			(16) 2.70	2 905		...	
	1997	...	...	...			(16) 2.78	3 280		...	
France	1980	1 391	(29) 2 994	(29)	2.2				
	1981	1 580	(29) 3 024	(29)	1.9			1.97	1 155		730 667		
	1982	1 658	(29) 3 108	(29)	1.9			2.07	1 377		830 589		
	1983	1 698	(29) 3 086	(29)	1.8			2.12	1 551		913 388		
	1984	1 790	(29) 3 129	(29)	1.7			2.22	1 753		979 614		
	1985	1 855	(29) 3 095	(29)	1.7			2.27	1 920		1 035 357		
	1986	1 893	(29) 3 054	(29)	1.6			2.25	2 042		1 079 150		
	1987	1 961	(29) 3 022	(29)	1.5			2.28	2 176		1 109 777		
	1988	2 053	(29) 2 994	(29)	1.5			2.29	2 329		1 134 314		
	1989	2 135	(29) 2 993	(29)	1.4			2.34	2 545		1 192 004		
	1990	2 186	(29) 2 981	(29)	1.4			2.43	2 771		1 267 706		
	1991	2 267	(29) 2 972	(29)	1.3			2.43	2 862		1 262 176		

Country	Personnel engaged in R&D					Expenditure for R&D				
	Year	Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D					
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D					
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)			
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)			
Pais	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)			
	1992	(15)	2 475	...	...	(16)	2.44	2 958	1 195 237	
	1993	(15)	2 536	...	...	(16)	2.48	3 020	1 190 702	
	1994		2 583	(29)	2 873	(29)	1.1	2.40	3 039	1 176 751
	1995	(15)	2 607	...	...	...	(16)	2.35	3 087	1 184 090
	1996	(15)	2 659	...	...	...	(16)	2.33	3 135	1 179 212
	1997		...	...	...	...	(16)	2.25	3 140	...
Germany	1981	(15)	1 596	...	...	...	...	(16)	478	299 195
	1982		...	...	...	...	...	(16)	515	...
	1983	(15)	1 684	...	...	...	...	(16)	542	321 782
	1984		...	...	...	...	...	(16)	567	...
	1985	(15)	1 850	...	...	...	...	(16)	638	344 778
	1986		...	...	...	...	...	(16)	676	...
	1987	(15)	2 121	...	...	...	...	(16)	733	345 620
	1988		...	...	...	...	...	(16)	765	...
	1989	(15)	2 236	...	...	...	...	(16)	810	362 081
	1990		...	...	...	...	...	(16)	841	...
	1991	(15)	3 029	...	...	...	(16)	2.59	934	308 090
	1992	(15)	2 916	...	...	...	(16)	2.47	949	325 276
	1993		2 843	...	1 472	0.5	...	2.43	949	333 804
	1994		...	...	...	...	(16)	2.34	950	...
1995	(15)	2 831	...	...	...	(16)	2.31	974	344 051	
1996		...	...	...	...	(16)	2.30	989	...	
1997		...	...	...	...	(16)	2.41	1 061	...	
1998		...	...	...	...	...	(16)	1 102	...	
Greece	1981		...	...	...	...	(16)	0.18	441	...
	1986		...	...	...	...	(16)	0.28	1 836	...
	1988		...	...	...	...	(16)	0.31	2 731	...
	1989	(15)	538	...	...	...	(16)	0.38	4 035	7 507 435
	1991	(15)	607	...	...	...	(16)	0.37	5 790	9 551 044
	1993		773	...	314	0.4	...	0.47	9 669	12 510 586
Hungary	1980	(7)	2 390	(7)(36)	2 215	(7)(36)	0.9	...	...	...
	1981	(7)	2 081	(7)(36)	2 029	(7)(36)	1.0	2.59	1 815	872 368
	1982	(7)	2 056	(7)(36)	1 718	(7)(36)	0.8	2.63	1 986	965 635
	1983	(7)	2 077	(7)(36)	1 734	(7)(36)	0.8	2.37	1 917	922 601
	1984	(7)	2 121	(7)(36)	1 737	(7)(36)	0.8	2.42	2 137	1 007 461
	1985	(7)	2 125	(7)(36)	1 690	(7)(36)	0.8	2.44	2 276	1 071 089

Country	Personnel engaged in R&D								Expenditure for R&D					
	Personnel employé à des travaux de R-D								Dépenses consacrées à la R-D					
	Personal dedicado a actividades de I y D								Gastos destinados a la I y D					
	Year	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)							
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)							
Pais	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)							
		1986	(7)	2 181	(7)(36)	1 689	(7)(36)	0.8		2.64		2 606		1 194 960
		1987	(7)	2 125	(7)(36)	1 596	(7)(36)	0.8		2.73		3 066		1 442 964
		1988	(7)	2 052	(7)(36)	1 495	(7)(36)	0.7		2.34		3 102		1 512 205
		1989	(7)	1 964	(7)(36)	1 357	(7)(36)	0.7		2.04		3 215		1 636 778
		1990		1 694		1 130		0.7		1.67		3 217		1 899 716
		1991		1 401		862		0.6		1.12		2 588		1 847 212
		1992		1 195		695		0.6		1.09		3 008		2 517 099
		1993	(15)	1 150		...		...	(16)	1.01		3 374		2 935 015
		1994	(15)	1 146		...		...	(16)	0.93		3 789		3 305 991
		1995	(37)	1 027		510		0.5		0.76		4 029		3 924 183
		1996	(15)	1 022		...		...	(16)	0.68		4 404		4 312 971
		1997	(15)	1 099		...		...		...	(16)	6 081		5 536 068
Iceland		1981		1 723	(29)	1 498	(29)	0.9		0.65		693		402 011
		1983		1 750	(29)	1 539	(29)	0.9		0.71		1 958		1 118 645
		1984		...		...		...	(16)	0.77		2 708		...
		1985		2 125	(29)	1 270	(29)	0.6		0.73		3 507		1 650 391
		1986		...		...		...	(16)	0.75		4 757		...
		1987		2 252	(29)	1 300	(29)	0.6		0.78		6 450		2 865 108
		1989	(15)	2 719		...		...	(16)	1.07		12 500		4 598 453
		1990	(15)	2 651		...		...	(16)	1.03		14 170		5 345 134
		1991	(15)	2 663		...		...	(16)	1.21		17 904		6 723 756
		1992	(15)	2 724		...		...	(16)	1.38		20 422		7 499 280
		1993	(15)	3 099		...		...	(16)	1.38		20 904		6 745 596
		1994	(15)	3 177		...		...	(16)	1.44		22 735		7 156 722
		1995		4 015	(29)	1 467	(29)	0.4		1.59		25 963		6 466 477
		1996	(15)	3 351		...		...	(16)	1.55		27 002		8 058 800
		1997	(15)	4 131		...		...		...	(16)	29 843		7 224 328
Ireland		1981		*766		*410		*0.5		*0.74		*25		*31 626
		1982		797		366		0.5		0.75		29		35 191
		1983		920		378		0.4		0.74		30		32 190
		1984		1 025		378		0.4		0.82		36		34 664
		1985		1 054		378		0.4		0.89		42		39 215
		1986		1 088		380		0.3		0.96		48		43 519
		1987	(15)	945		...		...	(16)	0.96		52		54 130
		1988		1 804		367		0.2		0.92		53		29 256
		1989	(15)	1 169		...		...	(16)	0.95		61		51 772
		1990	(15)	1 319		...		...	(16)	0.97		68		51 207

Country	Personnel engaged in R&D					Expenditure for R&D			
	Year	Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D				
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D				
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)		
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)		
Pais	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)		
	1991	(15)	1 470	...	...	(16)	1.07	79	53 622
	1992	(15)	1 572	...	...	(16)	1.19	93	58 879
	1993		1 855	506	0.3		1.37	113	60 711
	1994	(15)	2 040	...	...	(16)	1.52	134	65 569
	1995	(15)	2 319	...	...	(16)	1.61	155	66 669
Italy	1980		833	490	0.6		0.76	51 340	61 645 440
	1981		921	520	0.6		0.89	71 724	77 897 331
	1982		1 002	496	0.5		0.92	86 819	86 685 560
	1983		1 112	507	0.5		0.97	106 338	95 634 868
	1984		1 093	538	0.5		1.02	129 094	118 152 133
	1985		1 124	583	0.5		1.14	160 873	143 240 986
	1986		1 195	579	0.5		1.15	179 333	150 184 822
	1987		1 241	637	0.5		1.20	205 688	165 769 531
	1988		1 315	673	0.5		1.23	233 366	177 478 974
	1989		1 336	704	0.5		1.26	259 821	194 556 209
	1990		1 366	742	0.5		1.32	298 147	218 311 431
	1991	(15)	1 318	...	...	(16)	1.26	309 294	234 685 518
	1992	(15)	1 302	...	...	(16)	1.22	314 171	241 299 052
	1993	(15)	1 301	...	...	(16)	1.16	307 757	236 628 947
	1994		1 322	798	0.6		1.08	303 513	229 640 765
	1995	(15)	1 318	...	...	(16)	1.03	311 555	236 495 195
	1996		...	...	...	(16)	1.05	335 543	...
	1997		...	...	...	(16)	2.21	358 271	...
Latvia	1993		1 531	408	0.3		0.49	3	1 786
	1994		1 169	367	0.3		0.43	4	2 878
	1995		1 211	398	0.3		0.53	5	4 007
	1996		1 137	341	0.3		0.48	6	4 601
	1997		1 049	351	0.3		0.43	6	5 323
Lithuania	1995		...	...	...		0.70	45	...
	1996		2 028	631	0.3		...	...	...
Moldova	1994		493	1 924	3.9		1.10	12	3 091 328
	1995		416	1 554	3.7		1.10	17	4 429 295
	1996		250	1 632	6.5		0.90	16	2 388 144
	1997		330	1 641	5.0		0.90	16	3 299 377

Country Pays País	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D							Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D						
	Year Année Año	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher		As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)						
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur		En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)						
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador		En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)						
Netherlands	(17)	1980	1 869	(29)	1 919	(29)	1.0	1.87	449	240 182				
	(17)	1981	2 084	(29)	1 968	(29)	0.9	1.98	495	237 328				
	(17)	1982	2 112	(29)	1 911	(29)	0.9	1.96	510	241 512				
	(17)	1983	2 128	(29)	1 889	(29)	0.9	1.99	537	252 179				
	(17)	1984	2 173	(29)	1 879	(29)	0.9	1.95	545	250 703				
	(17)	1985	2 320	(29)	1 917	(29)	0.8	2.06	604	260 203				
	(17)	1986	2 419	(29)	1 893	(29)	0.8	2.19	655	270 440				
	(17)	1987	2 507	(29)	1 827	(29)	0.7	2.29	685	273 198				
	(17)	1988	2 544	(29)	1 824	(29)	0.7	2.24	689	270 869				
	(17)	1989	2 633	(29)	1 843	(29)	0.7	2.12	692	262 737				
	(17)	1990	2 693	(29)	1 867	(29)	0.7	2.03	699	259 563				
	(17)	1991	2 657	(29)	1 358	(29)	0.5	1.92	690	259 525				
			1992	(16)	1.99	738	...		
			1993	(15)	2 110		(16)	2.01	763	361 709		
			1994			2.04	813	...		
		1995	(15)	2 202		(16)	2.09	857	388 889			
		1996	(15)	2 219		(16)	2.08	900	405 458			
Norway		1980	1 818	(29)	1 855	(29)	1.0	1.20	889	488 731				
		1981	1 830	(29)	1 792	(29)	1.0	1.22	1 029	561 990				
		1982	1 887	(29)	1 816	(29)	1.0	*1.30	*1 205	*638 703				
		1983	2 009	(29)	1 864	(29)	0.9	1.35	1 380	687 070				
		1984	2 168	(29)	1 997	(29)	0.9	*1.43	*1 651	*761 427				
		1985	2 334	(29)	2 189	(29)	0.9	1.52	1 953	836 763				
		1986	2 429	(29)	2 285	(29)	0.9	*1.71	*2 251	*926 878				
		1987	2 740	(29)	2 013	(29)	0.7	1.70	2 438	889 900				
		1989	2 880	(29)	1 910	(29)	0.7	1.74	2 732	948 725				
		1991	3 159	(29)	1 594	(29)	0.5	1.71	2 958	936 330				
		1993	(15)	3 431		(16)	1.78	3 314	966 105		
		1995		3 664	(29)	1 842	(29)	0.5	1.74	3 658	998 532			
		1997		(16)	1.58			
Poland		1980	2 615	(39)	1 603	(39)	0.6	...	...	...	
		1981	2 479	(39)	1 421	(39)	0.6	...	...	...	
		1982	2 179	(39)	1 131	(39)	0.5	...	...	...	
		1983	2 050	(39)	1 011	(39)	0.5				
		1984	2 032	(39)	949	(39)	0.5				
		1985	1 533	(39)	1 452	(39)	0.9	1.00	2 699	1 761 350				

