Science, Innovation and Electronic Information Division

Survey of Intellectual Property Commercialization in the Higher Education Sector, 2005

Respondent Handbook

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Statistics Canada Statistique Canada

Canada

Science, Innovation and Electronic Information Division

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Electronic questionnaire

A form-fillable PDF questionnaire will be available shortly after the mailout of the paper questionnaire. To receive a copy, please e-mail your request to **Education.oid@statcan.ca**.

Instructions for hospitals

Hospitals will receive a one page screening questionnaire in addition to the main (14 page) questionnaire. Hospitals are asked to complete the screening questionnaire first to determine whether they are also being asked to complete the 14 page questionnaire.

If the hospital meets the screening criteria, please proceed to Section 1 - General information – of the 14 page questionnaire. Section 1 concerns intellectual property (IP) policies at the institution. This will be applicable to your institution even if IP is commercialized through an affiliated university.

If researchers report IP to your institution, complete Section 2 as well.

If IP is managed (e.g., patented, licensed, commercialized) by your institution, complete Sections 3 to 6 as applicable.

If IP developed at your institution is commercialized by a different institution (e.g., a university technology transfer office), indicate this in the "Comments" section (Question 6.2) and complete only the questions in Sections 3 to 6 that relate to activities at your institution.

Instructions for liberal arts universities and divinity colleges

This survey applies to all members of the Association of Universities and Colleges of Canada (AUCC), including liberal arts universities and divinity colleges. Even if the institution has no invention disclosures or patents, information is still required on other types of intellectual property, such as "educational materials" and "other materials" (e.g., literary works) and on other issues, such as faculty consulting.

You are therefore asked to complete all relevant questions on the questionnaire. The relevant questions are most likely 1.1, 1.2, 1.3a, 1.4a, 1.4b, 1.4e, 1.5a, 1.5b, 2.1, 3.1 and 3.2.

General instructions

Complete all sections of the questionnaire that are relevant to your institution.

If you don't have all the information requested, please complete as much as you can. If exact numbers are not readily available, please provide estimates with a note indicating this. Since we plan to ask many of these questions in future surveys, it may be helpful for your institution to set up an information system now to track the information requested for future surveys.

Please do not leave any question blank. If the value is known to be zero, enter the digit "0". If the information is 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.

If using the paper questionnaire, please type or legibly write your answers to the survey in ink.

Please keep a copy of the completed questionnaire for your own future reference and in case we require further details.

Survey contact: Please include you e-mail address so that we can automatically send you the aggregated results of this survey when available.

Section 1. General Information

1.1 Please provide information for fiscal year 2004-2005. If the information provided on this form does not refer to 2004-2005, please note the year to which the data do refer.

1.2 Note the name of the main institution and all affiliated institutions that are **included in your figures.** Affiliated institutions may include universities, colleges, institutes and research hospitals.

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. If 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 intellectual property management." If information on the components is not available, provide an estimate of total operational expenditures.

Expenditures should be estimated to correspond to the portion of the office dedicated to intellectual property management as opposed to the research contracts or other functions.

In “employees engaged in intellectual property management”, include both professional and administrative support staff (the portion of their time dedicated to IP management only). Include persons involved in the negotiation of material transfer and confidentiality agreements but not clinical trial agreements.

c. This question requests information on the sources of funds that were used for intellectual property management in the reference year.

d. For this question, list both professional and administrative support staff.

f. A start-up is a company established to license the institution’s technology.

g. Some institutions that create IP may not have facilities for managing it. For example, the IP may be managed by another institution.

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.

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.

Other materials protected by copyright: This category includes any copyrightable works other than computer software and databases and special educational materials as noted above. For example, it includes literary, artistic, dramatic or musical works, books and papers.

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.

Trade-marks and official marks: These are words, symbols, designs, or combinations thereof used to distinguish your wares or services from someone else's. Trade-marks and official marks are registered 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.

Other intellectual property includes:

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.

Know-how is practical knowledge, technique or expertise. For example, certain information is codified in the patent application but a researcher's know-how may 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 owner of an invention, or holder of the copyright or registration of other intellectual property.

d. For the definition of spin-off companies, see Question 5.1 on the questionnaire.

1.5 a. “Faculty consulting activities” refers to paid or unpaid professional activities that are beyond normal academic and collegial duties, for the benefit of clients outside the institution. Unpaid consulting could include advising a non-governmental organization.

