



Science and Technology Redesign Project

# **Survey of Intellectual Property Commercialization in the Higher Education Sector, 1998**

# **Respondent Handbook**



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Statistics Statistique  
Canada Canada

Canada





Science and Technology Redesign Project  
Survey of Intellectual Property  
Commercialization in the  
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## 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, enter "N/A". In cases where the question is not applicable, please indicate this.

Report all dollar amounts in Canadian dollars.

### Section 1. General Information

- 1.1 Please provide information for fiscal year 1997-1998. If the information provided on this form does not refer to 1997-1998, please note the year to which the data do refer.

If information is available for other years, as well as for 1997-1998, please provide it on a separate form. Please photocopy 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 1997-98. 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, Technical Transfer Office, Software Licensing Office, etc.

c. Some institutions may manage intellectual property in a de-centralized manner. For example, faculties or departments that engage in research may have their own offices for intellectual property management.

d. Research parks and business incubators may house companies other than spin-offs. Please list all tenant companies whether or not they are spin-offs.

The legal name is the name used to refer to the company on official documentation such as incorporation papers or tax forms.

- 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.

If your institution deals with intellectual property of a form other than those listed, please write the type in the space provided under "Other".

c. The owner of intellectual property rights refers to the assignee of an invention, or holder of the copyright or registration of other intellectual property. Ownership may be categorized by means of protection (i.e., patents, copyrights) rather than by the form of intellectual property. If this is the case at this institution, include the information on a separate sheet.

d. Many institutions have a standard split for sharing revenues. In some cases, the percentage depends on who manages the protection, promotion and commercialization. Sometimes, the percentage is negotiated. Please note either a single percentage or a range with conditions.

e. 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.

1.5 a. "New intellectual property" in this case refers to the list 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 does contain a complete description of the process from inception to licensing.

1.6 “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.

1.7 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. The initiation of a research contract refers to the commencement of work as stated in the contract itself. A contract may be signed specifying that the work is to commence upon signing or may set some future date for commencement of the work.

If reporting by field of study, please use the Statistics Canada Census Field of Study classification. In this classification, 123 detailed fields are grouped into 11 general classes:

1. Educational, Recreational and Counselling Services
2. Fine and Applied Arts
3. Humanities and Related Fields
4. Social Sciences and Related Fields
5. Commerce, Management and Business Administration
6. Agricultural and Biological Sciences/Technologies
7. Engineering and Applied Sciences
8. Engineering and Applied Science Technologies and Trades
9. Health Professions, Sciences and Technologies
10. Mathematics and Physical Sciences
11. All other not elsewhere classified.

The detailed fields and their relationship to the 11 general classes are shown in the Annex. Note that this is a unified classification system intended to classify fields of study at technical colleges as well as universities.

c. In the case of multiple sponsors, count a contract under the classification of the sponsor with the greatest contribution. The total number and value of contracts should add to the totals provided in 1.7b.

1.8 a. This refers to the loss of any potential intellectual property rights including patents, copyrights, industrial design registrations, trademark registrations, integrated circuit topography registrations, plant breeder's rights, etc.

## Section 2. Identifying Intellectual Property

2.1 The types of intellectual property are defined under Section 1.4. If reporting of these forms of intellectual property is never required, answer "not applicable".

## 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 trade secret agreements. The mechanisms for protection are:

**Patent:** 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.

**Copyright:** 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.

**Trademark registration** 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.

**Industrial design registration** gives the owner exclusive rights to use the design. The design must be an original shape, pattern or ornamentation applied to a manufactured article.

**Registering an integrated circuit topography** gives the owner exclusive rights to use the design. Protection can extend to the layout design as well as to the finished product.

**Plant Breeder's Rights** give 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.

**Trade secret agreements.** Trade secrecy is an alternative to patenting. A trade secret agreement does not constitute a property right although the trade secret can be protected by contract. Parties to a trade secret agree not to divulge valuable technical knowledge and can be prohibited from so.

- 3.2 Count the number of protection activities (see definitions in Section 3.1 above) initiated during the reference year. In this case "initiated" refers to the first formal action completed by the institution and conveyed to someone outside the institution. In the case of a patent application, count applications that have been completed and sent to a patent office. Do not count an incomplete patent application.

In the case of multiple applications (such as copyright registrations in several countries), count each one as a separate protection activity.

- 3.3 If the information is not available by field of study, please report the total only. Refer to Section 1.7b and the Annex.

“New patent applications” refers to all patent applications completed during the reference year, regardless of country of application. The total figure for this item should match the number of patent applications provided in the first line of Question 3.2.

“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 “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).  
“New licenses executed with sponsors of research contracts” refers to clients that have funded research at the institution and are now licensing the intellectual property generated during that research contract.  
“Exclusive 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. 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 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 defined under Question 1.3d.  
“Institutional link” refers to the nature of the relationship between the institution and the company.  
“Licensing” means that the company has licensed the institution’s intellectual property.  
“R&D” means that the company funds research and development at the institution in order to develop intellectual property that will be licensed by the company.  
If there are other institutional links, please note them.  
“Technology sector” refers to the field or industry of 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. Educational, Recreational and Counselling Services
  - Education - General
  - Elementary - Primary Education
  - Secondary Education (Basic)
  - Secondary Education (Specialized)
  - Special Education
  - Non-teaching Educational Fields
  - Physical Education, Health and Recreation
  - Counselling Services and Personal Development
  - Other Education
2. Fine and Applied Arts
  - Fine Arts
  - Music
  - Other Performing Arts
  - Commercial and Promotional Arts
  - Graphic and Audio-visual Arts
  - Creative and Design Arts
  - Other Applied Arts
3. Humanities and Related Fields
  - Classics, Classical and Dead Languages
  - History
  - Library and Records Science
  - Mass Media Studies
  - English Language and Literature
  - French Language and Literature
  - Other Languages and Literature
  - Philosophy
  - Religious Studies
  - Other Humanities and Related Fields
4. Social Sciences and Related Fields
  - Anthropology
  - Archaeology
  - Area Studies (Non-languages or Literature)
  - Economics
  - Geography
  - Law and Jurisprudence
  - Human/Environment Studies
  - Political Science
  - Psychology
  - Sociology
  - Social Work and Social Services
  - War and Military Studies
  - Other Social Sciences and Related Fields
5. 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
6. Agricultural and Biological Sciences/Technologies
  - Agricultural Science
  - Agricultural Technology
  - Animal Science Technologies
  - Biochemistry
  - Biology
  - Biophysics
  - Botany
  - Household Science and Related Fields
  - Veterinary Medicine/Science
7. Engineering and Applied Sciences
  - 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
8. Engineering and Applied Science Technologies and Trades
  - Architectural Technology
  - Chemical Technology
  - Building Technologies
  - Data Processing and Computer Science Technologies
  - Electronic and Electrical Technologies
  - Environmental and Conservation Technologies
  - General and Civil Engineering Technologies
  - Industrial Engineering Technologies
  - Mechanical Engineering Technologies
  - Primary Industries/Resource Processing Technology
  - Transportation Technologies
  - Other Engineering/Applied Science Technologies n.e.c.
9. 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
10. 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
11. All other not elsewhere classified