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		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D								
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D								
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)						
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)						
Pais	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)						
	1986	(38)	1 202	(38)(39)	1 656	(38)(39)	1.4	1.25	4 146	3 449 520			
	1987	(38)	1 143	(38)(39)	1 700	(38)(39)	1.5	...	...	...
	1988		(40)	1.37	(40)	10 215	(40)	11 363 615
	1989		(40)	1.15	(40)	34 236	(40)	40 007 631
	1990		(40)(41)	1.63	(40)(41)	225 346	(40)(41)	286 331 167
	1991		(40)(41)	1.10	(40)(41)	222 507	(40)(41)	291 445 343
	1992		1 081		1 377		1.3	(40)	0.85	(40)	249 135	(40)	230 624 132
	1994	(15)	1 231		(16)	0.84		45		36 283
	1995	(15)	1 307		(16)	0.75		56		42 297
	1996	(15)	1 358		(16)	0.77		72		52 625
Portugal	1980		273		294		1.1	0.30		422		1 546 565	
	1982		306		314		1.0	0.34		662		2 166 678	
	1984		351		309		0.9	0.38		1 142		3 253 986	
	1986		453		346		0.8	0.41		2 007		4 435 723	
	1988		507		362		0.7	0.45		3 026		5 977 379	
	1990		599		381		0.6	0.55		5 273		8 807 076	
	1992	(15)	959		(16)	0.65		8 157		8 506 804
	1995		1 182		167		0.1	0.62		9 347		7 908 706	
Romania	1987		2 553		1 837		0.7	...		...		...
	1988		2 550		1 835		0.7	...		...		...
	1989		2 575		1 853		0.7	...		...		...
	1991		1 222		486		0.4	0.79		750		613 703	
	1994		1 387		581		0.4	...		...		...
	1995		...		...		...	0.72		22 631		...
Russian Federation	(1)	1989	7 576		1 835		0.2	...		...		...
	(1)	1990	6 697		1 581		0.2	...		...		...
	(1)	1991	5 911		1 340		0.2	...		...		...
		1994	4 192		880		0.2	0.86		34 693		8 276 270	
		1995	3 503		685		0.2	0.76		82 037		23 423 352	
		1996	3 801		656		0.2	0.88		131 150		34 504 406	
		1997	3 587		600		0.2	...		...		...
Slovakia	1992		2 016		1 058		0.5	...		...		...
	1993		1 678		852		0.5	...		...		...
	1994		1 920		795		0.4	...		...		...
	1995		1 814		763		0.4	1.05		1 004		553 394	

Country	Year	Personnel engaged in R&D			Expenditure for R&D								
		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D								
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D								
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)						
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)						
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)						
	1996		1 866		792		0.4	...	...	...
Slovenia	1992		2 972		2 370		0.8	1.49	7 727	2 599 849			
	1993		1 906		1 190		0.6	1.61	11 699	6 138 318			
	1994		2 408		1 174		0.5	1.75	16 475	6 842 879			
	1995		2 461		1 097		0.4	1.69	18 922	7 689 198			
	1996		2 251		1 027		0.5	1.46	18 454	8 201 159			
Spain	1981	(15)	510		...		...	(16)	0.44	1 927	3 778 960		
	1982	(15)	495		...		...	(16)	0.50	2 527	5 111 384		
	1983	(15)	510		...		...	(16)	0.49	2 822	5 535 425		
	1984		536		162		0.3	(42)	0.51	(42)	3 294	(42)	6 154 248
	1985		558		183		0.3	(42)	0.56	(42)	4 038	(42)	7 240 317
	1986		635		197		0.3	(42)	0.62	(42)	5 115	(42)	8 060 184
	1987		682		212		0.3	(42)	0.65	(42)	5 937	(42)	8 710 944
	1988		799		255		0.3	(42)	0.73	(42)	7 375	(42)	9 229 665
	1989		838		285		0.3	(42)	0.76	(42)	8 662	(42)	10 341 476
	1990		955		299		0.3	(42)	0.86	(42)	10 776	(42)	11 283 147
	1991	(15)	1 032		...		...	(16)	0.89		12 168		11 794 993
	1992	(15)	1 057		...		...	(16)	0.93		13 681		12 953 600
	1993	(15)	1 098		...		...	(16)	0.93		14 109		12 853 138
	1994		1 211		343		0.3		*0.87		*13 863		*11 451 597
1995	(15)	1 197		...		...	(16)	0.86		14 929		12 477 046	
1996	(15)	1 305		...		...	(16)	0.89		16 191		12 415 012	
1997		...		...		...	(16)	0.90		...		...
Sweden	1981		2 128	(29)	2 948	(29)	1.4	(43)	2.33	(43)	1 602	(43)	752 713
	1983		2 211	(29)	3 287	(29)	1.5	(43)	2.62	(43)	2 185	(43)	988 533
	1985		2 539	(29)	3 402	(29)	1.3	(43)	2.96	(43)	2 993	(43)	1 178 727
	1987		2 701	(29)	3 457	(29)	1.3	(43)	3.04	(43)	3 631	(43)	1 344 467
	1989		3 007	(29)	3 473	(29)	1.2		3.02		4 263		1 417 706
	1991		3 080	(29)	3 147	(29)	1.0		2.95		4 803		1 559 571
	1993		3 706	(29)	3 166	(29)	0.9		3.43		5 448		1 470 299
1995	(15)	3 826		...		...	(16)	3.76		6 739		1 761 385	
Switzerland	1981		...		...		...	(16)	2.11		667		...
	1983		...		...		...	(16)	2.11		723		...
	1986		2 262		1 625		0.7		...		...		...
	1989		2 408		1 374		0.6		...		...		...

		Personnel engaged in R&D					Expenditure for R&D				
		Personnel employé à des travaux de R-D					Dépenses consacrées à la R-D				
		Personal dedicado a actividades de I y D					Gastos destinados a la I y D				
Country	Year	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)				
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)				
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)				
	1992	(15)	2 545	...	...	(16)	2.51	1 306		513 270
	1996	(15)	3 006	...	...	(16)	2.60	1 388		461 752
The For. Yug. Rep. of Macedonia	1995		1 335	546	0.4	(44)	0.31	(44) 217	(44)	162 150	
Ukraine	1995		3 176	714	0.2	...	...	...		...
	1996		2 883	713	0.2	...	...	...		...
	1997		2 171	575	0.3	...	...	...		...
United Kingdom	1981	(15)	2 254	...	...	(16)	2.37	107		47 430
	1982	(15)	2 271	...	...	...	...	...		...
	1983	(15)	2 251	...	...	(16)	2.19	119		52 456
	1984	(15)	2 283	...	...	...	...	...		...
	1985	(15)	2 314	...	...	(16)	2.23	141		60 756
	1986	(15)	2 361	...	...	(16)	2.25	152		64 351
	1987	(15)	2 353	...	...	(16)	2.19	162		68 814
	1988	(15)	2 397	...	...	(16)	2.15	176		73 249
	1989	(15)	2 319	...	...	(16)	2.17	193		83 226
	1990	(15)	2 311	...	...	(16)	2.21	209		90 158
	1991	(15)	2 217	...	...	(16)	2.15	211		94 782
	1992	(15)	2 263	...	...	(16)	2.14	220		96 863
	1993		2 413	1 017	0.4	...	2.22	239		98 779	
	1994	(15)	2 441	...	...	(16)	2.12	242		98 915
	1995	(15)	2 504	...	...	(16)	2.04	244		97 068
	1996	(15)	2 448	...	...	(16)	1.95	246		100 278
Oceania - Océanie - Oceanía											
Australia	1981		1 661	834	0.5	...	1.01	106		63 784	
	1984		1 881	906	0.5	...	1.15	157		83 392	
	1985		1 944	950	0.5	...	1.18	176		90 358	
	1986		2 205	1 024	0.5	...	1.32	212		96 081	
	1987		2 257	1 024	0.5	...	1.28	229		101 225	
	1988		2 408	1 016	0.4	...	1.31	260		107 740	
	1990		2 478	943	0.4	...	1.41	302		121 606	
	1992	(15)	3 009	...	...	(16)	1.66	374		124 296
	1994		3 185	797	0.3	...	1.72	413		129 532	
	1996	(15)	3 357	...	...	(16)	1.80	480		142 768

Country Pays País	Year Année Año	Personnel engaged in R&D Personnel employé à des travaux de R-D Personal dedicado a actividades de I y D			Expenditure for R&D Dépenses consacrées à la R-D Gastos destinados a la I y D			
		Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)	
		Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)	
		Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)	
Guam	1983	158	132	0.8	(5) 0.06	(5) 4	(5) 21 334	
	1984	154	129	0.8	(5) 0.07	(5) 4	(5) 23 945	
	1985	160	93	0.6	(5) 0.06	(5) 4	(5) 22 000	
	1986	156	91	0.6	...	(5) 5	(5) 26 422	
	1987	152	88	0.6	...	...	...
	1989	161	84	0.5	...	(5) *15	(5) *91 715	
	1991	168	81	0.5	...	(5) 17	(5) 96 305	
New Zealand	1989	(15) 1 450	...	...	(16) 0.95	187	128 996
	1990	(15) 1 457	...	...	(16) 1.07	216	148 090
	1991	(15) 1 393	...	...	(16) 1.06	210	150 358
	1992	(15) 1 699	...	...	(16) 1.06	218	127 952
	1993	1 749	809	0.5	1.09	233	133 140	
	1995	(15) 1 663	...	...	(16) 1.04	243	145 700

For general explanations and definitions, please refer to the Notes and Explanations on country tables.

Notes

- (1) Data refer to full-time plus part-time personnel.
- (2) Not including data for the productive sector.
- (3) Not including data for the general service sector.
- (4) Data refer to the productive sector only.
- (5) Data refer to the higher education sector only.
- (6) Data refer to 4 research institutes only.
- (7) Not including personnel engaged in the administration of R&D.
- (8) Not including data for the higher education sector.
- (9) Data refer to the Ministry of Scientific Research only.
- (10) Data relate only to 23 out of 26 national research institutes under the Federal Ministry of Science and Technology.
- (11) Data refer to the National University of Rwanda only.
- (12) Data refer to full-time personnel.
- (13) Not including private productive enterprises.

		Personnel engaged in R&D			Expenditure for R&D		
		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D		
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D		
Country	Year	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)

(14) Data for scientists and engineers refer to researchers listed in the directory of research groups in Brazil compiled by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).

(15) Data for researchers refers to full-time equivalent. Data are from OECD.

(16) Data on R&D expenditure are from OECD.

(17) Not including data for social sciences and humanities in the productive sector (integrated R&D).

(18) Not including data for the productive sector (non-integrated R&D).

(19) Data refer to government funds or expenditure.

(20) Data refer to full-time plus part-time researchers in public enterprises.

(21) Data refer to R&D in public enterprises.

(22) Not including data for the productive sector (non-integrated R&D) and the general service sector.

(23) Data refer to the Scientific Research Council only.

(24) Data are the budget allotment for science and technology.

(25) Data refer only to the institutions: CONCYTEC, IMARPE, INICTEL, INIA, UNMSR, and UP.

(26) Not including data for law, humanities and education.

(27) Not including capital expenditure in the productive sector.

(28) Data refer to scientific and technological activities (STA).

(29) Including other supporting personnel.

(30) Data refer to the East Bank only.

(31) Not including data for social sciences and humanities.

(32) Data refer to R&D activities concentrated mainly in government-financed research establishments; social sciences and humanities in the higher education and general service sectors are excluded; not including military and defence R&D.

(33) Data refer to the general service sector only.

(34) Not including social sciences and humanities in the higher education sector.

(35) Not including business enterprise sector.

(36) Skilled workers are included with technicians and equivalent staff rather than with other supporting staff.

(37) Not including scientists and engineers engaged in the administration of R&D; data for technicians include skilled workers; of military R&D, only that part carried out in civil establishments is included.

		Personnel engaged in R&D			Expenditure for R&D		
		Personnel employé à des travaux de R-D			Dépenses consacrées à la R-D		
		Personal dedicado a actividades de I y D			Gastos destinados a la I y D		
Country	Year	Researchers per million inhabitants	Technicians per million inhabitants	Number of technicians per researcher	As percentage of gross national product (GNP)	Per capita (in national currency)	Annual average per researcher (in national currency)
Pays	Année	Chercheurs par million d'habitants	Techniciens par million d'habitants	Nombre de techniciens par chercheur	En pourcentage du produit national brut	Par habitant (en monnaie nationale)	Moyenne annuelle par chercheur (en monnaie)
País	Año	Investigadores por millón de habitantes	Técnicos por millón de habitantes	Número de técnicos por investigador	En porcentaje del producto nacional bruto (PNB)	Por persona (en moneda nacional)	Promedio anual por investigador (en moneda nacional)

(38) Due to methodological changes, "managerial personnel in the technical section" previously classified as researchers are now included with technicians.

