Investment, Science and Technology Division (ISTD)

Federal Science Expenditures and Personnel 2017/2018

Activities in the natural sciences and engineering

Collected under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S-19. Completion of this questionnaire is a legal requirement under this Act.
Confidential when completed.

Si vous préférez ce questionnaire en français, veuillez envoyer un courriel à : statcan.infotechsurv-enqtechinfo.statcan@canada.ca

Correct as required

Department or Agency Name

C/O

Address

City

Province/Territory

Postal Code

Information for respondents

Survey purpose

This survey collects the financial and operating data which are essential to assure the availability of pertinent statistical information to monitor science and technology related activities in Canada and to support the development of science and technology policy. The data collected are used by federal and provincial science policy analysts and are also part of the gross domestic expenditures on research and development (GERD). Your information may also be used by Statistics Canada for other statistical and research purposes.

Fax or e-mail transmission disclosure

Statistics Canada advises you that there could be a risk of disclosure during the transmission of information by facsimile or e-mail. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded all information collected under the authority of the *Statistics Act*.

Confidentiality

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the *Statistics Act*. Statistics Canada will use the information from this survey for statistical purposes.

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes.

Information on data-sharing agreements and record linkages can be found on the last page of this questionnaire.

I hereby authorize Statistics Canada to disclose any or all portions of the data supplied on this questionnaire that could identify this department after the tabling of the 2017/2018 Main Estimates. ☐ Yes ☐ No

Name of person authorized to sign	Signature
Official position	Program
Department or agency	
E-mail address	Telephone No.

Enquiries to be directed to:

Name	Date (Year / Month / Day)
Position title	Telephone No.
E-mail address	Fax No.

5-5300-4212.1 (NATURAL): 2016-09-12

1 A. Expenditures by activity and performer – fiscal year 2015/2016

Activity / Performer	Intramural	Extramural						Total
		Business enterprise	Higher education	Canadian non-profit institutions	Provincial and municipal governments	Foreign performers	Other Canadian performers	
I. Research and experimental development (R&D) Current expenditures	($'000)							
1. In-house R&D	10C1							10C2
2. Contracts a) R&D contracts	10C3	10C4	10C5	10C6	10C7	10C8	10C9	10C10
b) Supporting contracts	10C11							10C12
3. R&D grants and contributions		10C13	10C14	10C15	10C16	10C17	10C18	10C19
4. Research fellowships	10C20	10C21	10C22	10C23	10C24	10C25	10C26	10C27
5. Administration of extramural programs	10C28							10C29
6. Capital expenditures	10C30							10C31
I a) Sub-total Research and experimental development (R&D)	10C32	10C33	10C34	10C35	10C36	10C37	10C38	10C39
II. Related scientific activities (RSA) Current expenditures								
7. Scientific data collection	10C92	10C93	10C94	10C95	10C96	10C97	10C98	10C99
8. Information services	10C48	10C49	10C50	10C51	10C52	10C53	10C54	10C55
9. Special services and studies	10C56	10C57	10C58	10C59	10C60	10C61	10C62	10C63
10. Education support	10C64	10C65	10C66	10C67	10C68	10C69	10C70	10C71
11. Administration of extramural programs	10C72							10C73
12. Capital expenditures	10C74							10C75
II a) Sub-total Related scientific activities (RSA)	10C76	10C77	10C78	10C79	10C80	10C81	10C82	10C83
III. Total expenditures I a) + II a)	10C84	10C85	10C86	10C87	10C88	10C89	10C90	10C91 1

1. Must equal natural science funds for 2015/2016, question 3.

1 B. Expenditures by activity and performer – fiscal year 2016/2017

Activity / Performer	Intramural	Extramural						Total
		Business enterprise	Higher education	Canadian non-profit institutions	Provincial and municipal governments	Foreign performers	Other Canadian performers	
I. Research and experimental development (R&D) Current expenditures	($'000)							
1. In-house R&D	20C1							20C2
2. Contracts a) R&D contracts	20C3	20C4	20C5	20C6	20C7	20C8	20C9	20C10
b) Supporting contracts	20C11							20C12
3. R&D grants and contributions		20C13	20C14	20C15	20C16	20C17	20C18	20C19
4. Research fellowships	20C20	20C21	20C22	20C23	20C24	20C25	20C26	20C27
5. Administration of extramural programs	20C28							20C29
6. Capital expenditures	20C30							20C31
I a) Sub-total Research and experimental development (R&D)	20C32	20C33	20C34	20C35	20C36	20C37	20C38	20C39
II. Related scientific activities (RSA) Current expenditures								
7. Scientific data collection	20C92	20C93	20C94	20C95	20C96	20C97	20C98	20C99
8. Information services	20C48	20C49	20C50	20C51	20C52	20C53	20C54	20C55
9. Special services and studies	20C56	20C57	20C58	20C59	20C60	20C61	20C62	20C63
10. Education support	20C64	20C65	20C66	20C67	20C68	20C69	20C70	20C71
11. Administration of extramural programs	20C72							20C73
12. Capital expenditures	20C74							20C75
II a) Sub-total Related scientific activities (RSA)	20C76	20C77	20C78	20C79	20C80	20C81	20C82	20C83
III. Total expenditures I a) + II a)	20C84	20C85	20C86	20C87	20C88	20C89	20C90	20C91 1

1. Must equal natural science funds for 2016/2017, question 3.

1 C. Expenditures by activity and performer – fiscal year 2017/2018

Activity / Performer	Intramural	Extramural						Total
		Business enterprise	Higher education	Canadian non-profit institutions	Provincial and municipal governments	Foreign performers	Other Canadian performers	
I. Research and experimental development (R&D) Current expenditures	($'000)							
1. In-house R&D	30C1							30C2
2. Contracts a) R&D contracts	30C3	30C4	30C5	30C6	30C7	30C8	30C9	30C10
b) Supporting contracts	30C11							30C12
3. R&D grants and contributions		30C13	30C14	30C15	30C16	30C17	30C18	30C19
4. Research fellowships	30C20	30C21	30C22	30C23	30C24	30C25	30C26	30C27
5. Administration of extramural programs	30C28							30C29
6. Capital expenditures	30C30							30C31
I a) Sub-total Research and experimental development (R&D)	30C32	30C33	30C34	30C35	30C36	30C37	30C38	30C39
II. Related scientific activities (RSA) Current expenditures								
7. Scientific data collection	30C92	30C93	30C94	30C95	30C96	30C97	30C98	30C99
8. Information services	30C48	30C49	30C50	30C51	30C52	30C53	30C54	30C55
9. Special services and studies	30C56	30C57	30C58	30C59	30C60	30C61	30C62	30C63
10. Education support	30C64	30C65	30C66	30C67	30C68	30C69	30C70	30C71
11. Administration of extramural programs	30C72							30C73
12. Capital expenditures	30C74							30C75
II a) Sub-total Related scientific activities (RSA)	30C76	30C77	30C78	30C79	30C80	30C81	30C82	30C83
III. Total expenditures I a) + II a)	30C84	30C85	30C86	30C87	30C88	30C89	30C90	30C91 1

