



Science, Innovation and Electronic Information Division
**Survey of Intellectual Property
Commercialization in the
Higher Education Sector, 1999**

Respondent Handbook



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Statistics
Canada Statistique
Canada

Canada



Instructions and definitions

If exact numbers are not readily available, please provide estimates with a note indicating this.

Please do not leave any question blank. Enter zero responses with the digit "0" if the value is known to be zero. If the data are not available, write "not available" in place of the answer. In cases where the question is not applicable, please enter "n/a".

Report all dollar amounts in Canadian dollars.

Section 1. General Information

- 1.1 Please provide information for fiscal year 1998-1999. If the information provided on this form does not refer to 1998-1999, please note the year to which the data do refer.

If information is available for other years, as well as for 1998-1999, and has not been reported previously, please provide it on a separate form. Copy and complete one questionnaire for each fiscal year reported.

- 1.2 Include all related institutions that were affiliated for research purposes with the main institution during fiscal year 1998-99. This would cover the main institution, affiliated colleges and universities, institutes and teaching hospitals only if information for these institutions is included in your responses.

Intellectual property management includes intellectual property identification (reporting, patent disclosures), protection (patenting, registration of industrial designs, etc.), promotion (market studies, business plans, prototypes, etc.) or commercialization (licensing, research contracts, consulting, spin-off investment).

- 1.3
- a. "Intellectual property management" is to be interpreted in the broadest sense. It refers to the activities of an institution's University-Industry Liaison Office, Office of Research, Technology Transfer Office, Software Licensing Office, etc.
 - b. Please estimate the components of operational expenditures. The components should add to the "total operational expenditures for IP management". If information on the components is not available, provide an estimate of total operational expenditures.
 - c. Some institutions that create IP may not have facilities for managing it. For example, the IP may be managed by another institution.
 - d. A research park or business incubator is a property primarily designed to promote research and development, assist in the growth of new ventures, promote economic development, and aid the transfer of technology and business skills between the institution and industry tenants.

1.4 Intellectual property includes:

Inventions: Any patentable product, process, machine, manufacture or composition of matter, or any new and useful improvement of any of these, such as new uses of known compounds (Canadian University Intellectual Property Group, 1998). Some inventions are patentable in some jurisdictions but not in others: these include novel genetically-engineered life forms, new microbial life forms, methods of medical treatment and computer software. In the event of multiple possibilities (for example, computer software that is patented and copyrighted), count the item only once and preferably in the category most appropriate for Canadian intellectual property legislation.

Computer software or databases: As noted above, computer software can be patented but normally it is protected by copyright. Databases may also be copyrighted.

Literary, artistic, dramatic or musical works, books, papers: This category includes any copyrightable works other than computer software and databases and special educational materials as noted below.

Educational materials: This category includes special materials that may be copyrighted but are not necessarily in the form of printed books. This could include broadcast lessons, Internet pages, booklets, posters or computer files, among others.

Industrial designs: These are original shapes, patterns or ornamentations applied to a manufactured article. Industrial designs are protected by registration with the Canadian Intellectual Property Office.

Trademarks: These are words, symbols, designs, or combinations thereof used to distinguish your wares or services from someone else's. Trademarks are registered with the Canadian Intellectual Property Office.

Integrated circuit topographies: This is a three-dimensional configuration of the electronic circuits used in microchips and semiconductor chips. Integrated circuit topographies can be protected by registration with the Canadian Intellectual Property Office.

New plant varieties: Certain plant varieties that are new, different, uniform and stable may be protected by registration with the Canadian Intellectual Property Office.

Know-how is practical knowledge, technique or expertise. For example, certain information is codified in the patent application but a researcher's know-how could be valuable for commercial optimization of the product. Know-how can be licensed independently of the terms of a related patent.

a. Please check the most applicable reporting requirement for each type of IP:

Always: Whenever this type of IP is created at the institution, the creator is obliged to report it to the institution;

Sometimes: The creator is obliged to report the creation of this type of IP to the institution under certain conditions, such as if he/she files a patent application;

Never: There is an explicit policy stating that creators are not obliged to report the creation of IP to the institution;

No policy: There is no policy on reporting for this type of IP;

No such IP at this institution: To the best of your knowledge, IP of this type has never been created at this institution.

