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To order Statistics Canada publications, please call our National toll-free line 1 800 267-6677 or internet: infostats@statcan.ca**The provincial research organizations, 2001****Highlights**

- ▶ Total scientific expenditures of the provincial research organizations (PRO) sector for 2001 equaled \$69.6 million dollars, a decrease of 52% from 2000. This is largely due to the absence of data from the *Alberta Research Council (ARC)*. *ARC* is now a not-for-profit business under the jurisdiction of the *Alberta Science and Research Authority (ASRA)*, and is included in the Alberta government scientific activities survey.
- ▶ Among the seven provincial research organizations, the *Centre de recherche industrielle du Québec* has the highest total expenditure in 2001, \$35.7 million, followed by the *Saskatchewan Research Council*, \$20.8 million (Table 2). These are the largest performers in the PRO sector accounting for 81% of the total sector's scientific activities.
- ▶ In 2001, provincial governments and Canadian industry continue to be the largest sources of *PRO* funds, accounting for 41% and 39% of total funding respectively (Table 3).
- ▶ Secondary industries in 2001 are once again the largest application area for *PRO* research and development, accounting for 42% of total expenditures. They are followed by environment at 16% of expenditures for 2001. In third place are the service industries at 12% (Table 5).
- ▶ Scientists and engineers accounted for 40% of the total staff and 41% of R&D staff in 2001. The *Centre de recherche industrielle du Québec* employs the largest number of scientists and engineers (121) followed by the *Saskatchewan Research Council* (73).

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Statistics presented are derived from seven *Provincial Research Organizations (PRO)*:

- New Brunswick Research and Productivity Council
- Centre de recherche industrielle du Québec (CRIQ)
- Industrial Technology Centre (Manitoba)
- Saskatchewan Research Council
- Yukon Research Institute
- NUNAVUT Research Institute
- Aurora Research Institute (Aurora College N.W.T.)

All of these organizations have been established by their respective provincial and territorial governments, with a variety of enabling legislation and powers, to provide technical support to primary and secondary industries, to assist in the exploitation of provincial and territorial natural resources and to enhance the economy of their provinces and territories. Small and medium-sized companies with limited in-house technical capability use the services of the provincial research organizations.

The scientific activities covered by this publication include scientific research, development or improvements of products and processes, technical services, and administration and management. Only scientific research and development (R&D) are included in the calculation of the *Gross Domestic Expenditures on Research and Development (GERD)*.

In the historical tables you will see other organizations listed, that are no longer included in our survey for the following reasons:

In 2000, the transition of the incorporation of the *Alberta Research Council* as a not-for-profit business under the Business Corporation Act was completed. As a result, activities of ARC are now reported on the *Alberta Provincial Government Scientific Activities* survey.

In Ontario, privatization of *ORTECH Corporation* was completed in January 1999.

InNOVAcop was dissolved in 1999, they disposed of their chemistry, microbiology and materials laboratories and are now involved in investment, mentoring and incubation services for emerging Nova Scotia companies.

In the future, due to the decreasing magnitude of this sector, we will no longer feature the *PRO* data in our Service Bulletin series. Statistics Canada will continue to collect the data as it contributes to *Gross Expenditures on Research and Development (GERD)*. Users interested in obtaining special tabulations are invited to contact us.

We would like to take this opportunity to thank all of the provinces and territories for their continued cooperation.

Table 1. Total expenditures on scientific activities, 1992 to 2002											
Expenditures	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001^f	2002^p
thousands of dollars											
Current expenditures											
Intramural:											
Wages and salaries	96,562	93,708	91,909	88,380	84,050	83,408	72,580	71,527	75,753	38,854	39,982
Other	52,971	51,303	51,608	46,867	52,594	55,857	56,013	54,486	58,690	21,522	25,178
Sub-total	149,533	145,011	143,517	135,247	136,644	139,265	128,593	126,013	134,443	60,376	65,160
Extramural	610	666	1,156	1,182	1,071	971	3,240	3,314	4,042	4,407	4,402
Capital expenditures:											
Land and buildings	706	2,143	842	1,122	987	670	1,853	1,878	577	901	551
Equipment	10,951	9,848	8,431	8,215	7,155	6,072	5,093	4,867	6,056	3,916	3,381
Sub-total	11,657	11,991	9,273	9,337	8,142	6,742	6,946	6,745	6,633	4,817	3,932
Total	161,800	157,668	153,946	145,766	145,857	146,978	138,779	136,072	145,118	69,600	73,494