1. Must equal natural science funds for 2017/2018, question 3.

2 A. Personnel in full-time equivalent for intramural scientific and technological activities in the natural sciences and engineering, fiscal years 2015/2016, 2016/2017 and 2017/2018

Category	2015/2016				
	Personnel engaged in R&D (A)	Personnel engaged in RSA (B)	Personnel engaged in the administration of extramural R&D programs (C)	Personnel engaged in the administration of extramural RSA programs (D)	Total
	(Full-time equivalent)				
Scientific and professional (include executive)	40C1	40C2	40C3	40C4	40C5
Technical	40C6	40C7	40C8	40C9	40C10
Other[1]	40C11	40C12	40C13	40C14	40C15
Total	40C16	40C17	40C18	40C19	40C20

1. Include administrative and foreign service, administrative support, operational and military personnel.

A: Personnel engaged in research and development (R&D).
B: Personnel engaged in related scientific activities (RSA).
C: Personnel engaged in the administration of extramural R&D programs.
D: Personnel engaged in the administration of extramural RSA programs.

2 B. Personnel in full-time equivalent for intramural scientific and technological activities in the natural sciences and engineering, fiscal years 2015/2016, 2016/2017 and 2017/2018 - continued

Category	2016/2017				
	Personnel engaged in R&D (A)	Personnel engaged in RSA (B)	Personnel engaged in the administration of extramural R&D programs (C)	Personnel engaged in the administration of extramural RSA programs (D)	Total
	(Full-time equivalent)				
Scientific and professional (include executive)	41C1	41C2	41C3	41C4	41C5
Technical	41C6	41C7	41C8	41C9	41C10
Other[1]	41C11	41C12	41C13	41C14	41C15
Total	41C16	41C17	41C18	41C19	41C20

1. Include administrative and foreign service, administrative support, operational and military personnel.

A: Personnel engaged in research and development (R&D).
B: Personnel engaged in related scientific activities (RSA).
C: Personnel engaged in the administration of extramural R&D programs.
D: Personnel engaged in the administration of extramural RSA programs.

2 C. Personnel in full-time equivalent for intramural scientific and technological activities in the natural sciences and engineering, fiscal years 2015/2016, 2016/2017 and 2017/2018 - continued

Category	2017/2018				
	Personnel engaged in R&D (A)	Personnel engaged in RSA (B)	Personnel engaged in the administration of extramural R&D programs (C)	Personnel engaged in the administration of extramural RSA programs (D)	Total
	(Full-time equivalent)				
Scientific and professional (include executive)	42C1	42C2	42C3	42C4	42C5
Technical	42C6	42C7	42C8	42C9	42C10
Other[1]	42C11	42C12	42C13	42C14	42C15
Total	42C16	42C17	42C18	42C19	42C20

1. Include administrative and foreign service, administrative support, operational and military personnel.
   - A: Personnel engaged in research and development (R&D).
   - B: Personnel engaged in related scientific activities (RSA).
   - C: Personnel engaged in the administration of extramural R&D programs.
   - D: Personnel engaged in the administration of extramural RSA programs.

3. Sources of funds for total scientific and technological activities in the natural sciences and engineering, fiscal years 2015/2016, 2016/2017 and 2017/2018

Source of funds	2015/2016	2016/2017	2017/2018
	($'000)		
1. Departmental S&T budget (operating and capital and grants and contributions)	43C1	44C1	45C1
2. Revenues to / from other federal departments [1] a) Total transferred into this program	43C2	44C2	45C2
b) Total transferred from this program	43C3	44C3	45C3
Net other federal departments and agencies	43C4	44C4	45C4
3. Provincial government departments	43C5	44C5	45C5
4. Business enterprises	43C6	44C6	45C6
5. Other (please specify)	43C7	44C7	45C7
Total	43C8 2	44C8 3	45C8 4

1. Include payments or receipts for contracts, transfers and joint programs from/to other federal government departments. The amount and the names of the origination and recipient programs should be identified in question 6.
2. Must equal total expenditures, question 1A.
3. Must equal total expenditures, question 1B.
4. Must equal total expenditures, question 1C.

4. Scientific and technological expenditures by socio-economic objective - fiscal year 2015/2016

Socio-economic objective	R&D		RSA		Total S&T	
	Intramural	Extramural	Intramural	Extramural	Intramural	Extramural
	($'000)					
1. Exploration and exploitation of the Earth	50C1	50C2	50C3	50C4	50C5	50C6
2. Infrastructure and general planning of land use: 2.1 Transport	50C7	50C8	50C9	50C10	50C11	50C12
2.2 Telecommunication	50C13	50C14	50C15	50C16	50C17	50C18
2.3 Other	50C19	50C20	50C21	50C22	50C23	50C24
3. Control and care of the environment	50C25	50C26	50C27	50C28	50C29	50C30
4. Protection and improvement of human health	50C31	50C32	50C33	50C34	50C35	50C36
5. Production, distribution and rational utilization of energy	50C37	50C38	50C39	50C40	50C41	50C42
6. Agricultural production and technology: 6.1 Agriculture	50C43	50C44	50C45	50C46	50C47	50C48
6.2 Fishing	50C49	50C50	50C51	50C52	50C53	50C54
6.3 Forestry	50C55	50C56	50C57	50C58	50C59	50C60
7. Industrial production and technology	50C61	50C62	50C63	50C64	50C65	50C66
8. Social structures and relationships	50C67	50C68	50C69	50C70	50C71	50C72
9. Exploration and exploitation of space	50C73	50C74	50C75	50C76	50C77	50C78
10. Non-oriented research	50C79	50C80	50C81	50C82	50C83	50C84
11. Other civil research	50C85	50C86	50C87	50C88	50C89	50C90
12. Defence	50C91	50C92	50C93	50C94	50C95	50C96
Total Expenditures	50C97 1	50C98 2	50C99 3	50C100 4	50C101 5	50C102 6

1. Must equal intramural R&D expenditures reported for 2015/2016, question 1A.
2. Must equal extramural R&D expenditures reported for 2015/2016, question 1A.
3. Must equal intramural RSA expenditures reported for 2015/2016, question 1A.
4. Must equal extramural RSA expenditures reported for 2015/2016, question 1A.
5. Must equal total intramural S&T expenditures reported for 2015/2016, question 1A.
6. Must equal total extramural S&T expenditures reported for 2015/2016 question 1A.