If your institution deals with a type of intellectual property not listed, please indicate it under "Other".

b. The owner of intellectual property refers to the initial assignee of an invention, or holder of the copyright or registration of other intellectual property.

c. Indicate either a single percentage or a range of percentages. Also note whether this is a percentage of gross or net royalties.

d. List the names of any other policies of the institution that may have an impact on intellectual property ownership, protection, promotion or commercialization. This could include policies on research contracts, spin-off companies and others. If available, please provide paper copies of these policies. If you sent paper copies with your response last year and the policies have not changed, it is not necessary to provide the material this year.

1.5 Research contracts are arrangements under which the institution, or an individual within the institution, agrees to undertake a research project on a specified problem, using the institution's facilities and/or personnel, for a sponsor that provides funds to meet all or part of the costs of the project.

b. A **Canadian business** is any business that is incorporated in a Canadian jurisdiction. A **foreign business** is any business that is not incorporated in a Canadian jurisdiction. **Foreign** includes the United States. A **multinational** would be classified as a Canadian business if it has an operation incorporated in a Canadian jurisdiction.

In the case of multiple sponsors, if possible, create a group under "other" that specifies the category of sponsors (e.g., "federal and provincial government"). The total number and value of contracts should add to the total.

1.6 This refers to the loss of any potential intellectual property rights including patents, copyrights, industrial design registrations, trademark registrations, integrated circuit topography registrations, plant breeders' rights, or know-how.

1.7 a. "New intellectual property" refers to of forms of intellectual property defined under Section 1.4.

b. For this question, please be as specific as possible about the names of the offices and companies involved. If there are several different approaches, please list the most common ones.

c. A typical case need not be the most common approach. Your response will be more useful if it contains a complete description of the process from inception to licensing.

1.8 "Consulting activities" refers to paid or unpaid professional activities, beyond normal academic and collegial duties, for the benefit of clients outside the institution. Unpaid consulting could include advising a non-governmental organization.

Section 2. Identifying Intellectual Property

2.1 The types of intellectual property are defined under Section 1.4. If, to the best of your knowledge, these forms of intellectual property have never been created at this institution, answer "n/a".

Section 3. Protecting Intellectual Property

- 3.1 The mechanisms for protecting intellectual property do not exactly parallel the forms of intellectual property. One invention, for example, may result in several patents, copyrights, trademarks and confidentiality agreements. The mechanisms for protection are:

Filing of patent applications: A patentable invention (see description under Section 1.4 above) to be protected, requires a patent application with the government of the countries in which protection is sought. A patent application may be preceded by an invention disclosure to the institution.

Registration of copyrights: This category is intended to cover **copyright registrations** only, not those copyrights that are obtained automatically. The kinds of works covered include: books, maps, lyrics, musical scores, sculptures, paintings, photographs, films, tapes, computer programs and databases. A copyright means that the owner is the only person who may copy his or her work or permit someone else to do so. You obtain copyright automatically in Canada when you create an original work. It is not necessary to register copyrights with the federal Copyright Office but doing so can be a proof of ownership.

Registration of industrial designs gives the owner exclusive rights to use the design. The design must be an original shape, pattern or ornamentation applied to a manufactured article.

Filing of registration of trademarks gives the owner exclusive rights to words, symbols and designs, or combinations of these, that distinguish one's wares or services from those of someone else. Trademarks are registered through Canada's Trade-Marks Office. Normally, trademarks do not need to be registered, however, doing so gives the owner exclusive rights throughout Canada.

Registration of integrated circuit topographies gives the owner exclusive rights to use the design. Protection can extend to the layout design as well as to the finished product.

Filing of applications for plant breeders' rights gives the holder exclusive rights to new varieties of some plant species. To be protected, the varieties must be new, different, uniform and stable. A claim for protection is preceded by publication of a description of the plant variety in the Plant Varieties Journal.

Signing of non-disclosure or confidentiality agreements: Non-disclosure is an alternative to patenting. A non-disclosure agreement does not constitute a property right although the IP can be protected by contract. Parties to a non-disclosure contracts agree not to divulge valuable technical knowledge and can be prohibited from so.

- 3.2 Note: this question has been modified from the 1998 questionnaire. The 1998 questionnaire requested the total number of protection activities. This version requests the number of intellectual properties (inventions, literary works, trademarks, etc.) that were subject to protection.

Count the number of **intellectual properties** (see definitions in Section 1.4 above) that resulted in a protection activity (see definitions in Section 3.1 above) initiated during the reference year.

For copyrighted IP, include only those intellectual properties for which a copyright was registered. Do not include copyrights that were obtained automatically.

- 3.3 If the information is not available by field of study (see the Annex for a detailed list of fields of study), please report the total only.