Table 2. Total expenditures on scientific activities, by institute, 1992 to 2002											
Institute	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001^f	2002^p
thousands of dollars											
InNOVAcorp	7,228	9,211	7,195	7,996	9,517	9,822	8,362	...	...	...	...
New Brunswick Research and Productivity Council	9,260	8,653	8,274	8,046	7,475	7,918	8,280	8,817	7,942	8,183	8,606
Centre de recherche industrielle du Québec	39,096	35,500	36,300	35,801	33,607	34,217	37,381	33,097	33,259	35,658	39,071
ORTECH Corporation	31,746	29,865	28,789	25,018	25,806	25,766	..	...	...	...	...
Industrial Technology Centre (Manitoba)	6,107	6,318	9,559	9,622	2,505	2,408	2,778	2,876	2,845	3,244	2,367
Saskatchewan Research Council	15,695	17,888	18,030	19,222	21,129	18,150	18,940	18,649	21,554	20,843	20,475
Alberta Research Council	52,668	48,227	43,793	39,176	44,871	47,798	60,457	70,615	77,629	...	...
Yukon Research Institute	...	...	...	...	...	...	497	767	664	542	580
NUNAVUT Research Institute	...	2,006	2,006	885	947	899	944	..	..	..	..
Aurora Research Institute (N.W.T.)	...	...	...	...	...	...	1,140	1,251	1,225	1,130	1,395
Total	161,800	157,668	153,946	145,766	145,857	146,978	138,779	136,072	145,118	69,600	73,494