5. Expenditures and personnel of scientific and technological establishments engaged in activities in the natural sciences and engineering, fiscal year 2015/2016

Region	Total intramural R&D		Total intramural RSA		Total R&D personnel		Total RSA personnel	
	Current	Capital	Current	Capital	Scientific & professional	Total	Scientific & professional	Total
	($'000)				(Full-time equivalent)			
Newfoundland and Labrador	60C1	60C2	60C3	60C4	60C5	60C6	60C7	60C8
Prince Edward Island	60C9	60C10	60C11	60C12	60C13	60C14	60C15	60C16
Nova Scotia	60C17	60C18	60C19	60C20	60C21	60C22	60C23	60C24
New Brunswick	60C25	60C26	60C27	60C28	60C29	60C30	60C31	60C32
Quebec (excl. NCR - Quebec)	60C129	60C130	60C131	60C132	60C133	60C134	60C135	60C136
National Capital Region (NCR) (Quebec)	60C41	60C42	60C43	60C44	60C45	60C46	60C47	60C48
Ontario (excl. NCR - Ontario)	60C137	60C138	60C139	60C140	60C141	60C142	60C143	60C144
National Capital Region (NCR) (Ontario)	60C65	60C66	60C67	60C68	60C69	60C70	60C71	60C72
Manitoba	60C81	60C82	60C83	60C84	60C85	60C86	60C87	60C88
Saskatchewan	60C89	60C90	60C91	60C92	60C93	60C94	60C95	60C96
Alberta	60C97	60C98	60C99	60C100	60C101	60C102	60C103	60C104
British Columbia	60C105	60C106	60C107	60C108	60C109	60C110	60C111	60C112
Yukon, Northwest Territories and Nunavut	60C113	60C114	60C115	60C116	60C117	60C118	60C119	60C120
Canada Total [1]	60C121	60C122	60C123	60C124	60C125	60C126	60C127	60C128

1. Must equal total intramural expenditures and personnel, question 1A and question 2A, for year 2015/2016.

Question 5	Must equal	Question 1A, Column 1
Column 1 Total - Current intramural R&D expenditures	=	Sum of rows 1 through 5
Column 2 Total - Capital R&D expenditures	=	Item 6
Column 3 Total - Current intramural RSA expenditures	=	Sum of rows 7 through 11
Column 4 Total - Capital RSA expenditures	=	Item 12
Question 5	**Must equal**	**Question 2A, Column 1**
Column 5 Total - Scientific and professional R&D personnel	=	Scientific and professional of columns A and C
Column 6 Total - Total R&D Personnel	=	Total of columns A and C
Column 7 Total - Scientific and professional RSA personnel	=	Scientific and professional of columns B and D
Column 8 Total - Total RSA personnel	=	Total of columns B and D

Areas covered in the National Capital Region Quebec and Ontario:

Alcove (QC)
Almonte (ON)
Angers (QC)
Antrim (ON)
Appleton (ON)
Ashton (ON)
Aylmer (QC)
Barrhaven (ON)
Baxters Corner (ON)
Bearbrook (ON)
Beech Grove (QC)
Bells Corners (ON)
Blackburn Hamlet (ON)
Blakeney (ON)
Breckenridge (QC)
Brisson (ON)
Buckingham (QC)
Burnet (QC)
Cantley (QC)
Carlsbad Springs (ON)
Carp (ON)
Carsonby (ON)
Cascades (QC)
Chelsea (QC)
Constance Bay (ON)
Corkery (ON)
Cousineau (QC)
Cumberland (ON)
Dalmeny (ON)
Davidson Corner (QC)
Deschênes (QC)
Dirleton (ON)
Duclos (QC)
Dunrobin (ON)
Dwyer Hill (ON)
Eardley (QC)
Edwards (ON)
Elm (ON)
Embrun (ON)
Fallowfield (ON)
Farm Point (QC)
Fitzroy Harbour (ON)
French Hill (ON)
Galetta (ON)
Gatineau (QC)
Glen Almond (QC)
Glencairn (ON)
Gleneagle (QC)
Gloucester (ON)
Greely (ON)
Halverson (QC)
Harwood Plains (ON)
Hazeldean (ON)
Herbert Corners (ON)
Heyworth (QC)
Holland Mills (QC)
Hull (QC)
Huntley (ON)
Ironside (QC)
Jeanne-d'Arc (QC)
Jockvale (ON)
Johnston Corners (ON)
Kanata (ON)
Kars (ON)
Kenmore (ON)
Kilmaurs (ON)
Kinburn (ON)
Kirks Ferry (QC)
La Pêche (QC)
Lac-des-Loups (QC)
Lac-McGregor (QC)
Lascelles (QC)
Larrimac (QC)
Leitrim (ON)
Leonard (ON)
Limbour (QC)
Lucerne (QC)
Luskville (QC)
MacLarens Landing (ON)
Malwood (ON)
Manion Corners (ON)
Manotick (ON)
Mansfield (ON)
Marathon (ON)
Marchhurst (ON)
Marvelville (ON)
Masson (QC)
Merivale (ON)
Metcalfe (ON)
Mohr Corners (ON)
Munster (ON)
Navan (ON)
Nepean (ON)
North Gower (ON)
North Onslow (QC)
Old Chelsea (QC)
Onslow Corners (QC)
Orléans (ON)
Osgoode (ON)
Ottawa (ON)
Pakenham (ON)
Pamure (ON)
Patterson (QC)
Perkins (QC)
Pointe-Gatineau (QC)
Poltimore (QC)
Poupore (QC)
Quinnville (QC)
Quyon (QC)
Ramsayville (ON)
Reevecraig (ON)
Ribot (QC)
Richmond (ON)
Rideau (ON)
Rupert (QC)
Russell (ON)
Ruthledge (QC)
St-François-de-Masham (QC)
St-Louis-de-Masham (QC)
St-Onge (QC)
St-Pierre-de-Wakefield (QC)
Ste-Cécile-de Masham (QC)
Sarsfield (ON)
Shirley's Bay (ON)
South Gloucester (ON)
South March (ON)
Spring Hill (ON)
Stapledon (ON)
Stanley Corners (ON)
Steel (QC)
Stittsville (ON)
Strathearn (ON)
Tenaga (QC)
Twin Elm (ON)
Val-des Monts (QC)
Val-du-Lac (QC)
Val-Paquin (QC)
Vanier (ON)
Vars (ON)
Wakefield (QC)
Watterson Corners (ON)
Wilson's Corners (ON)
Woodlawn (ON)
Woodridge (ON)
Wyman (QC)