“New patent applications” refers to all patent applications completed during the reference year, regardless of country of application. International and regional applications should be counted as single applications. If national and regional applications result in patents issued in multiple countries, count each patent issued in each country.

“Patents issued” refers to new patents issued during the reference year.

“Total patents held, including patents issued this year” refers to all patents in effect in Canada, the United States and other countries.

Section 4. Exploitation of Intellectual Property by the Institution

- 4.1 “Intellectual property promotion activities” include market studies, business plans, feasibility studies, scale-up plans, demonstrations and prototype development. Count those activities to which the institution made a significant contribution financially or in kind.

- 4.2 See Section 1.5b) for definitions of **Canadian** and **foreign**.

“New licenses executed” refers to the completion of an agreement with a client to use the institution’s intellectual property for a fee or other consideration (such as equity in the company).

“Sponsors of research contracts or participants in collaborative activities” refers to clients that have funded or cooperated in research at the institution and are now licensing the intellectual property generated as a result of that research contract.

“Exclusive or sole licenses” are agreements allowing only one client the right to use the intellectual property.

- 4.3 In this case, “royalties” refers to income generated from licensing. The total figure should not include reimbursement for legal or patent fees. If reimbursement is an important source of income, please include it in Section 4.5 with an explanation. In some instances, the revenues received from disposition of equity in a spin-off company may be interpreted as a royalty. If possible, please exclude these values from the total and report them under Question 5.3. If this is not possible, please note that the value includes revenues from disposition of equity.

- 4.4 To allow us to better understand the impact of the technology that the institution has licensed, please include a list of technologies and the name of the licensee for each major license.

- 4.5 The purpose of this question is to identify other sources of income related to intellectual property management not covered in other questions. For example, if a potential licensee contributes the funds to apply for the patent, this could be considered another source of income. Please list the items whether or not figures are available.

Section 5. Impacts of Intellectual Property Commercialization

- 5.1 “Legal name” is the name used to refer to the company on official documentation such as incorporation papers or tax forms. It is important to be as precise as possible since the name allows us to obtain further information from our business records.

“Institutional link” refers to the nature of the relationship between the institution and the company: licensing, R&D or service. If there are other institutional links, please note them.

“Technology sector” refers to the main business of the company.

- 5.2 For spin-off companies in which the institution holds equity, please report the dividends paid, if any, during the reference year.
- 5.3 In cases where the equity in spin-off companies has been sold, please report the amount received for these sales.
- 5.4 “Remaining equity” refers to the market value of the shares in the company at the end of the fiscal year reported.

Annex: Detailed Field of Study Classification

1. Commerce, Management and Business Administration

Business and Commerce
Financial Management
Industrial Management and Administration
Institutional Management and Administration
Marketing, Merchandising, Retailing and Sales
Secretarial Science - General Fields

2. Agricultural and Biological Sciences/Technologies

Agricultural Science
Agricultural Technology
Animal Science Technologies
Biochemistry
Biology
Biophysics
Biotechnology
Botany
Household Science and Related Fields
Veterinary Medicine/Science
Zoology
Other Agricultural and Biological Sciences/Technologies

3. Engineering and Applied Sciences

(including Engineering and Applied Science Technologies and Trades)
Architecture and Architectural Engineering
Aeronautical and Aerospace Engineering
Biological and Chemical Engineering
Civil Engineering
Design/Systems Engineering
Electrical/Electronic Engineering
Industrial Engineering
Mechanical Engineering
Mining, Metallurgical and Petroleum Engineering
Resources and Environmental Engineering
Engineering Science
Engineering n.e.c.
Forestry
Landscape Architecture

4. Health Professions, Sciences and Technologies

Dentistry
Medicine - General
Medicine - Basic Medical Science
Medical Specializations (Non-surgical)
Paraclinical Sciences
Surgery and Surgical Specializations
Nursing
Nursing Assistance
Optometry
Pharmacy and Pharmaceutical Sciences
Public Health
Rehabilitation Medicine
Medical Laboratory and Diagnostic Technology
Medical Treatment Technologies
Medical Equipment and Prosthetics
Other Health Professions, Sciences and Technologies

5. Mathematics and Physical Sciences

Actuarial Science
Applied Mathematics
Chemistry
Geology and Related Fields
Mathematical Statistics
Mathematics
Metallurgy and Materials Science
Meteorology
Oceanography and Marine Sciences
Physics
General Science

6. All other not elsewhere classified, including

Educational, Recreational and Counselling Services
Fine and Applied Arts
Humanities and Related Fields
Social Sciences and Related Fields