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1-800-267-6677 or internet: infostats@statcan.ca**Federal government expenditures on scientific activities, 2003-2004^D**

This bulletin presents recent information on the performance and funding of Federal government expenditures on scientific activities, 2003-2004. The statistics presented are derived from the survey of science and technology (S&T) activities of federal departments and agencies. The data in this publication are consistent with expenditures of departments and agencies as reported in the Main Estimates 2003-2004, but do not reflect changes to 2003-2004 spending plans which may result from supplementary estimates or other departmental planning decisions.

Highlights

- ▶ The federal government's S&T spending intentions for 2003-2004 are \$8.6 billion, a 7% increase over that forecasted for 2002-2003. For each dollar spent by the federal government, 4.9 cents are spent on scientific & technological (S&T) activities including 3.1 cents spent on research and development (R&D). This compares to 3.7 cents spent on S&T and 2.3 cents on R&D for every dollar back in 1993-1994.
- ▶ In 2003-2004, 64 cents of every S&T dollar was spent on R&D, the highest proportion of the past 10 years. An expected \$5.5 billion will be devoted to R&D in 2003-2004. This includes intramural performance (activities carried out primarily by the federal government) and extramural funding (activities managed and performed by non-federal organizations) of research and development.
- ▶ In 2003-2004, 53% of the total S&T expenditures will be spent on activities performed by the federal government itself. Of total planned R&D spending, the federal government will perform \$2.2 billion or 40%.
- ▶ The federal government departments with the largest estimated expenditures on S&T activities in 2003-2004 are the Natural Sciences and Engineering Research Council, the National Research Council, the Canadian Institutes of Health Research and Environment Canada, which together account for 32% of the government's total expenditures.
- ▶ Federal government R&D funding to the higher education sector is expected to exceed \$2 billion for 2003-2004. Of this amount, the three grantings councils, the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council will account for almost 75%.

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The questionnaire on scientific activities is designed to correspond as much as possible to the system of budgetary estimates used by the Federal Government. This is done to ease the response burden, assist in editing and, most importantly, to produce comparable data for policy planning and program evaluation. Thus the questionnaire covers the same time span as the Estimates including: proposed estimates for the coming fiscal year, i.e. 2003-2004; forecast expenditures for the current fiscal year, i.e. 2002-2003 and, actual expenditures for the past fiscal year, i.e. 2001-2002 (also reported in the Public Accounts).

As well as the expenditures attributable to program budgets, there are additional costs attributable to scientific activities which must be included if a full picture of the resources devoted to science activities is to be obtained. These include other sources of funds and other S&T costs which are defined below:

Budgetary Sources - as expressed in the Main Estimates:

- Own Departmental budget.
- Other Federal Agencies - transfers into the program from other Federal Government departments and agencies, net of transfers out.

External Sources:

Income from other sources such as industry and provincial governments.

Other S&T Costs:

Non-Program Costs (indirect costs) are costs that are not part of the budgets of scientific programs and include services provided by other departments, such as:

- accommodation by Public Works and Government Services Canada and own department
- employer's share of health and employment insurance premiums paid by Treasury Board
- employee compensation under Workers Compensation Acts paid by Human Resources Development Canada
- cost of legal services provided by the Department of Justice Canada
- cheques issue cost by Public Works and Government Services Canada
- overhead - portion of a central administration program costs attributable to scientific activities