6. Transfers for natural science and engineering activities – fiscal year 2015/2016

Into the program[1]		
From **Federal department or agency**	**Description**	**2015/2016** ($'000)
70C1	70C2	70C3
70C1	70C2	70C3
70C1	70C2	70C3
70C1	70C2	70C3
Total		

1. Must equal total transferred into this program reported for 2015/2016, question 3, column 1, row 2 a).

From the program[1]		
To **Federal department or agency**	**Description**	**2015/2016** ($'000)
71C1	71C2	71C3
71C1	71C2	71C3
71C1	71C2	71C3
71C1	71C2	71C3
Total		

1. Must equal total transferred from this program reported for 2015/2016, question 3, column 1, row 2 b).

PAYMENTS TO EXTRAMURAL PERFORMERS FOR SCIENTIFIC ACTIVITIES, FISCAL YEAR 2015/2016

Departments and agencies of the federal government are asked to identify the recipients of their scientific payments.

We are requesting a detailed listing of the recipients of federal payments made in connection with a scientific activity.

Expenditures reported on this submission should be equal to the 2015/2016 extramural expenditures, by sector and activity, reported on the 2017/2018 Federal science expenditures and personnel (FSEP) questionnaire.

Please provide us with a list of 2015/2016 science payments, including:

(1) name and address of the organization or individual receiving the payment;

(2) field of science: social or natural;

(3) type of payment: contract or grant / contribution;

(4) activity carried out by the performer: research and experimental development (R&D) or related scientific activity (RSA);

(5) performing sectors: business enterprise, higher education, Canadian non-profit institutions, provincial and municipal governments, foreign performers, other Canadian performers;

(6) amount in ($'000) ; Please see note (1) of guidelines on next page;

(7) business number.

A suggested format is given below:

Name	Street	City	Province	Postal Code	Science	Payment Type	Activity	Performer	Amount ('000$)	Business Number
XXX Company Limited	123 First Street	Regina	SK	S5R 6R8	Natural	Contract	R&D	Business Enterprise	123	000000000
YYY Company Limited	345 Second Street	Vancouver	BC	V5T 2T5	Natural	Grant	R&D	Business Enterprise	350	000000000

Business number

Canada Revenue Agency has launched a number of initiatives to streamline the administrative work required of small businesses. The new Business Number allows businesses to use a single number for all Canada Revenue Agency accounts. This is enhanced by the Business Window, organized to handle registration and provide information for all Canada Revenue Agency programs at a single location.

Lists containing the required data in some other format including Excel© format are acceptable.

For further clarification of terms and definitions, please refer to the enclosed guide.

This information is collected in collaboration with Industry Canada under Section 12 of the *Statistics Act* which states:

> "The Minister may enter into an agreement with any department or municipal or other corporation for the sharing of information collected from a respondent by either Statistics Canada or the department or corporation on behalf of both of them and for the subsequent tabulation or publication based on that information."

Included in this section of the act is the following provision:

> The agreement shall not apply in respect to "the respondent who gives notice in writing to the Chief Statistician that the respondent objects to the sharing of the information by Statistics Canada, the information not be shared with the department or corporation unless the department or corporation is authorized by law to require the respondent to provide that information."

Statistics Canada and Industry Canada have such an agreement for sharing information gathered in this exercise. The joint agreement shall not apply to data provided by a department or agency which has given the required notice to the office of the Chief Statistician.

When such notice has been given, such specified data will be held by Statistics Canada alone, as provided for in the "*Statistics Act*". Industry Canada and Statistics Canada will maintain as confidential, data obtained under this agreement.

SOME GUIDELINES:

(1) Small contracts

Special attention should be given to contracts under $25,000. It has been found that the majority of these contracts is for services or in support of in-house research projects, (i.e. does not qualify as an extramural payment).

Support or service contracts should not be included with extramural payments. They are defined as contracts to an outside institution or individual to provide goods or services necessary to support in-house R&D programs and should be reported intramurally as supporting contracts in this questionnaire. Examples are contracts with data processing firms for computing services, maintenance contracts for R&D facilities, or procurement contracts for specialized equipment which is not considered capital.

R&D contracts of less than $25,000 can be aggregated and reported by science, activity and payment type, region and performing sector.

(2) Recipients of payments to be classified as "other Canadian performers"

Grants to universities on behalf of individuals can be included with the institution in the "Higher education" sector, while those made directly to the student without any indicated university affiliation should be included with "other Canadian performers".

(3) Discrepancies

Reasons for large discrepancies in expenditures reported on the Federal Science Expenditures and Personnel 2017/2018 survey (see 1A, 1B and 1C) and the Federal Science Expenditures and Personnel 2016/2017 survey (see 1A, 1B and 1C), should be explained in the 'change report' of the survey.

Introduction

This introduction is intended to provide an overview of the process of collecting science expenditure data; definitions of and explanatory notes on natural sciences and engineering, social sciences, humanities and the arts, scientific and technological activities, performance sectors, and other terms used are given in subsequent sections.

The collection of science expenditure data is organized by the Investment, Science and Technology Division (ISTD) of Statistics Canada. This exercise was formerly conducted under the aegis of the Treasury Board of Canada Secretariat but is now solely a Statistics Canada survey.

Collection is undertaken to gather essential data describing the recent, current and proposed state of the federal resources allocated to science. Federal science expenditures data are provided to Industry Canada who in turn use the data in the development of advice to the Assistant Deputy Ministers' Steering Committee on the Management of S&T, their Minister and the Treasury Board of Canada Secretariat, as well as in policy development and in monitoring the implementation of science policies. Statistics Canada maintains historical expenditure series in natural sciences and engineering dating back to 1963 and to 1971 in the social sciences, humanities and the arts. These data are available through the Investment, Science and Technology Division (ISTD) or through special requests.

The basic reporting unit is the budgetary program of a department or agency. Each budgetary program forms the subject of separate scientific expenditure reports for the natural and for the social science activities within it. Both the program and the program activities within it may be scientific in whole or in part only. Only expenditures on the scientific components of a program or its activity are reported. In some programs it will be difficult to distinguish between the natural and social sciences. However, some allocation must be made and in determining this allocation, the dominant orientation of the projects and the area of expertise of the personnel involved must be considered. Detailed definitions are given on the following pages.