Chart 1. Total expenditures, by institute, 2001

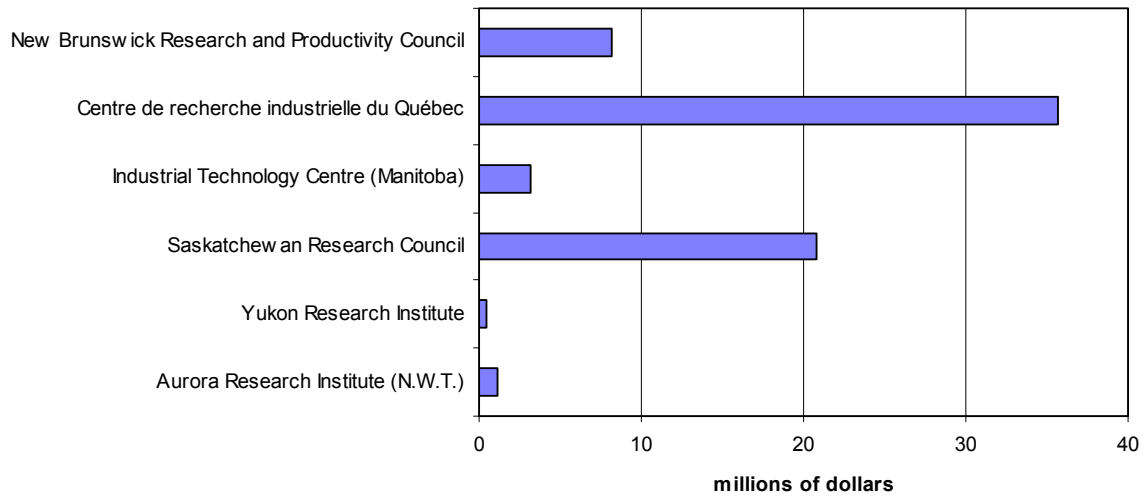


Chart 2. Sources of funds, 2000 compared to 2001

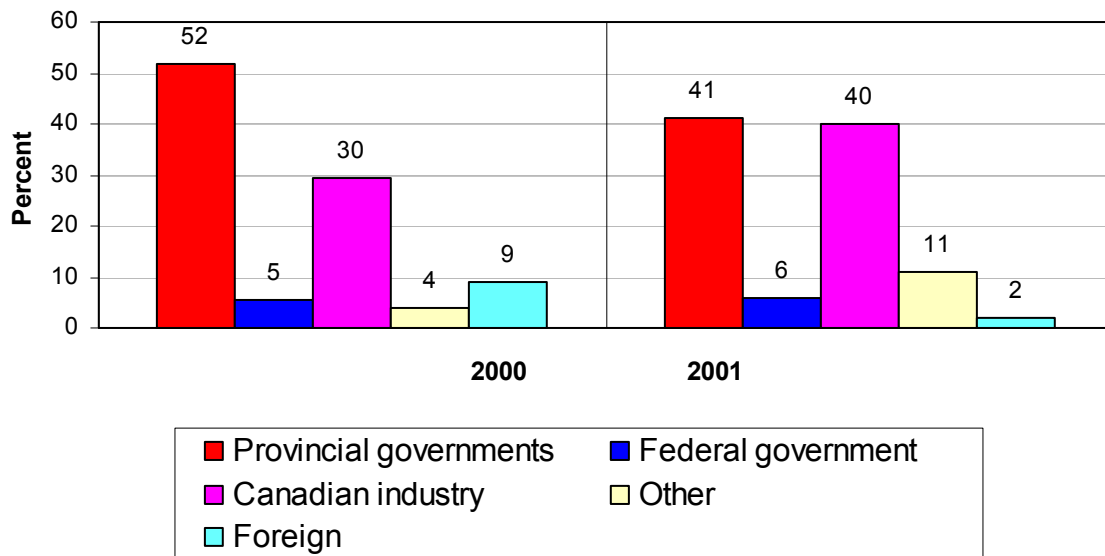


Table 3. Sources of funds, 1992 to 2001										
Sources and types of funds	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	percent									
Provincial governments:										
Subsidies, grants and contributions	42.9	42.4	45.1	42.5	39.9	30.4	33.5	34.0	30.4	33.3
Contracts	9.9	7.9	7.1	5.9	8.0	15.1	16.6	15.4	21.5	7.6
Federal government:										
Subsidies, grants, contributions and contracts	9.2	8.4	7.5	7.4	7.2	6.8	6.2	3.6	5.3	6.3
Canadian industry contracts	32.2	30.3	30.4	31.7	33.3	32.1	31.0	29.7	29.6	39.3
Other Canadian sources	1.3	2.2	2.4	4.2	2.7	7.9	8.7	12.1	4.0	11.0
Foreign	4.5	8.8	7.5	8.3	8.9	7.6	4.0	5.2	9.2	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Sources and types of funds, by institute, 2001							
Institute	Provincial government subsidies, grants and contributions	Contracts			Other Canadian sources ¹	Foreign sources ²	Total
		Provincial governments	Federal government	Canadian industry			
	thousands of dollars						
New Brunswick Research and Productivity Council	741	406	1,235	4,640	353	808	8,183
Centre de recherche industrielle du Québec	17,500	1,579	999	13,030	2,097	453	35,658
Industrial Technology Centre (Manitoba)	0	750	624	1,164	485	221	3,244
Saskatchewan Research Council	4,056	2,278	1,108	8,484	4,642	275	20,843
Yukon Research Institute	0	210	289	0	28	15	542
NUNAVUT Research Institute	..	..	..	..	..	..	..
Aurora Research Institute (N.W.T.)	865	32	191	0	35	7	1,130
Total	23,162	5,255	4,446	27,318	7,640	1,779	69,600

¹ Mainly own funds, contracts and royalties.

² Mainly contracts from foreign industry.

Application area	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 ^r	2002 ^p
	percent										
Natural resources	9.0	6.0	5.5	2.1	5.0	5.9	9.5	10.2	9.8	9.3	8.8
Primary industries	10.1	16.6	12.3	10.3	11.2	15.7	14.1	14.2	11.1	5.2	5.2
Secondary industries	48.3	46.1	54.9	57.7	52.3	51.9	49.4	50.6	47.7	41.9	42.1
Construction industries	1.9	1.2	1.1	1.0	1.1	1.5	1.6	1.4	0.8	1.9	1.9
Service industries	9.6	5.2	4.0	12.5	10.9	9.7	5.4	5.2	6.4	12.1	12.1
Utilities	6.8	5.0	6.5	4.5	3.0	3.1	1.6	1.2	2.2	4.2	4.4
Environment	13.2	12.0	9.7	7.9	11.3	8.5	12.0	11.7	15.1	16.2	16.2
Other	1.1	7.9	5.8	4.0	5.2	3.7	6.4	5.5	6.9	9.2	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Prior to 1997 figures are for current expenditures only.