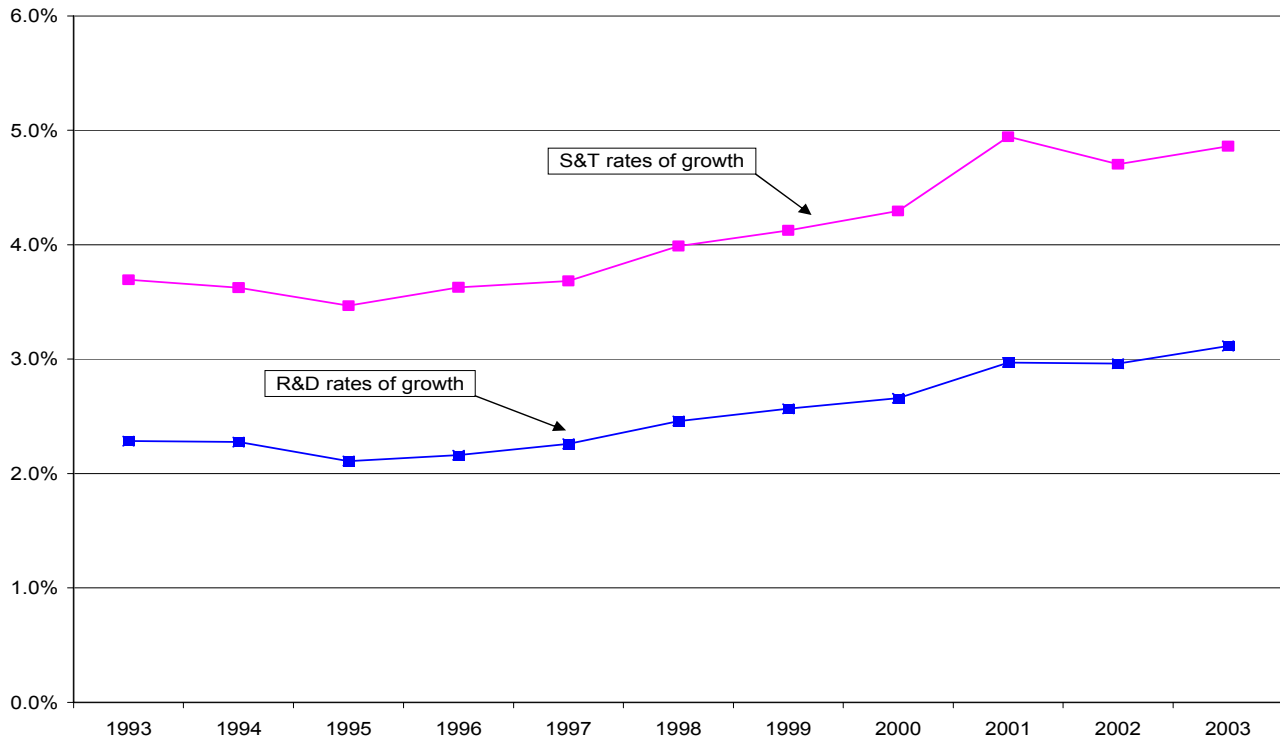
TABLE 1 Federal expenditures on R&D and S&T in current dollars and in constant 1997 dollars, 1993 to 2003

Year	Current Dollars				Constant 1997 Dollars			
	Budgetary Main Estimates ¹	S&T	R&D	GDP Implicit Price Index ²	Budgetary Main Estimates ¹	S&T	R&D	
in millions of dollars					in millions of dollars			
1993-1994	161,089	5,951	3,677	94.0	171,371	6,331	3,912	
1994-1995	160,738	5,827	3,657	95.1	169,020	6,127	3,845	
1995-1996	164,191	5,693	3,465	97.2	168,921	5,857	3,565	
1996-1997	156,985	5,694	3,391	98.8	158,892	5,763	3,432	
1997-1998	149,555	5,509	3,379	100.0	149,555	5,509	3,379	
1998-1999	145,457	5,802	3,578	99.6	146,041	5,825	3,592	
1999-2000	151,559	6,252	3,890	101.3	149,614	6,172	3,840	
2000-2001 ¹	156,157	6,707	4,150	105.4	148,157	6,363	3,937	
2001-2002 ¹	165,234	8,169	4,909	106.5	155,149	7,670	4,609	
2002-2003 ²	170,367	8,012	5,043	107.5	158,481	7,453	4,691	
2003-2004 ²	175,937	8,553	5,481	..	..	..	..	..

¹ Part 1, Government Expenditure Plan, Estimates

² Canadian Economic Observer, Catalogue No. 11-010-XPB, September 2003.