On the questionnaires, the identified expenditures are looked at from several different viewpoints and in various subdivisions. Expenditures on **research and development (R&D)** and **related scientific activities (RSA)** are subdivided to provide an indication of the "what" of a department's scientific effort. Expenditures in each category of scientific activity are further subdivided into "current" and "capital" segments. Current expenditures are additionally subdivided by sector, to indicate the "where" and "by whom" the activity is performed (e.g., in business enterprise, in higher education).

The human resources allocated to scientific activities are summarized in terms of the involved categories of personnel (scientific and professional, technical, etc.) and the principal focus of their efforts (R&D, RSA and, administration of extramural programs).

When completed, checked for consistency with previous reports, entered into the database and totaled along the various dimensions, these data provide snapshots of the federal resources allocated to science, supporting not only the work of central agencies but also the submissions of departments and agencies requesting resources.

General

This guide consists of definitions/explanations for terms used in the questionnaire.

The **natural sciences and engineering** consist of disciplines concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering and technology, mathematical, computer and information sciences, physical sciences, medical and health science, and agricultural sciences, veterinary sciences and forestry.

The term **social sciences, humanities and the arts** consists of disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as arts, economics and business, education, history and archeology, law, language and linguistics, media and communications, philosophy, ethics and religion, psychology and cognitive sciences, social and economic geography and, sociology.

1. Expenditures by activity and performer

The questionnaire covers three consecutive fiscal years and the headings of all three are identical. One set of definitions/explanations therefore suffices.

Actual and planned expenditures on scientific and technological activities are to be classified according to the type of scientific activity and the performance sector in which the activities were or will be conducted.

Scientific and technological (S&T) activities can be defined as all systematic activities which are closely concerned with the generation, advancement, dissemination and application of scientific and technical knowledge in all fields of science and technology, that is, the natural sciences and engineering, and the social sciences, humanities and the arts. The central activity is scientific **research and experimental development (R&D)**. In addition there are a number of activities closely related to R&D, and are termed **related scientific activities (RSA)**. Those identified as being appropriate for the federal government in the natural sciences and engineering are: scientific data collection, information services, special services and studies and education support.

The performer is equivalent to the sector in which the scientific activity is conducted. The basic distinction is between intramural and extramural performance. Extramural payments are classified on the basis of the performance sectors to which they are made. The appropriate extramural performers are business enterprise, higher education, Canadian non-profit institutions, foreign performers, provincial and municipal governments, and other performers.

I. Performers

Intramural activities include all current expenditures incurred for scientific activities carried out by in-house personnel of units assigned to the program; the related gross fixed capital expenditures (acquisition of land, buildings, machinery and equipment for scientific activities); the administration of scientific activities by program employees; and the purchase of goods and services to support in-house scientific activities (include royalties or licences for the use of patents and other intellectual property rights, the lease of capital goods (machinery and equipment, etc.) and the rental of buildings to support scientific activities performed by the statistical unit in the reference year).

The intramural expenditures reported for scientific activities are those direct costs, including salaries, associated with scientific programs. The costs should include that portion of a program's contribution to employee benefit plans (e.g., superannuation and compensation) which is applicable to the scientific personnel within the program. The summation of intramural R&D activity is synonymous with the performance of R&D for the entire economy (GERD).

Non-program ("indirect") costs such as the value of services provided by other departments without charge and accommodation provided by the reporting program are to be excluded. Support services (i.e. administration, finance) provided by the reporting program, proportional to S&T expenditures should be included.

Extramural performers are groups being funded by the federal government sector for S&T activities. In this survey the extramural performers include:

Business enterprise – business and government enterprises including public utilities and government-owned firms. Both financial and non-financial corporations are included. Incorporated consultants providing scientific and engineering services are also included. Industrial research institutes located at Canadian universities are considered to be in the higher education sector.

Higher education – comprises all universities, colleges of technology and other institutes of post-secondary education, whatever their source of finance or legal status. It also includes all research institutes, centers, experimental stations and clinics that have their scientific activities under the direct control of, or administered by, or associated with, the higher education establishments.

Canadian non-profit institutions – charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits. Non-profit institutions primarily serving or controlled by another sector should be included in the controlling sector.

Provincial and municipal governments – departments and agencies of these governments. Government enterprises, such as provincial utilities are included in the business enterprise sector, and hospitals in the Canadian non-profit institutions sector.

Foreign performers – all foreign government agencies, foreign companies (including foreign subsidiaries of Canadian firms), international organizations, non-resident foreign nationals and Canadians studying or teaching abroad.

Other performers – include individuals or organizations in Canada not belonging to any of the above sectors.

II. Research and experimental development

Research and experimental development – comprises creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society - and to devise new applications of available knowledge.

R&D activities may be aimed at achieving either specific or general objectives. R&D is always aimed at new findings, based on original concepts (and their interpretation) or hypotheses. It is largely uncertain about its final outcome (or at least about the quantity of time and resources needed to achieve it), it is planned for and budgeted (even when carried out by individuals), and it is aimed at producing results that could be either freely transferred or traded in a marketplace.

For an activity to be an R&D activity, it must satisfy five core criteria:

1. To be aimed at new findings (novel);
2. To be based on original, not obvious, concepts and hypothesis (creative);
3. To be uncertain about the final outcome (uncertainty);
4. To be planned and budgeted (systematic);
5. To lead to results that could be possibly reproduced (transferable/ or reproducible).

Examples of R&D:

- A special investigation of a particular mortality in order to establish the side effects of certain cancer treatment is R&D.
- The investigation of new methods of measuring temperature is R&D, as is the study and development of new models for weather prediction.
- Investigation on the genetics of the species of plants in a forest in an attempt to understand natural controls for disease or pest resistance.
- The development of new application software and substantial improvements to operating systems and application programs.

R&D is generally carried out by specialized R&D units. However, an R&D project may also involve the use of non R&D facilities (e.g., testing grounds), the purchase or construction of specialized equipment and materials, and the assistance of other units. Costs of such items, attributable to the project, are to be considered R&D costs.

R&D may also be carried out by units normally engaged in other functions (e.g. a marine survey ship used for hydrological research, a geological survey team may be directed to work in a certain area in order to provide data for a geophysical research project). Such effort is part of an R&D project and, again, so far as is practical, the costs should be assigned to R&D expenditures.

On the other hand, R&D units may also be engaged in non R&D activities such as technical advisory services, testing, and construction of special equipment for other units. So far as is practical, the effort devoted to such operations should be included in the related scientific activities (RSA).