Institute	Natural resources	Industries				Utilities	Environment	Other	Total
		Primary	Secondary	Construction	Service				
	thousands of dollars								
New Brunswick Research and Productivity Council	0	818	3,437	82	0	1,309	2,046	491	8,183
Centre de recherche industrielle du Québec	0	286	20,731	1,036	7,070	1,143	5,392	0	35,658
Industrial Technology Centre (Manitoba)	0	0	2,271	0	779	194	0	0	3,244
Saskatchewan Research Council	6,461	2,501	2,710	208	625	208	3,543	4,587	20,843
Yukon Research Institute	34	0	0	0	0	0	284	224	542
NUNAVUT Research Institute	..	..	..	..	..	..	..	..	..
Aurora Research Institute (N.W.T.)	0	0	0	0	0	57	0	1,073	1,130
Total	6,495	3,605	29,149	1,326	8,474	2,911	11,265	6,375	69,600

Activity	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 ^r	2002 ^p
	percent										
Scientific research	14.1	16.9	12.8	11.9	16.7	10.3	13.5	14.4	14.3	4.6	3.7
Development or improvement	38.8	31.8	27.7	35.0	37.7	...	...	...	...	...	...
a) products	..	..	..	..	..	13.4	8.2	8.5	8.8	6.4	8.1
b) processes	..	..	..	..	..	15.7	22.1	21.5	22.5	21.7	23.0
Resource surveys	3.3	2.4	3.3	1.0	1.5	...	...	...	...	...	...
Analysis and testing	21.9	21.6	22.0	25.3	20.8	...	...	...	...	...	...
Technical services ¹	...	...	...	...	...	27.1	24.0	22.7	21.4	34.3	31.6
Administration and management	...	...	...	...	...	27.3	23.3	26.1	26.1	22.3	22.6
Industrial engineering	2.9	3.1	4.4	4.6	2.1	...	...	...	...	...	...
Industrial Innovation	1.5	3.9	5.3	3.6	1.3	...	...	...	...	...	...
Other ²	17.5	20.3	24.7	18.6	19.9	6.1	8.8	6.8	6.8	10.7	11.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Prior to 1997 figures are for current expenditures only.

1 Technical services include resource surveys and analysis and testing.

2 Includes industrial engineering and industrial innovation.

Institute	Scientific research	Development or improvement		Technical services	Administration and management	Other	Total
		Products	Processes				
	thousands of dollars						
New Brunswick Research and Productivity Council	818	409	327	4,419	1,555	655	8,183
Centre de recherche industrielle du Québec	0	2,190	12,085	10,420	9,940	1,023	35,658
Industrial Technology Centre (Manitoba)	0	0	0	2,757	487	0	3,244
Saskatchewan Research Council	2,084	1,876	2,710	6,253	3,335	4,585	20,843
Yukon Research Institute	299	0	0	0	189	54	542
NUNAVUT Research Institute	..	..	..	..	..	..	..
Aurora Research Institute (N.W.T.)	0	0	0	0	0	1,130	1,130
Total	3,201	4,475	15,122	23,849	15,506	7,447	69,600

Table 9. Total expenditures, by type and institute, 2001						
Institute	Current expenditures			Capital expenditures		Total
	Wages and salaries	Extramural grants and contracts	Other	Land and buildings	Equipment	
	thousands of dollars					
New Brunswick Research and Productivity Council	5,354	0	2,314	133	382	8,183
Centre de recherche industrielle du Québec	20,497	0	12,984	434	1,743	35,658
Industrial Technology Centre (Manitoba)	1,876	0	753	0	615	3,244
Saskatchewan Research Council	10,076	4,315	4,964	334	1,154	20,843
Yukon Research Institute	350	0	192	0	0	542
NUNAVUT Research Institute	..	..	..	..	..	..
Aurora Research Institute (N.W.T.)	701	92	315	0	22	1,130
Total	38,854	4,407	21,522	901	3,916	69,600