S&T and R&D Shares of Budgetary Main Estimates



S&T and R&D Growth rates

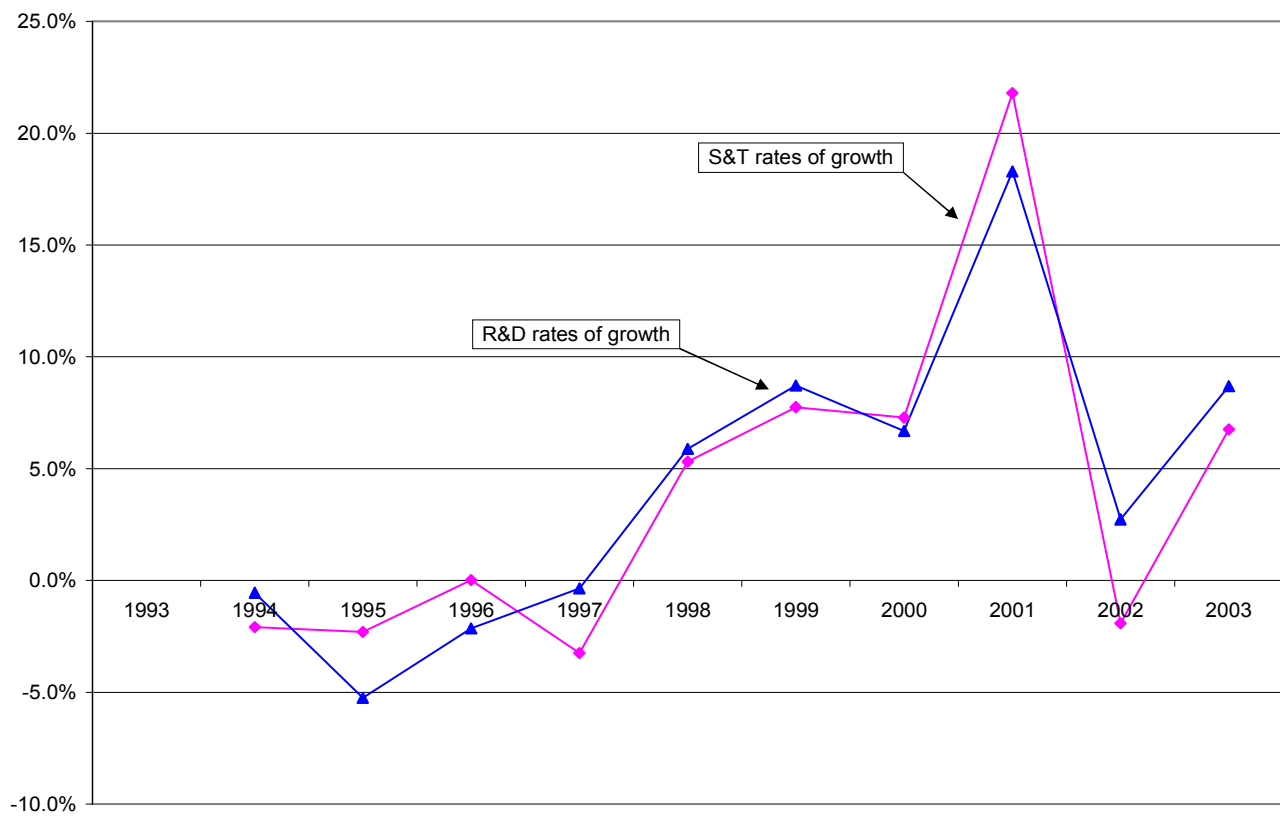


TABLE 2 Total S&T estimates of major departments or agencies, 2003-2004

Department or Agency	Sources of Expenditures on Science					
	Total Estimated Expenditures on Science	External Sources	Other S&T Costs		Budgetary Sources	
			Indirect Non-program Costs	Administrative Costs of Department	Other Federal Agencies ¹	Own Department
in millions of dollars						
Agriculture and Agri-Food Canada	381	0	14	0	0	367
Atomic Energy Control Limited	143	27	0	0	13	103
Canadian Space Agency	307	0	4	0	-16	319
Environment Canada	617	62	34	39	31	451
Fisheries and Oceans	319	10	20	0	14	275
Health Canada	351	9	24	60	-7	265
Industry Canada	471	54	13	0	-30	434
National Defence	331	6	9	0	-9	325
National Research Council	722	16	15	0	45	646
Natural Resources Canada	502	0	27	0	0	475
Statistics Canada	561	43	48	0	87	383

* Negative amounts denote net transfer from budget for S&T.