Item 1. In-house R&D – R&D performed by personnel of the reporting program. It may include R&D carried out on behalf of another program on a cost-recovery basis.

Item 2. Contracts – payments to organizations or individuals outside the federal government for the conduct of R&D by the recipient or to provide support for the federal government's in-house R&D programs. Contracts to other federal government departments should be reported as a transfer of funds in question 6 of the questionnaire.

a) R&D contracts – contracts to an outside institution or individual to fund R&D performed by the institution or individual. The criterion is: would the performer report the contract as intramural government-funded R&D if asked? If the answer is "yes" the activity would be an R&D contract, if "no" it would be an intramural supporting contract. Contracts to other federal government departments should be reported as a transfer of funds in question 6 of the questionnaire.

R&D contracts can also be an intramural R&D activity, for example when a consultant is hired from outside the Federal Government to perform R&D activities within your premises.

b) Supporting contracts – contracts to an outside institution or individual to provide goods or services necessary to support the in-house R&D program. Examples are contracts with data processing firms for computing services, maintenance contracts for R&D facilities, or procure procurement contracts for specialized equipment which is not considered capital. The **total** amount reported for this activity should be reported under the **intramural** column in questions 1A, 1B and 1C of the questionnaire.

Contracts for related scientific activities (RSA) should continue to be reported in the appropriate activity and performance sector spaces provided on the questionnaire.

Item 3. R&D grants and contributions – awards to organizations or individuals for the conduct of R&D and intended to benefit the recipients rather than provide the program with goods, services or information. These funds are normally identical to that portion of the budgetary "grants and contributions" line object of expenditure which is devoted to R&D activities.

Grants and contributions for related scientific activities (RSA) are to be reported in the appropriate activity and performance sector spaces provided on the questionnaire.

Item 4. Research fellowships – awards to individuals for advanced research training and experience. Awards intended primarily to support the education of the recipients should be reported as "education support".

Item 5. Administration of extramural programs – the costs of identifiable units engaged in the administration of contracts and grants and contributions for scientific activities that are to be performed outside the federal government. These expenditures should be broken down by the type of scientific activity supported, i.e. R&D or RSA.

Item 6. Capital expenditures – the annual gross amount paid for the acquisition of fixed assets that are used repeatedly or continuously in the performance of scientific activities for more than one year. They should be reported in full for the period when they took place, whether acquired or developed in house, and should not be registered as an element of depreciation.

The most relevant types of assets used for capital expenditures are:

- Land and buildings
- Machinery and equipment
- Capitalized computer software
- Other intellectual property products

III. Related scientific activities

Related scientific activities are all systematic activities which are closely concerned with the generation, advancement, dissemination and application of scientific and technological knowledge. The types of related scientific activities for the natural sciences and engineering are described below.

Item 7. Scientific data collection – the gathering, processing, collating and analyzing of data on natural phenomena. These data are normally the results of surveys, routine laboratory analyses or compilations of operating records.

Data collected as part of an existing or proposed research project are charged to research. Similarly, the costs of analyzing existing data as part of a research project are R&D costs, even when the data were originally collected for some other purpose. The development of new techniques for data collec collection is also to be considered a research activity. Examples of RSA scientific data collection are: routine geological, hydrographic, oceanographic and topographic surveys; routine astronomical observations; maintenance of meteorological records; and wildlife and fisheries surveys.

Item 8. Information services – all work directed to collecting, coding, analyzing, evaluating, recording, classifying, translating and disseminating scientific and technological information as well as museum services. Included are the operations of scientific and technical libraries, S&T consulting and advisory services, the Patent Office, the publication of scientific journals and monographs, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

General purpose information services or information services directed primarily towards the general public are excluded, as are general departmental and public libraries. When individual budgets exist, the costs of libraries which belong to institutions otherwise entirely classified to another activity, such as R&D, should be assigned to information services. The costs of printing and distributing reports from another activity, such as R&D, are normally attributed to that activity.

Sub category under Information services:

Museum services – the collecting, cataloguing and displaying of specimens of the natural world or of representations of natural phenomena. The activity involves a systematic attempt to preserve and display items from the natural world; in some ways it could be considered an extension of information services. The scientific activities of natural history museums, zoological and botanical gardens, aquaria, planetaria and nature reserves are included. Parks which are not primarily restricted reserves for certain fauna or flora are excluded. In all cases the costs of providing entertainment and recreation to visitors should be excluded (e.g. restaurants, children's gardens and museums).

When a museum also covers not only natural history but also aspects of human cultural activities, the museum's resources should be appropriated between the natural and social sciences. However, museums of science and technology, war, etc., which display synthetic or artificial objects and may also illustrate the operations of certain technologies, should be considered as engaged in museum services in social sciences**.**

Item 9. Special services and studies – work directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects.

Sub categories under Special services and studies include:

Testing and standardization – concerns the maintenance of national standards, the calibration of secondary standards and the non-routine testing and analysis of materials, components, products, processes, soils, atmosphere, etc. These activities are related scientific activities (RSA). The development of new measures for standards, or of new methods of measuring or testing, is R&D. Exclude routine testing such as monitoring radioactivity levels or soil tests before construction.

Feasibility studies – technical investigations of proposed engineering projects to provide additional information required to reach decisions on implementation. Besides feasibility studies, the related activity of demonstration projects are to be included. Demonstration projects involve the operation of scaled-up versions of a facility or process, or data on factors such as costs, operational characteristics, market demand and public acceptance. Projects called "demonstration projects" but which conform to the definition of R&D should be considered R&D. Once a facility or process is operated primarily to provide a service or to gain revenue, rather than as a demonstration, it should no longer be included with feasibility studies. In all demonstration projects, only the **net** costs should be considered.

Item 10. Education support – grants to individuals or institutions on behalf of individuals which are intended to support the post-secondary education of students in technology and the natural sciences. General operating or capital grants are excluded. The activity includes the support of foreign students in their studies of the natural sciences at Canadian or foreign institutions. Grants intended primarily to support the research of individuals at universities are either R&D grants or research fellowships.

Awards intended primarily to support the education of the recipients should be reported as "education support".

Item 11. Administration of extramural programs – the costs of identifiable units engaged in the administration of contracts and grants and contributions for scientific activities that are to be performed outside the federal government. These expenditures should be broken down by the type of scientific activity supported, i.e. R&D or RSA.

Item 12. Capital expenditures – the annual gross amount paid for the acquisition of fixed assets that are used repeatedly or continuously in the performance of scientific activities for more than one year. They should be reported in full for the period when they took place, whether acquired or developed in house, and should not be registered as an element of depreciation.