(39) Not including data for technicians and equivalent staff as well as other supporting staff in the higher education sector.

(40) Not including capital expenditure in the productive sector (integrated R&D) and in the higher education sector.

(41) Not including data for the productive sector (integrated R&D).

(42) Not including data for private non-profit organizations.

(43) Not including social sciences and humanities in the productive and general service sectors.

(44) Data refer to current expenditure only.

(45) Data relate to one research institute only.

Statistical tables from the 1999 UNESCO Statistical Yearbook

III.2 Personnel engaged in R&D by category of personnel

Personnel employé dans la R-D par catégorie de personnel

Personal empleado en I y D por categoría de personal

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff			
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo			
		MF	F	MF	F			
Africa - Afrique - África								
Benin (1)	1989	2 687	794	100	242	64	1 651	339
Burkina Faso	1996	738	162	32	158	13	418	...
	1997	780	176	34	165	16	439	...
Burundi (2)(3)	1984	515	114	10	90	...	311	...
	1989	814	170	17	168	...	476	...
Central African Republic (3)	1984	1 290	196	...	166	...	928	...
	1990	...	162	16	92	5	...	...
Congo (3)	1984	2 335	862	...	1 473	...	...	...
Egypt	1982	46 796	19 939	(3) 11 503	6 678	(3) 3 947	20 179	(3) 13 487
	1983	46 797	19 941	...	6 678	...	20 178	...
	1986	47 970	20 893	...	6 733	...	20 344	...
	1990	89 154	24 599	8 055	17 150	1 200	47 405	25 471
	1991	102 296	26 415	...	19 607	...	56 274	...
Libyan Arab Jamahiriya	1980	3 600	1 100	...	1 500	...	1 000	...
Madagascar (4)	1994	1 047	159	45	483	175	405	85
Mauritius	1980	1 069	152	...	108	...	809	...
	1981	1 318	182	...	106	...	1 030	...
	1982	1 388	173	...	169	...	1 046	...
	1983	1 191	211	(3) 13	165	(3) 16	815	(3) 108
	1984	1 224	263	20	176	26	785	96
	1985	1 113	267	25	191	22	655	80
	1986	1 145	305	26	181	29	659	99
	1987	995	234	23	172	29	589	70
	1988	962	231	24	116	33	615	79
	1989	1 021	193	33	172	46	656	97
	1992	1 162	389	...	170	...	603	...
Nigeria (5)	1983	18 741	1 702	...	9 947	...	7 092	...
	1984	18 345	1 650	...	9 696	...	6 999	...
	1985	13 924	1 422	...	6 565	...	5 937	...

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff				
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien				
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo				
			MF	F	MF	F			
	1986	12 845	1 499	...	6 005	...	5 341	...	
	1987	12 880	1 338	...	6 042	...	5 500	...	
Rwanda	1980	111	48	...	36	...	27	...	
	1982	130	62	...	41	...	27	...	
	1983	149	64	...	55	...	30	...	
	1984	164	69	...	60	...	35	...	
	1995	315	181	18	40	31	94	33	
Senegal (40)	1993	84	20	5	32	9	32	...	
	1994	83	19	6	32	8	32	...	
	1995	76	19	5	28	7	29	...	
	1996	78	19	5	29	7	30	...	
South Africa	1983	15 995	7 939	...	4 819	...	3 237	...	
	1985	19 510	9 946	...	6 044	...	3 520	...	
	1987	20 557	11 469	...	5 600	...	3 488	...	
	1989	18 175	9 919	...	4 584	...	3 672	...	
	1991	22 223	12 102	...	5 006	...	5 115	...	
	1993	60 464	37 192	...	11 343	...	11 929	...	
Togo	1989	1 200	277	...	183	...	740	...	
	1994	1 473	387	...	249	...	837	...	
Tunisia	1993	3 130	953	...	480	...	1 697	...	
	1994	3 324	1 003	...	528	...	1 793	...	
	1995	3 476	1 043	...	510	...	1 923	...	
	1996	3 589	1 085	...	524	...	1 980	...	
	1997	3 680	1 145	...	524	...	2 011	...	
Uganda	1993	708	298	94	215	25	195	...	
	1994	800	344	122	244	18	212	...	
	1995	860	362	136	298	23	200	...	
	1996	890	386	149	285	27	219	...	
	1997	950	422	162	272	34	256	...	
North America - Amérique du Nord - América del Norte									
Canada	(8)	1981	78 180	39 060	...	...	...	...
	(6)	1982	*87 570	*45 010	...	*22 790	...	*19 770	
	(6)	1983	89 820	46 110	...	22 670	...	21 040	
	(6)	1984	94 200	49 190	...	24 210	...	20 800	
	(6)	1985	99 840	53 100	...	25 830	...	20 910	
	(6)	1986	103 740	56 510	...	(7) 26 600	...	20 630	
	(8)	1986	105 420	56 750	...	...	...	...
	(6)	1987	107 680	58 490	...	27 870	...	21 320	
	(8)	1988	111 440	61 540	...	...	...	...
	(6)	1989	112 020	62 050	...	(7) 28 940	...	21 030	

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers				Technicians and equivalent staff				Other supporting staff			
Pays	Année	Tout le personnel de R-D	Chercheurs				Techniciens et personnel assimilé				Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores				Técnicos y personal asimilado				Otro personal de apoyo			
				MF	F		MF	F		MF	F		MF	F
	(6)	1990	113 550	63 930	...	(7)	27 890	...		21 730	...			
	(6)	1991	114 500	65 350	...	(7)	27 520	...		21 630	...			
	(8)	1992	117 330	70 050	...		...	...		...	...
	(6)	1993	126 910	76 550	...		30 920	...		19 440	...			
	(8)	1994	126 660	77 860	...		...	...		...	...
	(8)	1995	129 750	80 510	...		...	...		...	...
Costa Rica (13)	(3)	1988	1 528	1 528	...		...	...		...	...
		1996	1 866	1 866	...		...	...		...	...
Cuba		1980	21 521	5 637	...		6 556	...		9 328	...			
		1981	25 249	6 834	...		7 959	...		10 456	...			
		1982	26 574	7 497	...		8 066	...		11 011	...			
		1983	29 064	8 247	(3)	5 089	8 408	...		12 409	...			
		1984	32 937	9 548	...		8 843	...		14 546	...			
		1985	34 150	10 305	...		9 238	...		14 607	...			
		1986	32 192	10 068	...		8 687	...		13 437	...			
		1987	33 287	11 225	...		8 962	...		13 100	...			
		1989	32 614	12 052	...		8 830	...		11 732	...			
		1991	37 829	16 433	...		9 558	...		11 838	...			
		1992	35 996	14 770	...	6 383	9 465	5 251		11 761	4 892			
		1995	44 119	17 667	...		12 288	...		14 164	...			
El Salvador		1992	1 775	(9)	102	...	(9)	1 612	...	61	...			
Guatemala (10)		1988	2 575	858	...		925	...		792	...			
Jamaica (11)		1982	86	24	...		13	...		49	...			
		1983	104	26	...		19	...		59	...			
		1984	100	23	...		21	...		56	...			
		1985	121	21	...		31	...		69	...			
		1986	104	18	10		15	3		71	40			
Mexico		1984	68 972	16 679	4 319		29 467	7 631		22 826	5 911			
		1993	26 932	14 103	...		9 441	...		3 388	...			
		1994	30 501	17 061	...		9 437	...		4 003	...			
		1995	33 297	19 434	...		6 675	...		7 188	...			
Nicaragua (3)		1985	1 803	650	...		212	...		941	...			
		1987	2 005	725	...		302	...		978	...			
United States (12) (13)		1980	658 700	658 700	...		...	...		...	...
		1981	691 400	691 400	...		...	...		...	...
		1982	702 800	702 800	...		...	...		...	...
		1983	722 500	722 500	...		...	...		...	...
		1984	797 800	797 800	...		...	...		...	...
		1985	849 200	849 200	...		...	...		...	...
		1986	896 500	896 500	...		...	...		...	...

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff			
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo			
			MF	F	MF	F		
	1987	*923 300	*923 300	...	...	...
	1988	*949 200	*949 200	...	...	...
	1993	*962 700	*962 700	...	...	...
South America - Amérique du Sud - América del Sur								
Argentina	1980	*22 800	*9 500 (3)	*5 400	*13 300	...		
	1982	35 144	10 486 (3)	6 705	8 124	16 534		
	1985	*28 900	*10 800	...	*7 100	*11 000		
	1988	*22 855	*11 088	*4 798	*6 241	*5 526		
	1995	32 510	22 927	10 655	5 092	4 491		
Bolivia	(3) 1991	...	1 681	700	1 039	500		
	1992	...	1 088	...	...	...
	1993	...	1 120	...	...	...
	1994	...	1 180	...	...	...
	1995	...	1 200	...	...	...
	1996	...	1 300	...	...	...
Brazil	1995	...	(14) 26 754	...	9 327	...		
Chile	(3) 1988	8 740	4 630	...	2 940	1 170		
Colombia	1982 (1)	3 709	1 083	...	1 024	1 602		
Ecuador	1990	1 415	1 043	240 (15)	372	(15) ./.		
	1995	...	1 517	472	...	...
	1997	1 874	1 676	250 (15)	198	(15) ./.		
Paraguay	(3) 1981	...	807	...	...	1 545
Peru	1996	...	5 551	...	234	...		
	1997	...	5 576	...	34	...		
Uruguay (3)	1987	...	2 093	720	...	...
Venezuela	1992	*5 333	*4 258	*1 490	*650	*205	*425	*179
Asia - Asie - Asia								
Armenia	1997	7 716	5 492	2 509	653	321	1 571	
Azerbaijan	1993	30 555	24 519	10 448	1 989	...	4 047	
	1994	27 478	23 276	10 177	1 477	...	2 725	
	1995	25 629	21 547	8 813	1 356	...	2 726	
	1996	25 556	21 234	8 889	1 428	...	2 894	
Bangladesh	1993	16 496	5 843	664	3 645	61	7 008	
	1994	15 010	5 418	568	2 055	404	7 537	
	1995	16 629	6 097	851	3 825	728	6 707	

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers				Technicians and equivalent staff				Other supporting staff			
Pays	Année	Tout le personnel de R-D	Chercheurs				Techniciens et personnel assimilé				Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores				Técnicos y personal asimilado				Otro personal de apoyo			
			MF		F		MF		F		MF		F	
China	1994	655 100	420 700	...	(15)	234 400	...	(15)	...	(15)	...	...	...	...
	1995	665 600	422 700	...	(15)	242 900	...	(15)	...	(15)	...	...	...	...
	1996	787 000	559 000	...	(15)	228 000	...	(15)	...	(15)	...	...	...	...
China, Hong Kong SAR (36)	1995	1 627	574	...	...	613	...	...	...	440	...	...	...	...
Cyprus	1991	341	135	...	...	153	...	...	...	53	...	...	...	...
	1992	366	147	...	...	165	...	...	...	54	...	...	...	...
India	(16) 1982	*218 995	*93 698	3 276	...	60 887	...	...	...	64 410	...	...	...	...
	(16) 1984	*244 049	*100 136	3 653	...	72 233	...	...	...	71 680	...	...	...	...
	(16) 1986	*256 735	*107 409	...	...	*70 233	...	...	...	*79 093	...	...	...	...
	(16) 1988	*286 381	*119 027	*5 552	...	*80 956	*4 233	...	...	*86 398	...	...	*8 214	...
	(16) 1990	*322 977	*128 036	(18) 7 710	...	96 737	6 138	...	...	98 204	...	...	13 140	...
	(17) 1992	315 448	117 586	7 737	...	98 202	7 096	...	...	99 660	...	...	...	...
	(16) 1994	*336 589	*136 503	10 505	...	98 769	9 333	...	...	101 317	...	...	17 411	...
Indonesia (3)	1982	28 464	17 287	...	...	3 234	...	...	...	7 943	...	...	...	...
	1984	36 185	24 895	...	...	4 125	...	...	...	7 165	...	...	...	...
	1985	...	21 160	...	...	3 888	...	...	...	...	...	...	...	...
Iran, Islamic Republic of	1985 (19)	5 048	3 194	...	...	1 854	...	...	...	...	...	...	...	...
	1994	50 326	34 256	...	...	10 104	...	...	...	5 966	...	...	...	...
Israel	1984	26 800	20 100	(3) 10 400	...	4 300	1 400	...	...	2 400	...	...	2 100	...
Japan	(20)(6) 1980	601 192	441 186	33 734	...	86 970	(15) 51 924	...	...	73 036	...	...	...	...
	(20)(6) 1981	629 172	463 062	34 007	...	90 426	(15) 54 733	...	...	75 684	...	...	...	...
	(20)(6) 1982	648 977	479 954	...	...	91 169	...	...	...	77 854	...	...	...	...
	(20)(6) 1983	668 939	496 145	37 891	...	93 326	17 858	...	...	79 468	...	...	41 865	...
	(20)(6) 1984	710 872	531 612	41 496	...	97 074	18 314	...	...	82 186	...	...	42 580	...
	(20)(6) 1985	730 432	548 249	43 490	...	99 280	19 294	...	...	82 903	...	...	43 665	...
	(20)(6) 1986	761 650	575 292	46 187	...	101 861	19 453	...	...	84 497	...	...	45 167	...
	(20)(6) 1987	778 501	590 680	48 765	...	102 486	20 250	...	...	85 335	...	...	45 212	...
	(20)(6) 1988	803 833	614 854	55 384	...	102 950	20 410	...	...	86 029	...	...	46 242	...
	(20)(6) 1989	830 855	636 817	45 040	...	105 430	20 364	...	...	88 608	...	...	47 770	...
	(20)(6) 1990	863 382	666 393	...	...	104 190	...	...	...	92 799	...	...	...	...
	(20)(6) 1991	899 286	688 994	...	...	113 562	...	...	...	96 730	...	...	...	...
	(20)(6) 1992	910 051	705 346	...	...	108 014	...	...	...	96 691	...	...	...	...
	(8) 1993	947 455	641 083	...	...	...	...	...	...	...	...	...	...	...
	(20)(6) 1994	994 622	787 402	...	...	103 400	...	...	...	103 820	...	...	...	...
	(8) 1995	948 088	673 421	...	...	...	...	...	...	...	...	...	...	...
	(8) 1996	891 783	617 365
Jordan (21)	1984	*610	*421	*29	*160
	1985	*585	*400	*29	*156
	1987	*602	*422	*30	*150