TABLE 3 Federal government expenditures by activity, 1994-95 to 2003-2004

Scientific Activity	1994-95	1995-96	1996-97 ¹	1997-98 ¹	1998-99 ¹	1999-2000 ¹	2000-2001 ¹	2001-2002 ¹	2002-2003 ^p	2003-2004 ^p
in millions of dollars										
Research & Development (R&D)										
Current expenditures	3,287	3,140	3,086	3,062	3,241	3,559	3,770	4,490	4,596	5,067
Administration of extramural programs	164	162	164	163	200	186	182	213	227	232
Capital expenditures	205	163	141	154	137	144	198	206	220	182
Sub-total R&D	3,657	3,465	3,391	3,379	3,578	3,890	4,150	4,909	5,043	5,481
Related Scientific Activities (RSA)										
Data collection	882	923	1,007	964	1,022	1,105	1,231	1,611	1,461	1,412
Information services	543	539	523	465	469	486	484	698	655	768
Special services and studies	369	447	463	436	452	485	531	513	529	516
Education support	170	139	139	142	157	168	163	286 ¹	161	189
Administration of extramural programs	36	34	33	32	35	40	46	50	52	52
Capital expenditures	171	147	139	91	89	77	102	103	111	134
Sub-total RSA	2,170	2,228	2,303	2,130	2,224	2,362	2,557	3,260	2,969	3,072
TOTAL	5,827	5,693	5,694	5,509	5,802	6,252	6,707	8,169	8,012	8,553

¹ Includes a \$125 million grant to the Pierre Elliott Trudeau Foundation.

TABLE 4 Federal expenditures on S&T, by science and by performing sector¹, 1994-95 to 2003-2004

Sector of performance	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^f	2001-2002 ^f	2002-2003 ^p	2003-2004 ^p
in millions of dollars										
Total Sciences:										
Intramural	3,399	3,427	3,575	3,351	3,455	3,658	4,043	4,555	4,603	4,548
Canadian business enterprises	930	885	801	927	952	926	847	1,108	1,022	1,072
Higher education	983	933	894	860	989	1,173	1,320	1,739	1,870	2,314
Canadian non-profit institutions	127	103	112	110	122	181	154	401	183	268
Other Canadian performers ²	91	86	65	39	51	85	93	84	125	118
Foreign	297	259	247	222	233	229	250	282	209	233
TOTAL	5,827	5,693	5,694	5,509	5,802	6,252	6,707	8,169	8,012	8,553
Natural Sciences:										
Intramural	2,519	2,486	2,507	2,417	2,459	2,648	2,872	3,166	3,274	3,250
Canadian business enterprises	885	846	767	892	924	896	816	1,071	984	1,036
Higher education	818	773	737	702	836	1,002	1,139	1,341	1,645	1,822
Canadian non-profit institutions	67	59	66	57	56	128	98	226 ³	124	210 ⁶
Other Canadian performers ²	71	69	56	28	42	57	55	44	64	63
Foreign	166	144	140	126	134	134	144	157	119	134
TOTAL	4,526	4,377	4,273	4,222	4,450	4,866	5,124	6,005	6,210	6,515
Social Sciences:										
Intramural	880	941	1,068	934	996	1,010	1,171	1,389	1,329	1,298
Canadian business enterprises	45	40	34	35	29	30	31	38	38	36
Higher education	165	159	157	158	153	171	181	398 ⁴	225	492
Canadian non-profit institutions	59	44	46	53	65	52	56	174 ⁵	59	58
Other Canadian performers ²	20	17	9	11	9	28	38	40	61	55
Foreign	132	115	107	96	99	95	106	125	90	99
TOTAL	1,301	1,316	1,421	1,287	1,352	1,386	1,583	2,164	1,802	2,038