The most relevant types of assets used for capital expenditures are:

- Land and buildings
- Machinery and equipment
- Capitalized computer software
- Other intellectual property products

2. Personnel

Intramural expenditure data should be supported by data on the personnel devoted to scientific activities by all the employees engaged in these activities.

Full-time equivalent (FTE) – the ratio of working hours actually spent on scientific activities during a specific reference period divided by the total number of hours conventionally worked in the same period by an individual or a group. For example, an employee who is engaged in scientific activities for half a year has a full-time equivalence of 0.5. Personnel data reported should be consistent with expenditure data.

Scientific and professional – researchers and professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods. They require at least one academic degree or nationally recognized professional qualification, as well as those with equivalent experience.

Technical – technicians and equivalent staff are persons whose main tasks require technical knowledge and experience in one or more fields of engineering, the physical and life sciences, or the social sciences, humanities and the arts. They perform scientific and technical tasks involving the application of concepts and operational methods and the use of research equipment, normally under the supervision of researchers.

Other – other supporting staff include skilled and unskilled craftsmen, and administrative, secretarial and clerical staff participating in science and technology projects or directly associated with such projects.

In regard to personnel resources there are two caveats:

- where the S&T activities are a part of the program being reported, only auxiliary staff relevant to the S&T activities are reported on a prorated basis;
- whenever financial and administrative support is provided from another program, that support is allocated to the S&T resources for the program being reported.

3. Sources of funds for total scientific and technological activities

This question identifies the sources of funds for expenditures on scientific activities reported for all three years. It will help to ensure that work funded from outside the department is not overlooked.

Departmental S&T budget – that portion of the total departmental budget which was spent on natural science and engineering activities.

Revenues to/from other federal departments – money transferred from this program to another federal department or money transferred into this program from another federal department for activities in the natural sciences and engineering.

Provincial government departments – all funds from the provincial government used for natural science and engineering activities. The funds are referred to as payments, contributions, transfers, etc. Also include provincial portions of federal-provincial cost sharing programs performed by the department program.

Business enterprises – all funds from business enterprises used for natural science and engineering activities performed by the department.

Other – all funds for natural sciences and engineering activities from other sources not specified above.

4. Scientific and technological expenditures by socio-economic objectives

Socio-economic objectives allow departments to classify their S&T resource allocations according to the purpose for which the expenditure is intended. The objectives are listed in the questionnaire at the highest level of aggregation with sub-levels given here for clarification of categories. In many cases, projects have multiple objectives and a department should assign its expenditures consistent with the stated objectives of the department. Care must be taken to avoid "double counting".

The objectives are based on the European Union classification adopted by Eurostat for the Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (NABS) at the one-digit level.

1. Exploration and exploitation of the Earth – scientific activities with objectives related to the exploration of the Earth's crust and mantle, seas, oceans and atmosphere, as well as on their exploitation. It also includes climatic and meteorological research, polar exploration (under various headings, as appropriate) and hydrology.

Examples:

- General scientific activities
- Mineral, oil and natural gas prospecting
- Exploration and exploitation of the sea-bed
- Earth's crust and mantle excluding sea-bed and studies of soil for agriculture (objective 6)
- Hydrology – excludes scientific activities on: water supplied and disposal (objective 2) and water pollution (objective 3)
- Sea and oceans
- Atmosphere
- Other scientific activities on the exploration and exploitation of the earth

Excludes: scientific activities on pollution (objective 3), soil improvement (objective 2), land-use and fishing (objective 6).

2. Infrastructure and general planning of land use – scientific activities on infrastructure and land development, including research on the construction of buildings. More generally, it covers all scientific activities relating to the general planning of land-use. This includes scientific activities into protection against harmful effects in town and country planning but not research into other types of pollution (objective 3).

2.1 Transport systems – covers scientific activities on transport systems, including road accident prevention and ancillary services such as electronic traffic aids and radar stations. Also included is general scientific activities on transport systems, road and rail traffic, inland waterway and sea transport, air traffic, pipeline transport systems, works transport systems, combined transport systems and scientific activities on the potential effects on the environment of the planning and operation of transport systems. Scientific activities on transport equipment is included only when it forms part of the coordinated programs for the development of improved and safer transport systems, otherwise, such research is classified in objective 7.

2.2 Telecommunications systems – covers scientific activities on telecommunications services and the planning and organization of telecommunications networks. It includes, in particular, general scientific activities on telecommunications systems, telephones, telex, data transmission, radio and television (including cable TV).

2.3 Other scientific activities – covers scientific activities on the infrastructure and general planning of land-use.

Examples:

- General scientific activities
- General planning of land-use
- Construction and planning of buildings
- Civil engineering – excludes scientific activities on building materials and industrial processes (objective 7)
- Water supply

3. Control and care of the environment – covers scientific activities aimed at improving the control of pollution, including the identification and analysis of the sources of pollution and their causes, and all pollutants, including their dispersal in the environment and the effects on humans, species (fauna, flora, micro-organisms) and the biosphere. The development of monitoring facilities for the measurement of all kinds of pollution is included. The same is valid for the elimination and prevention of all forms of pollution in all types of environment.

Examples:

- General scientific activities on the environment
- Protection of atmosphere and climate
- Protection of ambient air
- Solid waste
- Protection of ambient water
- Protection of soil and groundwater
- Noise and vibration
- Protection of species and habitats
- Protection against natural hazards
- Radioactive pollution
- Other scientific activities on the environment

4. Protection and Improvement of human health – scientific activities aimed at protecting, promoting and restoring human health broadly interpreted to include health aspects of nutrition and food hygiene. It ranges from preventative medicine, including all aspects of medical and surgical treatment, both for individuals and groups, and the provision of hospital and home care, to social medicine and pediatric and geriatric research.

Examples:

- General scientific activities
- Medical scientific activities, hospital treatment, surgery
- Preventive medicine
- Biomedical engineering and medicines
- Occupational medicine
- Nutrition and food hygiene
- Drug abuse and addiction
- Social medicine
- Hospital structure and organization of medical care
- Other medical scientific activities

5. Production, distribution and rational utilization of energy – covers scientific activities aimed at improving the production, storage, transportation, distribution and rational use of all forms of energy. It also includes scientific activities on processes designed to increase the efficiency of energy production and distribution, and the study of energy conservation.