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Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers		Technicians and equivalent staff			Other supporting staff	
Pays	Année	Tout le personnel de R-D	Chercheurs		Techniciens et personnel assimilé			Autre personnel de soutien	
País	Año	Todo el personal de I y D	Investigadores		Técnicos y personal asimilado			Otro personal de apoyo	
			MF	F	MF	F	MF	F	
	1988	*609	*423	...	*36	...	*150	...	
	1989	(19) 463	422	...	41	...	...	...
Korea, Republic of	(3)(22) 1980	30 473	18 434	...	7 417	...	4 622	...	
	(3)(22) 1981	35 805	20 718	...	8 815	...	6 272	...	
	(3)(22) 1982	46 390	28 448	...	11 663	...	6 279	...	
	(3)(22) 1983	58 720	32 117	1 816	19 493	(15) 5 195	7 110	...	
	(3)(22) 1984	70 524	37 103	...	25 153	...	8 268	...	
	(3)(22) 1985	73 516	41 473	...	24 152	...	7 891	...	
	(3)(22) 1986	87 430	47 042	2 743	30 465	4 806	9 923	3 275	
	(3)(22) 1987	96 288	52 783	...	32 923	...	10 582	...	
	(3)(22) 1988	104 737	56 545	3 670	35 720	...	12 472	...	
	(3)(22) 1989	119 357	66 220	...	38 655	...	14 482	...	
	(3)(22) 1990	125 512	70 503	...	42 841	...	12 168	...	
	(3)(22) 1991	131 983	76 252	...	10 782	...	44 949	...	
	(3)(22) 1992	148 947	88 764	5 512	15 253	...	44 930	...	
(3)(22) 1994	190 298	117 446	...	14 141	...	58 711	...		
(8) 1995	152 247	100 456	...	...	...	...	...
(8) 1996	135 703	99 433	...	...	...	...	...
Kuwait	1993	733	381	...	117	...	235	...	
	1994	763	397	...	122	...	244	...	
	1995	753	392	...	120	...	241	...	
	1996	763	397	...	122	...	244	...	
	1997	742	387	...	118	...	237	...	
Kyrgyzstan	1993	5 897	3 826	...	417	...	1 654	...	
	1994	4 552	2 912	...	559	...	1 081	...	
	1995	4 558	3 279	...	323	...	956	...	
	1996	4 126	2 629	...	256	...	1 241	...	
	1997	4 161	2 685	1 249	226	...	1 250	...	
Malaysia	1992	4 563	1 633	501	1 655	507	1 275	...	
	1994	6 675	2 286	597	811	198	3 577	...	
	1996	4 436	1 893	509	654	146	1 888	...	
Mongolia	1995	3 599	2 228	939	431	237	940	554	
Pakistan (23)	1981	22 922	5 144	...	6 476	...	11 302	...	
	1982	24 723	5 397	...	7 138	...	12 188	...	
	1986	40 076	9 325	...	14 028	...	16 723	...	
	1988	28 990	6 641	...	9 286	...	13 063	...	
	1990	29 040	6 626	464	9 314	...	13 100	...	
	1997	36 706	9 977	859	1 749	27	24 980	...	
Philippines	1992	14 578	9 960	5 260	1 399	374	3 219	1 338	
Qatar (3)(24)	1986	290	229	58	61	2	

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Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff					
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien					
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo					
			MF	F	MF	F				
Singapore (22)	(3)	1981	2 741	1 193	...	807	...	741	...	
	(3)	1984	4 886	2 401	*384	1 359	...	1 126	...	
	(3)	1987	5 876	3 361	649	1 526	...	989	...	
		1995	9 497	7 695	...	997	...	805	...	
Sri Lanka		1984 (19)	3 211	2 619	...	592	...	...	...
		1985 (19)	3 483	2 790	667	693	188	...	...
		1996 (19)	4 281	3 448	1 103	833	...	...	...
Syrian Arab Republic		1997	804	440	...	364	...	...	...
Tajikistan (3)		1992	...	3 974	1 144	...	...	...	...
			...	3 722	...	...	...	...	...
Thailand		1987	10 621	5 539	...	2 785	...	2 297	...	
		1989	8 200	4 738	...	1 763	...	1 699	...	
		1993	12 064	6 513	...	2 535	...	3 016	...	
		1995	12 802	6 899	1 639	2 346	1 113	3 557	1 973	
		1996	10 209	6 038	...	2 303	...	1 868	...	
Turkey		1984	27 007	9 914	...	6 284	...	10 809	...	
		1985	29 241	11 276	...	7 367	...	10 598	...	
		1990 (16)	16 019	12 366	...	1 226	...	(17) 2 427	...	
		1991 (16)	14 969	11 948	...	1 329	...	(17) 1 692	...	
	(8)	1992	15 701	12 573	...	...	...	...	...
	(8)	1993	16 087	13 605	...	...	...	...	...
	(8)	1994	16 899	14 460	...	...	...	...	...
	(8)	1995 (16)	18 498	15 854	...	1 606	...	(17) 1 038	...	
	(8)	1996	21 995	18 092	...	...	...	...	...
Uzbekistan		1992	...	*37 625	*17 005	*6 687	...	...	...
Viet Nam (37)		1995	...	20 000	...	...	...	...	...
Europe - Europa - Europa										
Austria		1981	18 599	6 712	...	6 145	...	5 742	...	
		1984	20 161	7 609	...	6 817	...	5 735	...	
	(8)	1985	20 161	7 609	...	...	...	...	...
		1989	23 083	8 782	(25) 868	8 434	...	5 867	...	
		1993	24 458	12 821	2 008	6 397	1 945	5 240	2 119	
Belarus		1992	52 728	33 685	...	5 254	...	13 789	...	
		1993	47 524	30 474	...	4 164	...	12 886	...	
		1994	39 819	26 141	...	3 579	...	10 099	...	
		1995	35 858	23 771	...	3 131	...	8 956	...	
		1996	34 898	23 324	...	2 758	...	8 816	...	
Belgium	(8)	1981	32 531	12 747	

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Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers		Technicians and equivalent staff		Other supporting staff	
Pays	Année	Tout le personnel de R-D	Chercheurs		Techniciens et personnel assimilé		Autre personnel de soutien	
País	Año	Todo el personal de I y D	Investigadores		Técnicos y personal asimilado		Otro personal de apoyo	
			MF	F	MF	F	MF	F
	(8) 1982	33 042	13 410	...	...	...	...	...
	(8) 1983	33 032	13 431	...	...	...	...	...
	(8) 1984	33 390	13 906	...	...	...	...	...
	(8) 1985	34 859	14 759	...	...	...	...	...
	1986	36 203	15 705	...	(15) 20 498	...	(15) ./.	...
	1987	36 727	16 045	...	(15) 20 682	...	(15) ./.	...
	1988	36 770	16 646	...	(15) 20 124	...	(15) ./.	...
	1989	37 795	17 583	...	(15) 20 212	...	(15) ./.	...
	1990	38 773	18 465	...	(15) 20 308	...	(15) ./.	...
	1991	*40 063	*18 105	...	(15) 21 958	...	(15) ./.	...
	(8) 1994	37 703	22 552	...	...	...	...	...
	(8) 1995	38 449	22 918	...	...	...	...	...
Bulgaria	1980	(16) 72 335	38 706	16 829	(16) 10 483	7 295	(16) 23 146	8 335
	1981	(16) 78 477	41 378	19 187	(16) 11 856	7 999	(16) 25 243	11 550
	1982	(16) 81 207	42 756	19 697	(16) 12 519	8 385	(16) 25 932	12 074
	1983	(16) 83 291	43 462	19 890	(16) 12 429	8 186	(16) 27 400	12 894
	1984	(16) 87 329	45 125	21 070	(16) 12 484	8 347	(16) 29 720	14 022
	1985	(16) 90 308	48 008	22 769	(16) 13 099	8 514	(16) 29 201	13 589
	1986	(16) 91 168	46 329	20 289	(16) 11 271	6 724	(16) 33 568	16 346
	1987	(16) 96 471	50 585	22 268	(16) 11 662	6 774	(16) 34 224	17 443
	1988	100 731	49 703	...	12 444	...	38 584	...
	1989	107 301	50 932	...	12 201	...	44 168	...
	1990	112 158	52 597	...	12 266	...	47 295	...
	1991	88 733	49 705	23 592	11 407	6 409	27 621	14 319
	1992	(26) 57 655	37 825	17 362	10 752	6 555	9 078	5 606
	1993	41 606	27 292	12 120	7 811	4 994	6 503	...
	1994	23 729	12 608	5 220	7 665	5 184	3 456	...
	1995	25 055	13 990	5 723	7 697	5 298	3 368	...
	1996	26 158	14 751	6 114	8 169	5 462	3 238	...
Croatia	1988	20 818	9 716	...	4 795	...	6 307	...
	1989	21 008	10 039	...	4 699	...	6 270	...
	1990	19 000	9 286	...	4 461	...	5 253	...
	1991	17 216	8 670	...	3 943	...	4 603	...
	1992	17 233	8 928	3 339	3 818	2 332	4 487	3 069
	1993	16 369	9 032	...	3 328	...	4 009	...
	1994	15 713	8 812	...	3 075	...	3 826	...
	1995	15 953	8 911	3 418	3 134	1 903	3 908	2 634
	1996	15 787	8 597	3 364	3 204	2 033	3 986	...
Czech Republic	(8) 1991	81 895	...	...	...	...	...	...
	(8) 1992	60 292	20 084	...	...	...	...	...
	(8) 1993	40 793	13 627
	(8) 1994	37 779	13 325
	1995	22 678	11 935	...	7 153	...	3 590	...
	(8) 1996	23 373	12 915