1.6 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.

a. 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 sums of the number and value of contracts should correspond to the totals.

“Canadian” and “foreign” organizations: include research contracts with not-for-profit organizations and associations.

“Other” research contracts: include those with other universities and hospitals, institutes, foundations and individuals.

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, trade-marks 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 copyright: This is intended to cover **copyright registrations** only, not those copyrights that are obtained automatically. The kinds of works covered include:

- computer software and databases
- educational materials (e.g., broadcast lessons, Internet pages, booklets, posters)

- books, maps, lyrics, musical scores, sculptures, paintings, photographs, films and tapes.

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.

Registration of trade-marks or official marks 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. Trade-marks and official marks are registered through Canada's Trade-Marks Office. Normally, trade-marks and official marks 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.

Executing 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 contract agree not to divulge valuable technical knowledge and can be prohibited from doing so.

A Material Transfer Agreement (MTA) is a contract that governs the transfer of one or more materials from the owner or authorized licensee to another party for research purposes. Materials may include cultures, cell lines, plasmids, nucleotides, proteins, bacteria, transgenic animals, pharmaceuticals and other chemicals. (AUTM Educational Series: Material Transfer Agreements, 1998)

An MTA outbound is one in which the materials originate with the institution.

An MTA inbound is one in which the materials are received by the institution.

3.2 Number of intellectual properties that resulted in protection activity:

Report 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. Do not include patent renewals or other maintenance files.

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

For each type of IP, the number that resulted in protection activity and the number declined by the institution won’t necessarily add up to the number of disclosures in Question 2.1 due to timing differences.

3.3 Patents applications and patents issued

a. 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.

"Patent applications" refers to all patent applications completed during the reference year, regardless of country of application.

"Patents issued" refers to new patents issued during the reference year. If national and regional applications result in patents issued in multiple countries, count each patent issued in each country.

b. "Total number of patents held by the institution, 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 "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).

An option is a right to negotiate for a license.

See Section 1.6a for definitions of **Canadian** and **foreign**.

"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.

"Sole licenses" are agreements allowing only one client the right to use the intellectual property.

"Exclusive license" refers to one granted that is exclusive for a territory, for a field of use worldwide or otherwise. Hence, there may be multiple exclusive licenses for a single patent.

In most cases, the new licenses recorded in the top half of the table (questions 4.1 a and b) should be included in the corresponding cells for total active licenses in the bottom half of the table (questions 4.1 c and d).

The total number of new licenses/options and the total number of active licenses/options in this (the Statistics Canada) survey should correspond to the same fields on the AUTM Licensing Survey if the two reporting periods are the same.

4.3 A sublicense is a license executed by the institution's licensee.

4.4 To permit 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 Running royalties are those based on the sale of products.

Milestone payments are those made by a licensee at predetermined points in the commercialization process.

Regarding item 3 - one time sales of IP in exchange for a single or several payments - include income from assignments to commercial exploiters.

Other income received from intellectual property: For example, if a potential licensee contributes the funds to apply for the patent, this could be considered another source of income. Please list all items whether or not figures are available.

In some instances, the revenues received from disposition of equity holdings, options and warrants 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.

4.7 This question was adapted from one in the AUTM Licensing Survey. The answers to the two questions should correspond if the reference period for the two surveys is the same.

Section 5. Spin-off companies

5.1 This survey attempts to track all spin-offs created to date, including those that are now inactive, closed, merged, etc. If your institution has not previously sent in a list of all spin-offs created to date, we would appreciate receiving such a list now.

"Legal name" is the name used by the company on official documents, such as incorporation papers or tax forms. It is important to be as accurate as possible since the name permits 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 and/or service. There may be one or several institutional links for a given company. 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 any cash dividends received during the reference year.

5.3 In cases where equity holdings, options or warrants in spin-off companies have been sold, please report the amount received from these sales.

5.4 "Remaining equity held by the institution" refers to the market value of shares in publicly traded spin-off companies at the end of the fiscal year. The remaining value of equity reported should be reduced by any cost to acquire it.

Annex: Detailed Field of Study Classification

1. 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

2. 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

3. Health Professions, Sciences and Technologies

Dentistry
Medicine - General
Medicine - Basic Medical Science
Medical Specializations (Non-surgical)
Para clinical 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

4. 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

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. All other not elsewhere classified, including:

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