Examples:

- Fossil fuels and their derivatives
- Nuclear fission
- Radioactive waste management including decommissioning with regard to fuel/energy
- Nuclear fusion
- Renewable energy sources
- Rational utilization of energy

6. Agricultural production and technology – covers all scientific activities on the promotion of agriculture, forestry, fisheries and foodstuff production, or further knowledge on chemical fertilizers, biocides, biological pest control and the mechanization of agriculture, as well as concerning the impact of agricultural and forestry activities on the environment. Also covers scientific activities on improving food productivity and technology.

6.1 Agriculture – covers scientific activities on animal products, veterinary medicine, crops, food technology and other scientific activities on agricultural production and technology.

6.2 Fishing – covers scientific activities on fishing, salting, drying and initial freezing of products (but not on preparation and canning (objective 7)), scientific activities on fish-farming, exploration of new fishing grounds, exploration and development of new and unconventional sources of seafood.

6.3 Forestry – covers scientific activities into the ecological and economic aspects of forestry and timber production.

7. Industrial production and technology – covers scientific activities on the improvement of industrial production and technology. It includes scientific activities on industrial products and their manufacturing processes except where they form an integral part of the pursuit of other objectives (e.g. defence, space, energy, agriculture).

Examples:

- Increasing economic efficiency and competitiveness
- Manufacturing and processing techniques
- Petrochemical and coal by-products
- Pharmaceutical products
- Manufacture of motor vehicles and other means of transport
- Aerospace equipment manufacturing and repairing
- Electronic and related industries
- Manufacture of electrical machinery and apparatus
- Manufacture of non-electronic and non-electrical machinery
- Manufacture of medical and surgical equipment and orthopaedic appliances
- Manufacture of food products and beverages
- Manufacture of clothing and textiles and leather goods
- Recycling

8. Social structures and relationships – scientific activities on social objectives, as analyzed in particular by social and human sciences, which have no obvious connection with other objectives. This analysis includes quantitative, qualitative, organizational and forecasting aspects of social problems.

This objective comprises:

- **Education** – covers scientific activities aimed at supporting general or special education, including training, pedagogy, didactics, and targeted methods for specially gifted persons or those with learning disabilities. Applies to all levels of education as well as to subsidiary services to education
- **Cultural, recreation, religion and mass media** – covers scientific activities aimed at improving the understanding of social phenomena related to cultural activities, religion and leisure activities so as to define their impact on life in society, as well as to racial and cultural integration and on socio-cultural changes in these areas. The concept of "culture" covers sociology of science, religion, art, sport and leisure, and also comprises inter alia R&D on the media, the mastery of language and social integration, libraries, archives and external cultural policy
- **Political and social systems, structures and processes** – covers scientific activities aimed at improving the understanding and supporting the political structure of society, public administration issues and economic policy, regional studies and multi-level governance, social change, social processes and social conflicts, the development of social security and social assistance systems, and the social aspects of the organization of work

9. Exploration and exploitation of space – all civil space scientific activities relating to the scientific exploration of space, space laboratories, space travel and launch systems. Although civil space R&D is not, in general, concerned with particular objectives, it frequently has a specific goal, such as the advancement of knowledge (e.g. astronomy), or relates to particular applications (e.g. telecommunications satellites or earth observation).

Examples:

- General scientific activities
- Scientific exploration of space
- Applied research programs
- Launch systems
- Space laboratories and space travel
- Other research on the exploration and exploitation of space

10. Non-oriented research – basic activities motivated by scientific curiosity with the objective of increasing scientific knowledge. It also includes funding used to support postgraduate studies and fellowships.

Examples:

- Mathematics and Computer Sciences
- Physical Sciences
- Chemical Sciences
- Biological Sciences
- Earth and Related (Environmental) Sciences
- Engineering Sciences
- Medical Sciences
- Agricultural Sciences
- Social Sciences
- Humanities

11. Other civil research – civil scientific activities which cannot (yet) be classified to a particular objective.

12. Defence – covers scientific activities for military purposes. It also includes basic research and nuclear and space research financed by the Department of National Defence. Civil scientific activities financed by ministries of defence, for example, in the fields of meteorology, telecommunications and health, should be classified in the relevant objectives.

5. Expenditures and personnel of scientific and technological establishment engaged in activities in the natural sciences and engineering, by region

Since 1978, Statistics Canada has been collecting detailed expenditure and person year data on intramural scientific activities of federal government departments and agencies by region. These data, coupled with data from other surveys, have been used by policy planners in federal and provincial governments, research managers and the media to assess the provincial distribution of science activities in Canada.

Again this year, we are asking for the information at the regional level. We are also asking for information in both natural science and engineering establishments as well as those performing activities in the social sciences, humanities and the arts, as international gross domestic expenditures on research and development (GERD) statistics include activities in both science fields.

The Canada total expenditures and personnel reported for the actual year must be consistent with data reported on intramural expenditures in question 1A, and total personnel in question 2A.

6. Transfers for natural sciences and engineering activities

Include payments or recipients for contracts, transfers and joint programs from / to other federal government departments. Please identify the amount and names of the origination and recipient programs.

General information

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

Section 11 of the *Statistics Act* provides for the sharing of information with provincial and territorial statistical agencies that meet certain conditions. These agencies must have the legislative authority to collect the same information, on a mandatory basis, and the legislation must provide substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the *Statistics Act*. Because these agencies have the legal authority to compel businesses to provide the same information, consent is not requested and businesses may not object to the sharing of the data.

For this survey, there are Section 11 agreements with the provincial and territorial statistical agencies of Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, and the Yukon.

The shared data will be limited to information pertaining to federal departments and agencies located within the jurisdiction of the respective province or territory.

Section 12 of the Statistics Act provides for the sharing of information with federal, provincial or territorial government organizations. Under section 12, you may refuse to share your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which you do not want to share your data.

For this survey, there are Section 12 agreements with the statistical agencies of Prince Edward Island, the Northwest Territories, Nunavut and Industry Canada.

The shared data will be limited to information pertaining to federal departments and agencies located within the jurisdiction of the respective province or territory.

Record linkages

To enhance the data from this survey and to minimize the reporting burden, Statistics Canada may combine it with information from other surveys or from administrative sources.

Please forward the completed questionnaire and listing of extramural performers through the Electronic File Transfer service (EFT) by January 13, 2017.

For further inquiries:

Phone Number: toll free at 1-888-659-8229
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Your participation is greatly appreciated and will contribute to providing useful information on federal S&T expenditures. You will be able to access the results through “The Daily” and CANSIM tables 358-0142 to 358-0151 and CANSIM tables 358-0163 to 358-0166 on Statistics Canada’s web site. The data will also be available on Science.gc.ca.

THANK YOU FOR YOUR CO-OPERATION