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Pays	Année	Tout le personnel de R-D	Chercheurs				Techniciens et personnel assimilé				Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores				Técnicos y personal asimilado				Otro personal de apoyo			
			MF		F		MF		F		MF		F	
	(8)	1997	23 230	12 580
Denmark	(8)	1981	16 476	6 785
		1982	17 235	7 255	...	(15)	9 980	...	(15)	J.
		1983	18 142	7 676	...	(15)	10 466	...	(15)	J.
		1984	19 029	8 123	...	(15)	10 906	...	(15)	J.
		1985	19 914	8 567	...	(15)	11 347	...	(15)	J.
		1986	20 934	9 171	...	(15)	11 763	...	(15)	J.
		1987	21 953	9 775	...	(15)	12 178	...	(15)	J.
		1988	23 146	10 369	...	(15)	12 777	...	(15)	J.
		1989	24 339	10 962	...	(15)	13 377	...	(15)	J.
		1990	25 047	11 505	...	(15)	13 542	...	(15)	J.
		1991	25 756	12 049	...	(15)	13 707	...	(15)	J.
		(8)	1992	26 573	12 861
			1993	27 390	13 673	...	(15)	13 717	...	(15)	J.
		(8)	1995	30 213	15 954
		(8)	1996	30 841	16 361
	(8)	1997	31 467	16 766	...	...	...	...	...	...	...	...	...
	(8)	1998	32 107	17 173	...	...	...	...	...	...	...	...	...
Estonia (27)		1996	4 689	3 047	1 252	545	390	1 097	...	...	...	...	...
		1997	4 605	2 956	1 155	573	398	1 076	...	...	...	...	...
Federal Republic of Yugoslavia		1991	26 559	12 082	...	5 377	...	9 100	...	...	...	...	...
		1995	25 392	11 611	4 150	5 436	2 950	8 345	4 713	...	...	...	...
Finland		1981	18 004	9 722	...	(15)	8 282	...	(15)	J.	...	...	...
		1983	20 218	10 951	...	(15)	9 267	...	(15)	J.	...	...	...
		(8)	1985	23 550	...	...	...	...	...	...	...	...	...
		(8)	1987	26 227	10 593	...	...	...	...	...	...	...	...
		(8)	1989	28 516	...	...	...	...	...	...	...	...	...
		(8)	1991	29 575	14 030	...	...	...	...	...	...	...	...
		(8)	1993	30 527	15 229	...	...	...	...	...	...	...	...
		(8)	1994	32 331	...	...	...	...	...	...	...	...	...
	(8)	1995	33 634	16 863	...	...	...	...	...	...	...	...
France		1980	236 200	74 900	...	(15)	161 300	...	...	...	...	...	...
		1981	249 100	85 500	...	(15)	163 600	...	...	...	...	...	...
		1982	259 000	90 100	...	(15)	168 900	...	...	...	...	...	...
		1983	261 200	92 700	...	(15)	168 500	...	...	...	...	...	...
		1984	269 900	98 200	...	(15)	171 700	...	...	...	...	...	...
		1985	273 000	102 300	...	(15)	170 700	...	...	...	...	...	...
		1986	274 301	104 953	...	(15)	169 348	...	...	...	...	...	...
		1987	277 921	109 359	...	(15)	168 562	...	...	...	...	...	...
		1988	283 099	115 163	...	(15)	167 936	
		1989	289 282	120 430	...	(15)	168 852	
		1990	293 031	123 961	...	(15)	169 070	

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Pays	Année	Tout le personnel de R-D	Chercheurs		Techniciens et personnel assimilé		Autre personnel de soutien	
País	Año	Todo el personal de I y D	Investigadores		Técnicos y personal asimilado		Otro personal de apoyo	
			MF	F	MF	F	MF	F
	(8) 1991	1 197	687	...	...	...	...	...
	(8) 1992	1 244	708	...	...	...	...	...
	(8) 1993	1 363	815	...	...	...	...	...
	(8) 1994	1 412	845	...	...	...	...	...
	1995	1 694	1 076	...	393	...	225	...
	(8) 1996	1 516	908	...	...	...	...	...
	(8) 1997	1 779	1 130	...	...	...	...	...
Ireland	1981	*5 474	*2 635	...	*1 408	...	*1 431	...
	1982	5 449	2 773	...	1 271	...	1 405	...
	1983	5 819	3 232	...	1 326	...	1 261	...
	1984	6 193	3 626	...	1 336	...	1 231	...
	1985	6 264	3 741	...	1 340	...	1 183	...
	1986	6 343	3 861	...	1 348	...	1 134	...
	(8) 1987	5 704	3 344	...	...	...	...	...
	(8) 1988	8 590	6 351	...	1 291	...	948	...
	(8) 1989	6 328	4 098	...	...	...	...	...
	(8) 1990	6 846	4 618	...	...	...	...	...
	(8) 1991	8 002	5 161	...	...	...	...	...
	(8) 1992	8 488	5 547	...	...	...	...	...
	1993	9 534	6 592	...	1 797	...	1 145	...
	(8) 1994	10 681	7 307	...	...	...	...	...
	(8) 1995	12 206	8 368	...	...	...	...	...
Italy	1980	95 803	46 999	...	27 605	...	21 199	...
	1981	102 836	52 060	...	29 385	...	21 391	...
	1982	105 927	56 707	...	28 027	...	21 193	...
	1983	112 743	63 021	...	28 694	...	21 028	...
	1984	112 884	61 979	...	30 480	...	20 425	...
	1985	117 887	63 759	...	33 058	...	21 070	...
	1986	122 352	67 844	...	32 892	...	21 616	...
	1987	128 175	70 556	...	36 219	...	21 400	...
	1988	135 665	74 833	...	38 287	...	22 545	...
	1989	140 496	76 074	...	40 067	...	24 355	...
	1990	144 917	77 876	...	42 304	...	24 737	...
	(8) 1991	143 641	75 238	...	...	...	...	...
	(8) 1992	142 855	74 422	...	...	...	...	...
	(8) 1993	142 171	74 434	...	...	...	...	...
	1994	143 823	75 722	...	45 701	...	22 400	...
	(8) 1995	141 789	75 536	...	...	...	...	...
Latvia	1993	6 552	3 999	1 593	1 066	729	1 487	...
	1994	5 239	3 010	1 359	944	557	1 285	...
	1995	5 238	3 072	1 413	1 008	603	1 158	704
	1996	4 744	2 839	1 324	850	512	1 055	...
	1997	4 437	2 610	1 197	872	470	955	...

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Pays	Année	Tout le personnel de R-D	Chercheurs		Techniciens et personnel assimilé		Autre personnel de soutien				
País	Año	Todo el personal de I y D	Investigadores		Técnicos y personal asimilado		Otro personal de apoyo				
			MF	F	MF	F	MF	F			
Lithuania	1996	12 569	7 532	3 129	2 344	1 546	2 693	...			
Malta (36)	1988	46	34	...	5	..	7	...			
Moldova	1994	13 142	2 158	...	8 421	3 702	2 563	...			
	1995	10 645	1 821	...	6 802	2 989	2 022	...			
	1996	10 697	1 096	...	7 142	3 118	2 459	...			
	1997	10 667	1 442	...	7 181	3 250	2 044	...			
Netherlands	(6)	1980	53 560	26 430	...	(15)	27 130	...	(15)	./.	...
	(6)	1981	57 610	29 630	...	(15)	27 980	...	(15)	./.	...
	(6)	1982	57 450	30 160	...	(15)	27 290	...	(15)	./.	...
	(6)	1983	57 630	30 530	...	(15)	27 100	...	(15)	./.	...
	(6)	1984	58 400	31 320	...	(15)	27 080	...	(15)	./.	...
	(6)	1985	61 400	33 620	...	(15)	27 780	...	(15)	./.	...
	(6)	1986	62 830	35 250	...	(15)	27 580	...	(15)	./.	...
	(6)	1987	63 520	36 750	...	(15)	26 770	...	(15)	./.	...
	(6)	1988	64 420	37 520	...	(15)	26 900	...	(15)	./.	...
	(6)	1989	66 460	39 100	...	(15)	27 360	...	(15)	./.	...
	(6)	1990	68 170	40 260	...	(15)	27 910	...	(15)	./.	...
	(6)	1991	66 710	40 000	20 440	6 270	...
	(8)	1992	72 310
	(8)	1993	74 420	32 200
(8)	1994	78 980	34 200	...	...	...	...	...	...	...
(8)	1995	79 256	34 038	...	...	...	...	...	...	...
(8)	1996	80 789	34 482	...	...	...	...	...	...	...
Norway	1981	14 843	7 498	...	(15)	7 345	...	(15)	./.	...	
	1982	15 218	7 754	...	(15)	7 464	...	(15)	./.	...	
	1983	15 969	8 283	...	(15)	7 686	...	(15)	./.	...	
	1984	17 230	8 970	...	(15)	8 260	...	(15)	./.	...	
	1985	18 781	9 692	...	(15)	9 089	...	(15)	./.	...	
	1986	19 640	10 120	...	(15)	9 520	...	(15)	./.	...	
	1987	19 888	11 465	...	(15)	8 423	...	(15)	./.	...	
	1989	20 217	12 156	...	(15)	8 061	...	(15)	./.	...	
	1991	20 252	13 460	...	(15)	6 792	...	(15)	./.	...	
	(8)	1993	22 091	14 763
	(8)	1995	23 938	15 931	...	(15)	8 007	...	(15)	./.	...
(8)	1997	24 000	...	...	...	...	...	...	...	...
Poland	1980	(16)	240 000	93 000	...	(31)	57 000	...	90 000	...	
	1981	(16)	221 000	89 000	...	(31)	51 000	...	81 000	...	
	1982	(16)	188 000	79 000	...	(31)	41 000	...	68 000	...	
	1983	(16)	176 000	75 000	...	(31)	37 000	...	64 000	...	
	1984	(16)	174 000	75 000	...	(31)	35 000	...	64 000	...	
	1985	(16)	181 000	57 000	...	(31)	54 000	...	70 000	...	
	1986	(16)	177 000	45 000	...	(31)(32)	62 000	...	70 000	...	

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers				Technicians and equivalent staff				Other supporting staff			
Pays	Année	Tout le personnel de R-D	Chercheurs				Techniciens et personnel assimilé				Autre personnel de soutien			
País	Año	Todo el personal de I y D	Investigadores				Técnicos y personal asimilado				Otro personal de apoyo			
			MF		F		MF		F		MF		F	
	(8)	1993	75 734	43 367	...	...	...	...	...	...	...	...	...	...
		1994	80 399	47 867	...	13 532	...	(34)	19 000	...	...	...	...	...
	(8)	1995	79 988	47 342	...	...	...	...	...	...	...	...	...	...
	(8)	1996	87 263	51 633	...	...	...	...	...	...	...	...	...	...
	(8)	1997	89 029	...	...	...	...	...	...	...	...	...	...	...
Sweden		1981	(35) 42 214	17 696	...	(15) 24 518	...	(15)	J.	...	...	...	...	...
		1983	(35) 45 758	18 400	...	(15) 27 358	...	(15)	J.	...	...	...	...	...
		1985	(35) 49 599	21 200	...	(15) 28 399	...	(15)	J.	...	...	...	...	...
		1987	(35) 51 811	22 725	...	(15) 29 086	...	(15)	J.	...	...	...	...	...
		1989	(35) *55 129	*25 585	...	(15) *29 544	...	(15)	J.	...	...	...	...	...
		1991	53 604	26 515	...	(15) 27 089	...	(15)	J.	...	...	...	...	...
		1993	59 876	32 288	...	(15) 27 588	...	(15)	J.	...	...	...	...	...
	(8)	1995	62 635	33 665	...	...	...	...	...	...	...	...	...	...
Switzerland		1986	45 200	14 910	...	10 710	...	...	19 580	...	...	...	...	...
		1989	51 000	16 300	...	9 300	...	...	25 400	...	...	...	...	...
	(8)	1992	47 870	17 710	...	...	...	...	...	...	...	...	...	...
	(8)	1996	50 265	21 635	...	...	...	...	...	...	...	...	...	...
The Former Yugoslav Rep. of Macedonia		1995	5 043	2 620	1 081	1 070	794	1 353	898	...	...	...	...	...
Ukraine		1995	263 730	163 299	...	36 687	...	...	63 744	...	...	...	...	...
		1996	240 709	147 732	...	36 524	...	...	56 453	...	...	...	...	...
		1997	193 397	112 327	...	29 725	...	...	51 345	...	...	...	...	...
United Kingdom	(8)	1981	312 000	127 000	...	...	...	...	...	...	...	...	...	...
	(8)	1982	308 000	128 000	...	...	...	...	...	...	...	...	...	...
	(8)	1983	303 000	127 000	...	...	...	...	...	...	...	...	...	...
	(8)	1984	296 000	129 000	...	...	...	...	...	...	...	...	...	...
	(8)	1985	289 000	131 000	...	...	...	...	...	...	...	...	...	...
	(8)	1986	291 000	134 000	...	...	...	...	...	...	...	...	...	...
	(8)	1987	288 000	134 000	...	...	...	...	...	...	...	...	...	...
	(8)	1988	290 000	137 000	...	...	...	...	...	...	...	...	...	...
	(8)	1989	281 000	133 000	...	...	...	...	...	...	...	...	...	...
	(8)	1990	280 000	133 000	...	...	...	...	...	...	...	...	...	...
	(8)	1991	261 000	128 000	...	...	...	...	...	...	...	...	...	...
	(8)	1992	264 000	131 000	...	...	...	...	...	...	...	...	...	...
		1993	279 000	140 000	...	59 000	...	...	80 000	...	...	...	...	...
Oceania - Océanie - Oceanía														
Australia		1981	45 211	24 486	...	12 284	...	...	8 441	...	...	...	...	...
		1984	51 255	28 967	...	13 947	...	...	8 341	...	...	...	...	...
		1985	53 798	30 406	...	14 848	...	...	8 544	...	...	...	...	...
		1986	60 109	35 029	...	16 255	...	...	8 825	...	...	...	...	...
		1987	62 442	36 424	...	16 526	...	...	9 492	...	...	...	...	...
		1988	66 042	39 471	...	16 647	...	...	9 924	...	...	...	...	...

