

ACTION PLAN

MANAGING INTELLECTUAL PROPERTY

in universities
and institutions of the health
and social service network
where research activities
are conducted

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The masculine gender is used only to make the text easier to read.

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INTRODUCTION

The *Action plan for managing intellectual property in universities and institutions of the health and social service network where research activities are conducted* is a follow-up to the Québec Policy on Science and Innovation (QPSI) and has been written for implementation of this policy. In its section on university-based intellectual property, the QPSI provides general aims and guidelines on certain key points, including ownership and revenue sharing. These aims and guidelines will be used to harmonize policies among institutions. They will also form part of good research practices that the Québec government will expect from all public research institutions.¹

Québec may gain substantial competitive advantages through the introduction of exemplary practices in public research, through protection and commercial development of research findings, and through fair distribution of revenues among all partners. Much preparatory work will be needed: keeping track of new trends, identifying promising research, arbitrating between different parties, providing information, and promoting good practices. But Québec stands to gain much more, in terms of competitive advantage, by having clear, simple, and harmonized practices in all of its universities. For both private and public partners, a consensual Québec-wide policy will improve the quality of the research environment and avoid many misunderstandings, discussions, and delays when the time comes to sign inter-institutional and inter-sectorial agreements.

Why a harmonized policy?

There are several reasons for harmonizing policies on intellectual property management. For instance, research projects are increasingly multi-institutional in nature, researchers are becoming more mobile, and relations are developing between businesses and universities. Researchers from different institutional environments may have trouble working together because of the wide variety of rules governing distribution of rights and earnings, recognition of the inventor's role, and allocation of operating rights, to mention only a few points. In the health-care sector, for example, rules should be transferable from one institution to another, in order to maintain the networks that characterize this sector in Québec. It is hard to imagine why colleagues, professors, and students should be subject to disparate rules simply because they come from different home universities or have different funding sources.

Harmonization is needed along three lines:

- (a) among universities
- (b) among their affiliated institutions
- (c) between universities and their affiliated institutions

The QPSI points out that the universities are converging in their practices, at least on the issue of institutional ownership of rights. "Regardless of specific practices, universities generally require that the rights be assigned to them once they commit to the development process."²

In addition, the day after the QPSI was released, on February 2, 2001, the board of directors of the Fonds de la recherche en santé du Québec (FRSQ) came out with a new policy. The *Politique de valorisation des connaissances dans les établissements de santé* (Policy for Commercial Development of Knowledge in Health-care Institutions) lays down the current ground

¹ In his last report to the National Assembly (June 2001), the Auditor General of Québec asked for the creation of a framework for good research practices that would include, among other things, an intellectual ownership policy for publicly funded research. The Public Administration Commission debated this point on October 31, 2001.

² Government of Québec, *Knowledge to Change the World*, Québec Policy on Science and Innovation, January 2001, 169 pages (p. 91).

rules for the nineteen hospitals that have research centres. Compliance is now a condition for FRSQ funding.

Four development corporations will encompass all universities and their affiliated institutions. Within each of these groups, there will be sharing of resources for managing intellectual property and sharing of exemplary practices. These new groups clearly stand to gain from harmonized institutional policies as much as they will promote harmonization.

The university research community is mainly concerned with two kinds of intellectual property protection: copyright and patents. Copyright applies to literary, artistic, dramatic, and musical works, including software and sound recordings. It provides the authors with recognition and control over a descriptive text or representation of their knowledge, i.e., the outcome of their research or creation, while allowing fair use by any other person if authorship is clearly mentioned. Copyright protects expression of the idea and not the idea itself.

In university practice, creators of copyrighted works have always benefited from moral and economic rights to their works, with certain variations that are specified in the policies of each institution. Consequently, the Action Plan does not apply to creations protected by copyright.

A patent is a sort of location certificate of the new piece of knowledge. It provides useful information that is not obvious to someone in the field. It delineates the scope of the new knowledge and describes its content. It grants recognition to those who initiated the knowledge, i.e., the researchers/inventors. To the patent holder, it grants control over any transfer of the knowledge described in the patent and it grants a monopoly over use of the knowledge—in exchange for mandatory public disclosure.