¹ As reported by the funder, the Federal Government, not by the performers.² Other Canadian performers includes provincial and municipal governments.³ Includes \$100 million for the Sustainable Development Technology Fund (Environment Canada and Natural Resources Canada each provided \$50 million).⁴ Includes \$200 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.⁵ Includes a \$125 million grant to the Pierre Elliott Trudeau Foundation.⁶ Includes \$50 million for Climate and Atmospheric Sciences funded by Environment Canada.

TABLE 5 Federal expenditures on R&D by science and by performing sector¹, 1994-95 to 2003-2004

Sector of performance	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002 ^f	2002-2003 ^g	2003-2004 ^g
in millions of dollars										
Total sciences:										
Intramural	1,754	1,727	1,792	1,720	1,743	1,859	2,080	2,103	2,223	2,174
Canadian business enterprises	756	665	573	721	749	713	624	862	774	832
Higher education	835	797	761	725	842	1,010	1,170	1,515	1,709	2,038
Canadian non-profit institutions	74	59	75	71	82	130	76	232	138	229
Other Canadian performers ²	62	65	50	22	38	59	69	61	83	83
Foreign	177	151	141	120	124	118	131	136	116	125
TOTAL	3,657	3,465	3,391	3,379	3,578	3,890	4,150	4,909	5,043	5,481
Natural sciences:										
Intramural	1,694	1,669	1,724	1,651	1,667	1,774	1,995	2,011	2,112	2,051
Canadian business enterprises	750	662	570	720	747	711	622	857	769	827
Higher education	749	713	680	644	762	913	1,063	1,265	1,559	1,730
Canadian non-profit institutions	43	34	52	47	43	109	48	201 ³	99	189 ⁵
Other Canadian performers ²	55	60	46	19	35	50	46	34	54	53
Foreign	131	114	110	94	97	95	104	112	91	99
TOTAL	3,422	3,252	3,181	3,174	3,350	3,653	3,879	4,480	4,684	4,949
Social sciences:										
Intramural	60	58	68	69	76	85	85	92	111	123
Canadian business enterprises	5	3	3	2	3	2	2	5	5	5
Higher education	86	85	81	80	80	97	107	250 ⁴	150	308
Canadian non-profit institutions	30	24	24	24	39	21	28	31	39	40
Other Canadian performers ²	7	5	4	3	3	10	23	27	29	30
Foreign	46	38	31	27	27	23	27	24	25	26
TOTAL	235	213	210	205	228	237	271	429	359	532

¹ As reported by the funder, the Federal Government, not by the performers.² Other Canadian performers includes provincial and municipal governments.³ Includes \$100 million for the Sustainable Development Technology Fund (Environment Canada and Natural Resources Canada each provided \$50 million).⁴ Includes \$120 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.⁵ Includes \$50 million for Climate and Atmospheric Sciences funded by Environment Canada.

TABLE 6 Federal expenditures on S&T, by major department or agency, 1994-95 to 2003-2004