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff	
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien	
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo	
			MF	F	MF	F
	1990	67 796	41 837	15 922	10 037	...
	1994	86 161	56 520	14 133	15 508	(34) ...
	(8) 1996	90 519	60 890	...	...	...
Fiji (38)	1986	156	36	4	90	10 30
Guam	1985 (36)	46	19	...	11	...
	1986 (36)	47	19	...	11	...
	1987 (36)	48	19	...	11	...
	1989 (36)	*52	*21	*4	*11	*4
	1991 (36)	55	23	5	11	5 21
New Caledonia (39)	1985	334	77	7	71	11 186
New Zealand	(8) 1989	9 148	4 818	...	...	...
	(8) 1990	8 808	4 893	...	...	...
	(8) 1991	8 706	4 752	...	...	...
	(8) 1992	9 932	5 903	...	...	...
	1993	10 488	6 198	...	2 866	...
	(8) 1995	10 547	6 104	...	...	1 424

For general explanations and definitions, please refer to the Notes and Explanations on country tables.

Notes

- (1) Not including data for the productive sector (non-integrated R&D)
- (2) Not including data for the productive sector.
- (3) Data refer to full-time plus part-time personnel.
- (4) Data refer to the Ministry of Scientific Research only
- (5) Data relate only to 23 out of 26 national research institutes under the Federal Ministry of Science and Technology
- (6) Not including data for social sciences and humanities in the productive sector (integrated R&D)
- (7) Technicians and equivalent staff engaged in social sciences and humanities are included with other supporting staff
- (8) Data for researchers refers to full-time-equivalent Data are from OECD.
- (9) Data refer to researchers and technicians and equivalent staff in public enterprises only
- (10) Data relate to the productive sector (integrated R&D) and the higher education sector only
- (11) Data relate to the Scientific Research Council only
- (12) Not including data for law, humanities and education
- (13) Data refer to researchers only.
- (14) Data refer to researchers listed in the directory of research group in Brazil by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)
- (15) Technicians and equivalent staff and other supporting staff are counted together

Data are expressed in full-time equivalent (FTE)

Les données sont exprimées en équivalent plein temps (EPT)

Los datos se expresan en equivalente de jornada completa

Country	Year	All R&D personnel	Researchers	Technicians and equivalent staff	Other supporting staff	
Pays	Année	Tout le personnel de R-D	Chercheurs	Techniciens et personnel assimilé	Autre personnel de soutien	
País	Año	Todo el personal de I y D	Investigadores	Técnicos y personal asimilado	Otro personal de apoyo	
			MF	F	MF	F

(16) Not including technicians and equivalent staff and other supporting staff in the higher education sector

(17) Not including data for the higher education sector

(18) Data relating to women researchers do not include the higher education sector

(19) Not including data for other supporting staff

(20) Data refer to full-time personnel.

(21) Data relate to the East Bank only.

(22) Not including data for social sciences and humanities

(23) Data relate to R&D activities concentrated mainly in government-financed research establishments

(24) Not including social sciences and humanities in the higher education sector

(25) Not including data for the productive sector (integrated R&D)

(26) Due to methodological changes, data are not comparable with earlier years

(27) Not including business enterprise sector

(28) Not including personnel engaged in the administration of R&D

(29) Skilled workers are included with technicians and equivalent staff rather than with other supporting staff

(30) Data for other supporting staff do not include skilled workers but include security, maintenance and repair personnel

(31) Data relating to technicians and equivalent staff refer only to those persons with a vocational education at the second level of education

(32) Due to methodological changes "managerial personnel in the technical section" previously classified as scientists and engineers are now included with technicians and equivalent staff

(33) *not used*

(34) Including technicians and equivalent staff in higher education sector

(35) Not including social sciences and humanities in the productive and general service sectors

(36) Data refer to the higher education sector only

(37) Not including general service sector.

(38) Data relate to one research institute only

(39) Data refer only to 6 out of 11 research institutes

(40) Data relate to one research institute only

Statistical tables from the 1999 UNESCO Statistical Yearbook

III.3 Percentage distribution of gross domestic expenditure on R&D by source of funds

Répartition en pourcentage des dépenses intérieures brutes de R-D par source de fonds

Distribución porcentual del gasto interior bruto en I y D por origen de fondos

Country Pays País	Reference year Année de référence Año de referencia	Currency Monnaie Moneda	Total gross domestic expenditure on R&D Dépenses intérieures brutes totales de R-D Gasto interior bruto total en I y D	Source of funds / Source de fonds / Origen de fondos									
				Business enterprise Entreprises Sector de empresas (%)	Government Etat Sector de la administración (%)	Higher education Enseignement supérieur Enseñanza superior (%)	Private non-profit Institutions privées sans but lucratif Instituciones privadas sin fines de lucro (%)	Funds from abroad Fonds de l'étranger Fondos del extranjero (%)	Not distributed Non répartis Sin distribución (%)				
				Africa - Afrique - África									
				Burundi	(1)(2)	1989	Franc	536 187	-	39.4	-	-	60.6
Central African Republic		1996	Franc C.F.A.	(3) 130 899	-	100.0	-	-	-	-			
Congo		1984	Franc C.F.A.	25 530	25.5	68.8	-	-	5.7	-			
Madagascar	(4)	1995	Franc	22 477 000	-	8.7	1.7	-	89.7	-			
Mauritius		1980	Rupee	36 500	20.5	34.0	45.5	→	-	-			
		1981		52 400	40.8	24.6	34.2	→	0.4	-			
		1982		56 300	39.1	29.5	30.9	→	0.5	-			
		1983		38 100	1.3	49.6	48.0	→	1.0	-			
		1984		38 700	1.6	41.3	53.2	→	3.9	-			
		1985		...	...	86.2	5.0	→	8.8	-	
		1986		52 900	1.5	39.5	53.1	→	5.9	-			
		1987		125 200	0.6	14.7	23.9	→	60.8	-			
		1988		57 600	1.9	26.4	63.7	→	8.0	-			
	(5)	1989		54 300	2.4	35.0	62.6	→	...	-			
	(6)	1997		...	...	94.7	...	...	5.3	-
Nigeria (7)		1987	Naira	86 270	...	100.0	...	...	...	-
Rwanda		1984	Franc	260 750	...	72.5	...	...	17.8	9.7	
Seychelles		1983	Rupee	12 854	-	48.8	-	-	51.2	-			
	(7)	1991		4 593	-	100.0	-	-	-	-			
South Africa		1983	Rand	769 439	50.5	32.1	17.5	-	-	-			
		1985		1 077 305	41.3	35.4	23.3	→	-	-			
		1987		1 329 126	41.3	38.3	20.5	→	-	-			
		1989		1 774 447	41.9	34.6	23.5	→	-	-			
		1991		2 786 086	46.8	32.4	20.8	→	-	-			
		1993		2 594 107	54.4	42.7	1.8	→	1.0	-			
Togo	(8)	1995	Franc C.F.A.	52 737 405	-	-	-	-	100.0	-			
Tunisia		1997	Dinar	60 015	...	55.5	32.3	...	4.0	8.2			
Uganda		1996	Shilling	34 866 530	2.2	6.6	0.6	0.3	90.3	-			
North America - Amérique du Nord - América del Norte													
Canada	(9)	1981	Dollar	*4 334 000	*36.6	*38.7	*16.0	...	*3.0	*5.7			
	(9)	1982		5 090 000	38.3	40.8	15.4	...	4	1.4			
	(9)	1983		5 365 000	38.6	*43.9	*13.4	...	4.2	-			
	(9)	1984		6 015 000	38.5	44.6	11.9	...	4.2	0.8			
	(9)	1985		6 709 000	40.6	40.5	11.8	...	4.4	2.7			
	(9)	1986		7 220 000	40.5	39.5	12.2	...	7.3	0.5			
	(9)	1987		7 542 000	40.9	37	11.2	...	9	1.9			
	(9)	1989		*8 786 000	*40.8	*36.1	*10.3	...	*10.3	*2.5			
	(9)	1990		9 621 000	41.9	35.8	12.6	→	9.8	-			
	(9)	1991		10 024 000	41.3	35.3	13.4	→	10	-			
		1992		10 289 000	41.1	35.5	13.4	→	9.9	-			
	(9)	1993		*10 560 000	*41.2	*35.5	*13.3	→	*10.0	-			
		1996		12 564 000	50.7	30.1	8.4	→	10.8	-			
Costa Rica (7)		1989	Colon	703 100	...	100	...	...	...	-
		1990		838 400	...	100	...	...	...	-
		1991		1 378 600	...	100	...	...	...	-
Cuba		1981	Peso	111 614	...	(5) 74.4	...	...	(5) 5.9	19.6	
		1982		131 064	...	(5) 74.9	...	...	(5) 3.7	21.3	
		1983		143 188	-	98.4	-	-	1.6	-			

Country Pays País	Reference year Année de référence Año de referencia	Currency Monnaie Moneda	Total gross domestic expenditure on R&D Dépenses intérieures brutes totales de R-D Gasto interior bruto total en I y D	Source of funds / Source de fonds / Origen de fondos						
				Business enterprise Entreprises Sector de empresas (%)	Government Etat Sector de la administración (%)	Higher education Enseignement supérieur Enseñanza superior (%)	Private non-profit Institutions privées sans but lucratif Instituciones privadas sin finés de lucro (%)	Funds from abroad Fonds de l'étranger Fondos del extranjero (%)	Not distributed Non répartis Sin distribución (%)	
	1984		164 202		-	96.4		-	3.6	-
	1985		182 478		-	96.9		-	3.1	-
(7)	1987		236 268		-	100		-	-	-
(7)	1988		212 796		-	100		-	-	-
(7)	1989		222 000		-	100		-	-	-
(7)	1991		186 291		-	100		-	-	-
(7)	1992		247 925		-	100		-	-	-
(7)	1995		188 731		-	100		-	-	-
El Salvador (10)	1980	Colon	202 694		-	56.9		-	43.1	-
	1986		335 174		-	84.8		-	15.2	-
	1987		356 591		-	92.1		-	7.9	-
(7)	1989		290 881		-	100		-	-	-
	1992		1 083 559		-	47.4		-	52.6	-
Guatemala	1988	Quetzal	(11) 31 859		0.5	36.7	45.7	—>	17	-
Jamaica	1986	Dollar	(12) 4 016		-	100		-	-	-
Mexico	1989	Peso	(36) 1 050 283	(13)	5	95	...	...	(13) /	-
	1995		5 622 597		17.6	66.2	8.4	1.1	6.7	-
Nicaragua	1987	Cordoba	(5) *988 970		-	*80.8		-	*19.2	-
Panama	1986	Balboa	(14) 173		-	100		-	-	-
United States	1980	Dollar	(15) 63 810 000	(5)	47.6	(5) 46.5	(5) 3.5	...	...	2.4
	1983		(15) 88 992 000		48.1	45.4	3.4	...	...	3.1
	1986		(15) 122 900 900		48.4	(5) 45	3.2	...	...	3.5
	1988		(15) 139 255 000		48.7	(5) 44.6	3.8	...	...	2.9
	1995		*171 000 000		*59.4	*35.5	*5.1	—>	...	-
South America - Amérique du Sud - América del Sur										
Argentina	1988	Peso	3 466 700		8.0	85.0	5.0	—>	2.0	-
	1995		1 029 748		11.3	84.7	0.6	—>	3.4	-
Brazil	(14)(16) 1982	Cruzeiro	*305 500 000		*19.8	*66.9	*8.1	—>	*5.3	-
	1995		(17) 5 770 830		20.8	43.9	...	...	-	35.3
	1996		(17) 5 905 020		40.0	57.2	2.8	-	-	-
Chile	1986	Peso	14 263 900		27.1	68.3	4.6	...	...	-
	1987		19 979 500		26.0	69.0	5.0	—>	...	-
	1988		23 161 300		18.2	70.4	8.1	—>	3.3	-
	1995		170 760 000		20.2	68.5	-	-	11.3	-
	1997		207 506 800		15.2	70.7	-	7.6	6.5	-
Colombia	(18) 1982	Peso	2 754 273		...	...	...	...	10.5	89.5
Peru	1984	Inti	(19) 159 024		27.2	48.0	3.8	-	21.0	-
	1995	Sol	756 877		-	81.9	18.1	—>	-	-
Venezuela (7)	1980	Bolivar	851 280		...	98.8	...	...	...	1.2
	1981		1 012 170		-	100.0	-	-	-	-
	1982		1 151 820		-	100.0	-	-	-	-
	1983		1 196 500		-	100.0	-	-	-	-
	1984		1 361 820		-	100.0	-	-	-	-
	1985		1 411 720		-	100.0	-	-	-	-
	1986		1 294 930		-	100.0	-	-	-	-
(20)	1987		2 458 200		-	100.0	-	-	-	-
(20)	1988		3 249 900		-	100.0	-	-	-	-
(20)	1989		3 890 200		-	100.0	-	-	-	-
(20)	1990		11 847 000		-	100.0	-	-	-	-
(20)	1991		14 313 500		-	100.0	-	-	-	-
(20)	1992		19 622 000		-	100.0	-	-	-	-
Asia - Asie - Asia										
China, Hong Kong SAR	1995	Dollar	(21) 2 742 000		2.8	91	5.7	-	0.5	-
Cyprus	(7) 1980	Pound	707		-	100	-	-	-	-
	(7) 1981		802		-	100	-	-	-	-
	(7) 1982		937		-	100	-	-	-	-