Table 10. Employees of the provincial research organizations, by institute, 1992 to 2001										
Institute	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	full-time equivalent									
InNOVAcorp	104	95	97	106	106	100	100	...	...	...
New Brunswick Research and Productivity Council	107	108	105	99	95	101	102	101	92	95
Centre de recherche industrielle du Québec	468	424	427	405	355	319	319	331	325	320
ORTECH Corporation	393	300	298	296	278	250	..	...	...	...
Industrial Technology Centre (Manitoba)	69	74	113	96	33	34	31	33	32	28
Saskatchewan Research Council	221	238	234	233	210	195	238	194	196	189
Alberta Research Council	529	473	370	375	484	472	473	558	588	...
Yukon Research Institute	...	...	...	...	...	...	2	2	2	7
NUNAVUT Research Institute	...	14	14	8	8	8	8	..	..	..
Aurora Research Institute (N.W.T.)	...	...	...	...	...	...	11	11	11	21
Total	1,891	1,726	1,658	1,618	1,569	1,479	1,284	1,230	1,246	660

Table 11. Historical distribution of total personnel, 1992 to 2001								
Year	Scientists and engineers					Supporting staff		Total
	Bachelors	Masters	Doctors	Other	Total	Technicians	Other	
	full-time equivalent							
1992	405	195	152	48	800	605	486	1,891
1993	402	218	155	41	816	538	372	1,726
1994	411	189	138	33	771	517	370	1,658
1995	363	177	147	19	706	530	382	1,618
1996	279	155	145	16	595	486	488	1,569
1997	...	...	...	...	587	449	443	1,479
1998	...	...	...	...	514	430	340	1,284
1999	...	...	...	...	500	401	329	1,230
2000	...	...	...	...	488	415	343	1,246
2001	...	...	...	...	263	207	190	660

As of 1997 breakdown of data by post-secondary diplomas is no longer being collected.

Table 12. Distribution of total personnel, by institute, 2001				
Institute	Scientists and engineers	Supporting staff		Total
		Technicians	Other	
	full-time equivalent			
New Brunswick Research and Productivity Council	49	26	20	95
Centre de recherche industrielle du Québec	121	75	124	320
Industrial Technology Centre (Manitoba)	10	14	4	28
Saskatchewan Research Council	73	85	31	189
Yukon Research Institute	6	1	0	7
NUNAVUT Research Institute	..	..	..	..
Aurora Research Institute (N.W.T.)	4	6	11	21
Total	263	207	190	660

Table 13. Distribution of R&D personnel, 2001				
Institute	Scientists and engineers	Supporting staff		Total
		Technicians	Other	
		full-time equivalent		
New Brunswick Research and Productivity Council	49	26	20	95
Centre de recherche industrielle du Québec	75	56	78	209
Industrial Technology Centre (Manitoba)	0	0	0	0
Saskatchewan Research Council	63	76	9	148
Yukon Research Institute	6	1	0	7
NUNAVUT Research Institute	..	..	..	..
Aurora Research Institute (N.W.T.)	4	6	11	21
Total	197	165	118	480

Table 14. Intramural expenditures on research and development by sources of funds, 1992 to 2002								
Year	Federal government	Provincial governments	PRO	Business enterprise	Higher education	Private non-profit	Foreign	Total
	millions of dollars							
1992	6	50	1	24	0	0	4	85
1993	6	41	0	22	0	0	8	77
1994	4	35	0	19	0	0	5	63
1995	4	37	0	22	0	0	5	68
1996	4	44	0	24	0	0	7	79
1997	4	30	1	19	0	0	4	58
1998	3	34	0	21	0	0	3	61
1999	1	34	3	19	0	0	3	60
2000	2	38	1	18	0	0	7	66
2001	1	12	0	9	0	0	1	23
2002¹	1	14	0	10	0	0	1	26

Only Natural science activities are applicable in PRO sector.

¹ 2002 forecast - data taken from 2001 survey.

Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^S value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- ^P preliminary
- ^r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

Note

Due to rounding, components may not add to totals.

This publication was prepared by **Michèle Lanoue** under the direction of **Janet Thompson**, Subject Matter Manager, Science and Innovation Surveys section, Science, Innovation and Electronic Information Division.

<http://www.statcan.ca/english/IPS/Data/88-001XIE.htm>

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. 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, the company's country of control, personnel engaged in R&D and payments for technological services.

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

Federal Science 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/88-204XIE.htm>

Note of appreciation

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