Department or Agency	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002 ^f	2002-2003 ^p	2003-2004 ^p
	in millions of dollars									
Agriculture and Agri-Food Canada	356	358	368	359	351	387	363	337	385	381
Atomic Energy of Canada Limited	169	168	240	174	135	132	136	178	148	143
Canada Foundation for Innovation	...	...	...	2	31	118	188	239	359	433
Canadian Institutes of Health Research	...	...	...	...	...	317	392	529	633	651
Canadian International Development Agency	308	334	339	303	314	335	358	387	310	333
Canadian Space Agency	320	299	253	230	343	305	310	330	329	307
Environment Canada ¹	549	529	456	453	427	538	479	626	594	617
Fisheries and Oceans	237	244	246	204	281	287	367	319	338	319
Genome Canada	...	...	...	...	...	...	...	34	50	84
Health Canada	180	201	214	210	204	236	229	311	337	351
Industry Canada	388	324	291	407	343	301	336	687	422	471
International Development Research Centre	102	88	88	78	85	82	84	76	84	85
Medical Research Council	265	252	242	238	277	...	...	...	...	...
National Defence	252	233	253	311	304	335	315	315	307	332
National Research Council	505	481	479	524	554	597	655	719	770	722
Natural Resources Canada	464	475	430	396	386	421	437	554	480	502
Natural Sciences and Engineering Research Council	494	471	453	436	499	549	568	588	689	775
Social Sciences and Humanities Research Council	103	101	93	96	104	127	145	362	202	474
Statistics Canada	353	406	535	400	437	461	576	727	593	561
Other	782	729	714	688	727	724	769	851	982	1,012
TOTAL	5,827	5,693	5,694	5,509	5,802	6,252	6,707	8,169	8,012	8,553

^f Environment Canada resources include large one-time grants and contributions to initiatives outside of the department which did not result in increases in departmental expenditures (\$60M for Climate and Atmospheric Sciences in 1999/2000, \$50M for the Sustainable Development Technology Fund in 2001/02 and \$50M forecasted for Climate and Atmospheric Sciences in 2003/04).

TABLE 7 Federal expenditures on R&D, by major department or agency, 1994-95 to 2003-2004

Department or Agency	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002 ^r	2002-2003 ^p	2003-2004 ^p
	in millions of dollars									
Agriculture and Agri-Food Canada	323	328	350	340	335	370	354	329	374	375
Atomic Energy of Canada Limited	163	163	240	174	135	132	136	178	148	143
Canadian Economic Development for Quebec Regions	35	24	28	22	23	12	10	17	27	21
Canada Foundation for Innovation	...	...	...	2	31	118	188	239	359	433
Canadian Institutes of Health Research	...	...	...	...	...	304	384	522	625	643
Canadian International Development Agency	62	51	52	48	49	50	57	56	37	51
Canadian Space Agency	314	291	245	224	337	300	298	317	315	295
Environment Canada ¹	174	163	135	127	116	196	144	222	215	219
Fisheries and Oceans	114	99	95	78	109	110	130	123	128	121
Genome Canada	...	...	...	...	...	...	...	34	50	84
Health Canada	58	63	74	65	54	55	64	102	102	107
Industry Canada	322	268	230	345	274	239	288	503	353	389
International Development Research Centre	89	78	76	64	67	71	76	65	71	73
Medical Research Council	257	244	234	229	266	...	...	...	...	...
National Defence	248	229	223	264	263	294	274	281	272	297
National Research Council	449	419	429	470	499	530	591	644	695	652
Natural Resources Canada ²	374	403	373	351	345	376	388	335	272	285
Natural Sciences and Engineering Research Council	440	425	410	393	443	481	500	517	610	691
Social Sciences and Humanities Research Council	69	70	64	65	68	92	105	245	157	317
Statistics Canada	10	10	9	11	12	13	13	16	17	18
Other	156	137	124	107	152	147	150	164	216	267
TOTAL	3,657	3,465	3,391	3,379	3,578	3,890	4,150	4,909	5,043	5,481

¹ Environment Canada resources include large one-time grants and contributions to initiatives outside of the department which did not result in increases in departmental expenditures (\$60M for Climate and Atmospheric Sciences in 1999/2000, \$50M for the Sustainable Development Technology Fund in 2001/02 and \$50M forecasted for Climate and Atmospheric Sciences in 2003/04).

² New program structures combined with stricter interpretation of the definitions of R&D and RSA, have led to a significant change in NRCan's reporting of resources as compared to previous years (effective as of 2001-2002).