				Source of funds / Source de fonds / Origen de fondos					
Country Pays Pais	Reference year Année de référence Año de referencia	Currency Monnaie Moneda	Total gross domestic expenditure on R&D Dépenses intérieures brutes totales de R-D Gasto interior bruto total en I y D	Business enterprise	Government	Higher education	Private non-profit	Funds from abroad	Not distributed
				Entreprises	Etat	Enseignement supérieur	Institutions privées sans but lucratif	Fonds de l'étranger	Non répartis
				Sector de empresas	Sector de la administración	Enseñanza superior	Instituciones privadas sin fines de lucro	Fondos del extranjero	Sin distribución
				(%)	(%)	(%)	(%)	(%)	(%)
	(7)	1983	1 044	-	100	-	-	-	-
		1984	1 173	-	98.8	-	-	1.2	-
		1991	4 835	14.7	75.5	7.3	-	2.5	-
		1992	6 037	13.1	76.4	8.8	→	1.7	-
India		1982	(36) 12 060 300	13.4	82.7	...	...	...	3.9
		1984	(36) 18 143 200	13	87	...	...	...	-
		1986	(36) 26 675 300	11.9	88.1	...	...	...	-
		1988	(36) 34 718 100	10.5	89.5	...	...	...	-
		1990	(36) 41 864 300	12.6	87.4	...	...	...	-
		1994	75 063 500	24	75	1	→	-	-
Indonesia	(7)(22)	1984	279 000 000	-	100	-	-	-	-
	(7)(22)	1985	242 120 000	-	100	-	-	-	-
	(7)(22)	1986	241 750 000	-	100	-	-	-	-
		1994	(23) 244 843 000	76.4	15.8	0.5	-	7.2	-
Iran, Islamic Republic of	(7)	1984	21 527 000	-	100	-	-	-	-
	(7)	1985	22 010 713	-	100	-	-	-	-
		1994	620 849 320	-	86.8	13.2	→	-	-
Israel		1981	(24) 7 485	22.1	65.2	12.7	→	-	-
		1982	(24) 19 217	23.2	66.5	10.3	→	-	-
		1983	(24) 56 300	21.7	63.8	14.5	→	-	-
		1990	2 323 400	38	37.6	16.9	→	7.5	-
		1992	3 663 100	37.2	37.1	18	→	7.6	-
		1995	5 842 000	35.7	40.7	10.2	7	6.5	-
Japan (9)		1980	5 246 248 000	72	27.9	-	-	0.1	-
		1981	5 982 356 000	72.9	27	-	-	0.1	-
		1982	6 528 700 000	74.4	25.5	-	-	0.1	-
		1983	7 180 782 000	75.9	24	-	-	0.1	-
		1984	7 893 931 000	77.4	22.5	-	-	0.1	-
		1985	8 890 299 000	78.9	21	-	-	0.1	-
		1986	9 192 932 000	78.6	21.3	-	-	0.1	-
		1987	9 836 640 000	78.4	21.5	-	-	0.1	-
		1988	10 627 572 000	80	19.9	-	-	0.1	-
		1991	13 771 524 000	81.7	18.2	-	-	0.1	-
Kazakistan		1997	5 369 900	1	40.2	...	5.7	11.8	41.3
Korea, Republic of (25)		1980	211 726 652	48.4	49.8	-	-	1.8	-
		1981	293 131 465	56.4	41.5	-	-	2.1	-
		1982	457 688 485	58.7	41.1	-	-	0.2	-
		1983	621 749 314	72.5	27.3	-	-	0.2	-
		1986	1 523 279 000	80.9	19	-	-	0.1	-
		1988	2 454 152 000	78.3	17	0.4	...	...	4.4
		1990	3 349 864 000	80.6	15.2	...	...	...	4.2
		1992	4 989 031 000	82.4	17.2	-	-	0.4	-
		1994	7 894 746 000	84	15.9	-	-	-	-
Kuwait		1984	(20) 71 163	64.3	34.3	1.4	-	-	-
Kyrgyzstan		1995	46 309	29.4	67.3	1.8	→	1.5	-
		1997	59 467	24.8	63.3	3.5	→	8.5	-
Malaysia		1988	(7) 87 100	-	100	-	-	-	-
		1989	(7) 97 200	-	100	-	-	-	-
		1992	550 700	43	53.1	2.1	→	1.8	-
		1996	549 100	8.3	13.5	...	...	1.6	76.6
Pakistan		1984	(26)(7) 3 834 287	-	100	-	-	-	-
		1987	(26)(7) 5 582 081	-	100	-	-	-	-
Philippines		1984	614 080	23.6	60.8	2.4	...	13	0.1
		1992	*2 940 549	*1.9	*3.2	*70.2	→	*24.7	-
Qatar		1986	Riyal 6 650	-	100	-	-	-	-
Singapore		1984	(25) 214 300	43	49	-	-	8	-
		1987	(25)(27) 374 700	59.6	38.8	1.6	-	-	-
		1995	(25) 1 366 570	62.5	31.4	2.4	→	3.7	-

				Source of funds / Source de fonds / Origen de fondos									
Country Pays Pais	Reference year Année de référence Año de referencia	Currency Monnaie Moneda	Total gross domestic expenditure on R&D Dépenses intérieures brutes totales de R-D Gasto interior bruto total en I y D	Business enterprise	Government	Higher education	Private non-profit	Funds from abroad	Not distributed				
				Entreprises	Etat	Enseignement supérieur	Institutions privées sans but lucratif	Fonds de l'étranger	Non répartis				
				Sector de empresas	Sector de la administración	Enseñanza superior	Instituciones privadas sin finés de lucro	Fondos del extranjero	Sin distribución				
				(%)	(%)	(%)	(%)	(%)	(%)				
Sri Lanka	1983	Rupee	(6) 217 608	..	(28) 91.2	8.8	-			
	1984		(6) 256 799	...	83.7	...	...	16.3	-		
Thailand	1985	Baht	3 473 000	13.8	69.6	-	-	-	16.6	-			
	1987		2 664 380	9.7	68.5	7.2	→	14.5	-				
	1995		5 174 240	12.2	79.7	5.1	→	3.1	-				
	1996		(29) 5 528 135	...	61.1	6.8	8.7	5	18.4				
Turkey	1990	Lira	1 318 343 000	27.6	71.3	0.9	-	-	0.2	-			
	1991		3 330 047 000	28.5	70.1	1.3	-	0.2	-				
	1995		29 509 395 000	32.9	62.4	2.7	-	2	-				
Viet Nam (7)	1983	Dong	331 000	-	100	-	-	-	-	-			
	1984		516 000	-	100	-	-	-	-				
	1985		498 000	-	100	-	-	-	-				
Europe - Europa - Europa													
Austria	1981	Schilling	12 331 026	50.2	46.9	0.4	→	2.5	-				
	1982		*13 798 400	*48.4	*48.8	*0.4	→	*2.4	-				
	1983		*14 808 500	*48.7	*48.6	*0.4	→	*2.3	-				
	1984		*16 210 700	*48.0	*49.3	*0.4	→	*2.3	-				
	1985		17 182 272	49.1	48.1	0.3	→	2.5	-				
	1986		*18 691 700	*48.3	*49.1	*0.3	→	*2.4	-				
	1987		*19 524 800	*48.8	*48.5	*0.3	→	*2.4	-				
	1988		*20 797 700	*49.8	*47.5	*0.3	→	*2.4	-				
	1989		22 966 910	53	43.4	0.3	→	3.2	-				
	1990		*24 281 600	*50.9	*46.5	*0.3	→	2.3	-				
1993	31 694 247	49	47.9	0.4	→	2.6	-						
Belarus	1992	B.Rouble	8 392 900	57.5	42.2	0.3	→	...	-				
	1995		1 325 959 800	59.5	40.1	0.4	→	...	-				
	1997		2 098 170 700	27.9	67.2	0.1	→	4.8	-				
Belgium	(30) 1987	Franc	91 323 600	67.9	26.5	0.7	→	1	3.9				
	(30) 1988		91 265 100	71.6	26.7	0.7	→	1	-				
	(31) 1990		108 545 800	70.4	27.6	0.7	→	1.3	-				
1991	*112 065 000	*64.8	*31.3	*0.9	→	*3.0	-						
Bulgaria	1980	Lev	470 800	62.8	37.2	-	-	-	-				
	1981		537 000	65.8	34.2	-	-	-					
	1982		631 800	62.4	37.6	-	-	-					
	1983		669 800	62.5	37.5	-	-	-					
	1984		696 900	63.2	36.8	-	-	-					
	1985		812 300	64.2	35.8	-	-	-					
	1986		856 100	64.4	35.6	-	-	-					
	1987		923 800	59.8	40.2	-	-	-					
	1989		1 042 400	58.4	41.6	-	-	-					
	1991		1 874 800	65.7	34.3	-	-	-					
1996	9 148 000	60.5	35.1	3.8	0.4	0.1	-						
Croatia	1992	Kuna	27 242 365	31.7	37.2	30.2	→	0.8	-				
	1995		1 159 331	19	63.3	17.3	→	0.4	-				
Czech Republic	1995	C.Koruny	13 982 600	63.1	32.3	1.3	...	3.3	-				
Denmark	1983	Krone	6 097 000	45.6	48.8	1.5	→	2	2.1				
	1985		7 692 000	48.9	46	3.1	→	2.1	-				
	1987		9 933 000	47.6	45.9	3.8	→	2.7	-				
	1989		11 892 000	46.9	45.5	4.6	→	3.1	-				
	1991		14 100 000	51.4	39.7	4.6	→	4.4	-				
	1993		15 695 000	49.8	37.9	5	→	7.4	-				
Estonia	(32) 1995	Krooni	250 604	12.9	71.3	6.2	-	9.6	-				
	1997		369 751	7.7	67.4	4.7	5.2	14.9	-				
Federal Republic of Yugoslavia	1995	Dinar	(5) 424 831	28.2	54.1	16.8	-	0.8	-				
	1996		871 670	33.6	48.6	16.2	→	1.6	-				
Finland	1981	Markka	2 595 000	54.5	39.4	0.8	...	1	4.3				
	1983		3 626 730	55.6	42.3	1.2	→	0.9	-				
	1987		6 792 000	58.8	39.4	0.7	→	1	-				

Country	Reference year	Currency	Total gross domestic expenditure on R&D	Source of funds / Source de fonds / Origen de fondos							
				Business enterprise	Government	Higher education	Private non-profit	Funds from abroad	Not distributed		
				Entreprises	Etat	Enseignement supérieur	Institutions privées sans but lucratif	Fonds de l'étranger	Non répartis		
				Sector de empresas	Sector de la administración	Enseñanza superior	Instituciones privadas sin fines de lucro	Fondos del extranjero	Sin distribución		
Pays	Année de référence	Monnaie	Dépenses intérieures brutes totales de R-D	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Pais	Año de referencia	Moneda	Gasto interior bruto total en I y D								
	1991		10 172 000	53.8	44.3	0.6	—>	1.3	-		
	1995		12 915 000	57.7	37.4	0.4	—>	4.5	-		
France	1987	Franc	121 364 000	41.8	51.9	0.3	—>	5.9	-		
	1988		130 631 000	43.3	49.9	0.6	—>	6.2	-		
	1989		143 553 000	43.9	48.1	0.6	—>	7.3	-		
	1990		157 146 000	43.5	48.3	0.7	—>	7.5	-		
	1991		163 092 000	42.5	48.8	0.7	—>	8	-		
	1994		175 563 000	48.7	41.6	1.4	—>	8.3	-		
Germany	1993	Deutsche Mark	76 721 000	61.4	36.7	0.3	—>	1.6	-		
Greece	1986	Drachma	18 331 000	23.2	74.4	-	-	2.4	-		
	1993		100 460 000	20.2	45.8	3.7	—>	30.3	-		
Hungary	1981	Forint	19 425 000	79.3	20.3	-	-	0.4	-		
	1982		21 215 000	80.2	19.4	-	-	0.4	-		
	1983		20 419 000	78.5	21.2	-	-	0.3	-		
	1984		22 686 000	78.2	21.4	-	-	0.4	-		
	1985		24 077 000	78.6	20.9	-	-	0.4	-		
	1986		27 453 000	79.6	19.5	-	-	0.9	-		
	1987		32 155 000	79.1	19.8	-	-	1.1	-		
	1988		32 402 000	76.6	21.1	1.3	—>	0.9	-		
	1989		33 441 000	72.5	25.3	1.5	—>	0.7	-		
	1991		26 731 000	56	40	2.1	—>	1.8	-		
	1995		43 767 000	36.3	49.3	4	—>	4.6	5.9		
Iceland	1981	Krona	160 100	19.4	76.1	0.2	—>	4.3	-		
	1983		462 000	31.1	65.7	3	—>	0.2	-		
	1985		845 000	22.5	74.5	-	-	3	-		
	1987		1 593 000	31	66	-	-	3	-		
	1989		3 123 000	23	70	4	—>	3	-		
	1995		6 957 929	34.6	57.3	3.7	—>	4.4	-		
Ireland	1981	Pound	83 332	34.3	51.7	1.4	—>	5.7	6.9		
	1982		97 582	37.7	56.5	1.1	—>	4.8	-		
	1984		125 691	43.3	48.5	1.5	—>	6.7	-		
	1986		168 025	48.1	43.8	1.5	—>	6.6	-		
	1993		400 201	63.4	27.8	0.9	—>	7.8	-		
Italy	1980	Lira	2 897 274 000	52.1	45.3	-	-	2.6	-		
	1981		4 055 335 000	50.1	47.2	-	-	2.7	-		
	1982		4 915 678 000	48.5	48.5	-	-	3	-		
	1985		9 132 902 000	44.6	51.7	-	-	3.6	-		
	1986		10 189 139 000	40.3	55.3	-	-	4.4	-		
	1987		11 696 035 000	41.7	54	-	-	4.3	-		
	1988		13 281 284 000	43.9	51.8	-	-	4.2	-		
	1990		17 001 221 000	43.7	51.5	-	-	4.8	-		
	1994		17 388 858 000	43.7	50.2	-	-	6.1	-		
Latvia	1995	Lat	12 307	20.5	53	3.7	—>	22.8	-		
	1996		13 060	...	56.1	2.3	—>	24	17.7		
	1997		13 893	...	59	...	...	26.9	14.1		
Malta	1988	Lira (21)	10	-	100	-	-	-	-		
Moldova	1995	Lei	72 357	0.8	23.2	63.8	—>	4.1	8.2		
	1997		71 941	51.4	47.8	0.2	-	0.6	-		
Netherlands	1980	Guilder	(9) 6 348 000	45.2	48.3	1	-	5.6	-		
	1982		(9) 7 284 000	44.9	48.6	1.2	-	5.2	-		
	1983		(9) 7 699 000	46.4	47.4	1.2	-	5	-		
	1984		(9) 7 852 000	48.3	47	1.3	-	3.4	-		
	1985		(9) 8 748 000	51.7	44.3	1.4	-	2.6	-		
	1986		(9) 9 533 000	52.5	43.9	1.4	-	2.2	-		
	1987		(9) 10 040 000	52.1	43.9	2	-	2	-		
	1988		(9) 10 163 000	53.4	42.6	1.7	-	2.3	-		
	1990		(9) 10 450 000	51.2	45	1.7	-	2.1	-		
	1991		(9) 10 381 000	51.3	44.8	1.9	-	2	-		
	1994		12 486 000	44.7	43.9	2.6	-	8.8	-		

				Source of funds / Source de fonds / Origen de fondos						
Country	Reference year	Currency	Total gross domestic expenditure on R&D	Business enterprise	Government	Higher education	Private non-profit	Funds from abroad	Not distributed	
				Entreprises	Etat	Enseignement supérieur	Institutions privées sans but lucratif	Fonds de l'étranger	Non répartis	
Pays	Année de référence	Monnaie	Dépenses intérieures brutes totales de R-D	Sector de empresas	Sector de la administración	Enseñanza superior	Instituciones privadas sin fines de lucro	Fondos del extranjero	Sin distribución	
Pais	Año de referencia	Moneda	Gasto interior bruto total en I y D	(%)	(%)	(%)	(%)	(%)	(%)	
Norway	1980	Krone	3 629 800	35.6		58.6	4.2	-	1.6	-
	1981		4 213 800	39.4		57	2.2	-	1.4	-
	1982		*4 952 500	*41.6		*53.5	*2.3	-	*2.5	-
	1983		*5 691 000	*44.0		*51.0	*2.8	-	*2.2	-
	1984		*6 830 000	47.5		48.2	2.4	...	1.9	0.1
	1985		8 109 900	50.2		45.6	2.1	-	2.1	-
	1986		9 380 000	50.9		44.5	2.1	-	2.6	-
	1987		10 202 700	48.6		47.1	2.6	-	1.7	-
	1989		11 532 700	45.6		50.8	1.3	-	2.3	-
1995		15 907 600	49.9		43.5	1.6	→	4.9	-	
Poland	1995	Zloty	2 113 000	31.8		64.4	2.1	-	1.7	-
Portugal	1980	Escudo	4 118 500	26.6		66.8	4.7	→	1.9	-
	1982		6 541 200	30		61.9	4.8	→	3.3	-
	1984		11 307 600	30.8		60.2	6.6	→	2.4	-
	1986		19 867 600	26.8		61.3	9	→	2.9	-
	1988		29 910 800	27.4		63.5	6.4	→	2.7	-
	1990		52 032 200	27		58.1	10.2	→	4.6	-
	1995		92 120 600	18.9		65.2	3.9	→	11.9	-
Romania	1989	Leu	20 866 000	94.7		5.3	-	-	-	-
	(33) 1991		17 369 000	(5) 54.3	(5)	22.9	(5) 8.1	...	(5) 0.7	14
	1995		514 420 000	23.1		63.4	10.4	-	3.2	-
Russian Federation	1997	Rouble	24 449 691 200	15.5		59.6	0.1	...	7.4	17.4
Slovakia	1995	S.Koruny	5 374 000	60.4		37.8	0.1	-	1.6	-
Slovenia	1992	Tolar	15 050 524	51.1		35.9	8.4	→	4.7	-
	1995		37 654 000	45.5		40.9	10.3	→	3.3	-
	1996		36 816 000	49.1		43.4	4.5	0.4	2.7	-
Spain	1981	Peseta	67 938 006	45.9		51.7	0.1	→	1.2	1.2
	1983		100 697 093	49.1		49.6	0.1	→	1.2	-
	1984		126 199 000	48.9		44.6	...	...	0.7	5.8
	1985		155 341 000	47.2		43	0.2	→	4.8	4.7
	1986		197 676 000	49.3		44.1	0.9	→	1.7	4.1
	1987		230 509 000	46.8		46.6	1.1	→	1.5	4.1
	1988		287 688 658	47.5		48.8	1.1	→	2.5	-
	1989		339 324 489	47.8		46.7	0.8	→	4.7	-
	1990		(34) 423 501 631	47.7		45.3	0.2	→	6.8	-
	1994		*548 153 562	*40.3		*52.4	*1.0	→	*6.4	-
Sweden	1983	Krona	(35) 18 189 000	59		39.3	0.2	-	1.5	-
	1985		(35) 24 989 000	60.9		37.1	0.8	-	1.2	-
	1987		(35) 30 553 000	61.1		37	0.4	-	1.6	-
	1991		41 352 000	60.6		35.7	2.2	→	1.5	-
	1993		47 473 000	62.9		31.4	2.4	→	2.4	0.9
Switzerland	1980	Franc	(5) 3 611 100	76.7		23.3	-	-	-	-
	1981		(5) 3 789 100	76.2		23.8	-	-	-	-
	1983		(5) 4 643 000	78.1		21.9	-	-	-	-
	1986		(36) 7 015 000	78.9		21.1	-	-	-	-
	1992		9 090 000	67.4		28.4	2.3	→	1.9	-
The For. Yug. Rep. of Macedonia	1995	Dinar	(5) 876 244	48.4		41.9	7.5	→	2.2	-
Ukraine	1995	Hryvnais	651 963	46.3		37.6	0.5	-	15.6	-
	1997		1 113 189	...		41.9	...	...	24.6	33.5
United Kingdom	(25)(37) 1981	Pound Sterling	5 921 200	42.7		47.7	2.6	-	(37) 6.9	-
	(25)(37) 1983		6 583 000	43.6		48.9	2.2	-	(37) 5.3	-
	(37) 1985		8 198 100	45.8		40.7	2.2	...	(37) 7.9	3.4
	(37) 1986		8 945 500	48.6		37.8	2.3	...	(37) 9.4	1.9
	(37) 1989		11 531 800	50.4		36.5	3.2	→	(37) 9.9	-
	(37) 1990		12 136 500	49.4		35.8	3.3	→	(37) 11.5	-
	(37) 1991		11 905 000	50.2		34.2	3.8	→	(37) 11.7	-
1993		13 829 000	51.9		32.7	3.7	→	(37) 11.7	-	

Oceania - Océanie - Oceanía

Country	Reference year	Currency	Total gross domestic expenditure on R&D	Source of funds / Source de fonds / Origen de fondos						
				Business enterprise	Government	Higher education	Private non-profit	Funds from abroad	Not distributed	
Pays	Année de référence	Monnaie	Dépenses intérieures brutes totales de R-D	Entreprises	Etat	Enseignement supérieur	Institutions privées sans but lucratif	Fonds de l'étranger	Non répartis	
Pais	Año de referencia	Moneda	Gasto interior bruto total en I y D	Sector de empresas	Sector de la administración	Enseñanza superior	Instituciones privadas sin fines de lucro	Fondos del extranjero	Sin distribución	
				(%)	(%)	(%)	(%)	(%)	(%)	
Australia	1981	Dollar	1 561 800	20.5		73.9	2.1	—>	1.0	2.5
	1984		2 415 600	27.9		68.9	1.7	—>	1.1	0.3
	1985		2 747 400	31.7		64.1	1.9	—>	1.3	1.0
	1986		3 365 600	34.8		59.5	1.6	—>	0.9	3.3
	1987		3 687 000	36.1		56.4	2.7	—>	1.0	3.8
	1988		4 252 600	40.5		54.4	2.2	—>	1.3	1.5
	1990		5 087 600	39.6		55.3	3.8	—>	1.3	-
	1994		7 321 100	45.7		48.1	4.2	—>	2.0	-
Fiji	(38)	Dollar	3 800	-		73.7	-	-	26.3	-
Guam (5)(21)	1989	U.S.Dollar	*1 926	-		*88.6	*11.4	-	-	-
	1991		2 215	-		87.7	12.3	-	-	-
New Zealand	1993	Dollar	825 200	33.9		54.7	8.9	-	2.4	-

For general explanations and definitions, please refer to the Notes and Explanations on country tables.

Notes

- (1) Not including data for the productive sector.
- (2) Not including labour costs at the Ministry of Public Health.
- (3) Figures in millions.
- (4) Data refer to the Ministry of Scientific Research only.
- (5) Data refer to current expenditure only.
- (6) Data refer to government funds and funds from abroad.
- (7) Data refer to government funds only.
- (8) Data refer to funds from abroad only.
- (9) Not including data for social sciences and humanities in the productive sector (integrated R&D).
- (10) Data refer to R&D activities performed in public enterprises.
- (11) Not including data for the productive sector (non-integrated R&D) and the general service sector.
- (12) Data relate to the Scientific Research Council only.
- (13) Business enterprise funds and funds from abroad are counted together.
- (14) Data refer to the central government only.
- (15) Not including data for law, humanities and education.
- (16) Not including private productive enterprises.
- (17) In Reals.
- (18) Not including data for the productive sector (non-integrated R&D).
- (19) Data are the budget allotment for science and technology.
- (20) Data refer to scientific and technological activities (STA).
- (21) Data refer to the higher education sector only.
- (22) Data refer to the general service sector only.
- (23) Data refer to the productive sector only.
- (24) Not including data for humanities and law financed by the universities' current budgets.
- (25) Not including data for social sciences and humanities.
- (26) Data refer to R&D activities which are concentrated mainly in government-financed research establishments. Social sciences and humanities in the higher education and general service sectors are not included.
- (27) Not including funds from abroad.
- (28) Business enterprise funds and government fund are counted together.
- (29) Not including business enterprise funds
- (30) Not including data from communities and regions.
- (31) Including data from communities and regions.
- (32) Not including business enterprise sector.
- (33) Due to methodological changes in 1991 data are not comparable with previous years.
- (34) Not including private non-profit organizations.
- (35) Not including social sciences and humanities in the productive and general service sectors.
- (36) Data refer to business enterprise and government funds only.
- (37) Not including funds for R&D performed abroad.
- (38) Data relate to one research institute only