TABLE 8 S&T expenditures by socio-economic objective, 1999-2000 to 2001-2002

Socio-Economic Objective	1999-2000		2000-2001		2001-2002	
	Intramural ¹	Extramural	Intramural ¹	Extramural	Intramural ¹	Extramural
in millions of dollars						
Exploration and Exploitation of the Earth	384	128	413	76	454	90
Infrastructure and General Planning of Land Use:						
- Transport	53	24	46	21	120	27
- Telecommunication	35	36	26	44	48	23
- Other	121	23	148	27	146	28
Pollution and Protection of the Environment	288	117	329	158	337	195
Public Health	249	435	241	549	288	739
Production, Distribution and Rational Utilization of Energy	173	68	189	67	252	121
Agricultural Production and Technology:						
- Agriculture	378	76	378	76	427	82
- Fishing	112	16	131	30	124	19
- Forestry	84	45	91	30	90	29
Industrial Production and Technology	165	406	225	542	242	894
Social Structures and Relationships	762	178	897	189	1,067	203
Exploration and Exploitation of Space	75	270	198	159	190	199
Non-Oriented Research	206	295	203	216	249	393
Other Civil Research	22	2	24	19	18	17
Defence	187	141	169	140	137	173
Other	57	329	16	350	18	382
Total S&T Expenditures	3,347	2,594	3,728	2,664	4,207	3,614

¹ Non-program (indirect costs) are excluded.

TABLE 9 R&D expenditures by socio-economic objective, 1999-2000 to 2001-2002

Socio-Economic Objective	1999-2000		2000-2001		2001-2002	
	Intramural ¹	Extramural	Intramural ¹	Extramural	Intramural ¹	Extramural
in millions of dollars						
Exploration and Exploitation of the Earth	186	99	207	46	125	69
Infrastructure and General Planning of Land Use:						
- Transport	42	23	37	20	71	24
- Telecommunication	24	34	28	15	44	23
- Other	42	16	48	20	30	25
Pollution and Protection of the Environment	122	88	143	112	142	148
Public Health	103	390	116	519	152	709
Production, Distribution and Rational Utilization of Energy	171	68	187	64	248	117
Agricultural Production and Technology :						
- Agriculture	334	67	333	70	345	75
- Fishing	43	13	51	14	47	15
- Forestry	77	43	83	27	75	27
Industrial Production and Technology	137	398	165	518	164	741
Social Structures and Relationships	50	87	53	106	47	130
Exploration and Exploitation of Space	68	269	187	154	175	193
Non-Oriented Research	150	256	150	188	181	285
Other Civil Research	14	1	16	17	15	16
Defence	167	121	150	119	134	142
Other	4	57	3	62	5	67
Total R&D Expenditures	1,734	2,030	1,957	2,070	2,000	2,806

¹ Non-program (indirect costs) are excluded.

Symbols

- .. figures not available
- ... figures not appropriate or not applicable
- ^p preliminary figures
- ^r revised figures
- 0 amount too small to be expressed, nil or zero

Science and technology (S&T) = research and development (R&D) + related scientific activities (RSA)

Due to rounding, components may not add to totals.

This publication was prepared by **Lloyd Lizotte**, under the direction of **Antoine Rose**, Science, Innovation and Electronic Information Division.

Current publications of the Science and Innovation Surveys Section include:

Industrial Research and Development, 2003 Intentions, (with 2002 preliminary estimates and 2001 actual expenditures), Catalogue No. 88-202-XIE, annual (to be released in December, 2003). It presents statistics on research and development (R&D) activities performed and funded by Canadian business enterprises. The report covers current and capital expenditures on R&D, R&D as a percent of performing company revenues, R&D expenditures by province, country of control of company, personnel engaged in R&D and payments for technological services.

<http://www.statcan.ca/english/IPS/Data/88-202-XIE.htm>

Federal Scientific Activities, 2002-2003, Catalogue No. 88-204-XIE, annual. It presents statistics on the federal government's activities in science and technology (S&T). It covers expenditures and person-years by type of science, performing sectors, provinces, Federal departments and agencies.

<http://www.statcan.ca/english/IPS/Data/88-204-XIE.htm>

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