There has been profound change in the way research is organized and practised in Québec, as elsewhere around the world. Working relationships have multiplied and diversified among researchers, institutions, sectors, and countries. In this context, a growing number of ever more mobile and diverse people are coming to demand their “share” of copyrights to inventions. The trend is bound to grow, because discoveries are increasingly occurring where several disciplines overlap or intersect. The time factor is also becoming more crucial both upstream (in the direction of basic knowledge) and downstream (in the direction of development and application).

There are two main vectors in the development of intellectual property for commercial ends: (a) granting a licence or selling the rights to an established business; and (b) creating a spinoff company. The second option is more complex for intellectual property management.

Cooperation by all research partners

The success of the approach proposed here will depend on cooperation from the main research partners of universities: researchers; public institutions active in research; development corporations; businesses; investors; funding bodies; and the Québec government. Everyone will have to implement the Action Plan’s measures and comply with them in their daily activities.

Some CEGEP researchers are involved in university-based research projects funded by programs of the Fonds québécois de la recherche sur la nature et les technologies (FQRNT). Needless to say, these researchers, like their university colleagues, are affected by the Action Plan. This will be all the more so as CEGEP and university research communities become increasingly integrated, as anticipated in the QPSI.

The way forward lies in building consensus among all partners. The Action Plan is to become the instrument for such consensus building. An effective system for commercial development must rest on clear, agreed-upon guidelines. In the current circumstances, implementation of the Action Plan will largely depend on support from all players in research, commercial development, and innovation.

The rules for managing intellectual property are sometimes laid down in an institution's collective agreements. If any Action Plan measures diverge from certain provisions of the collective agreements, the timetable for implementation will be pushed back to allow for the usual negotiations in such cases.

Preparation and implementation of the Action Plan

The Action Plan was prepared by a committee composed of presidents of funding bodies and representatives of the Ministère de la Recherche, de la Science et de la Technologie (MRST). The committee sat from September to December 2001.

Different organizations were consulted on the content of the Action Plan, notably the Conference of Rectors and Principals of Québec Universities (CREPUQ), Valorisation-Recherche Québec (VRQ), the Table de concertation des centres hospitaliers universitaires, the Fédération des professeures et professeurs d'université (FQPPU), the Fédération des cégeps, and the Conseil national des cycles supérieurs (CNCS-FEUQ). The Ministère de la Santé et des Services sociaux and the Ministère de l'Éducation were also invited to comment on the Action Plan.

There had previously been extensive consultation on the QPSI—which is the framework for the Action Plan. As its name indicates, the Action Plan lays down guidelines for action in the target institutions.

Once these guidelines have been put into practice, all university institutions will share a harmonized vision of intellectual property management. In the meantime, each group of partners has been given a series of responsibilities and actions to be carried out according to a clear timetable. To assist them, the MRST will set up and coordinate a follow-up and monitoring mechanism that will be described further on.

Organization of the Action Plan

The Action Plan has three sections:

- the first section sets forth the scope, fundamental values, and principles of action in relation to the QPSI
- the second section defines the partners' responsibilities and the timetable for implementing each of the fifty or so actions
- the third section deals with the follow-up, monitoring, and assessment process that will be put into place to facilitate further changes to the Action Plan.

SECTION I

GENERAL FRAMEWORK

GENERAL FRAMEWORK

SCOPE OF THE ACTION PLAN

1. Recipients of public funding

The Action Plan covers research activities that are conducted in universities and affiliated institutions, e.g., university hospitals, and that involve public funding, regardless of the mechanism or nature of the funding (e.g., grants, scholarships, or sponsorships).

Public funding notably includes:

- a) Public funding of recipient institutions in the form of grants to their researchers. The funding notably comes from:
 - The three Québec research councils, i.e., the Fonds de la recherche en santé du Québec (FRSQ), the Fonds québécois de la recherche sur la nature et les technologies (FQRNT), and the Fonds québécois de la recherche sur la société et la culture (FQRSC)
 - Valorisation-Recherche Québec (VRQ) for the research component of its mandate
 - Québec government departments and agencies in their support for university-based research
- b) Public funding of recipient institutions in the form of grants for infrastructure. Such funding notably comes from the three Québec research councils and various government departments.
- c) Investments by Recherche Québec, including investments in research infrastructures to match funding from federal bodies, such as the Canada Foundation for Innovation (CFI).
- d) Direct or indirect public funding with a view to creating or supporting legally independent research and development (R&D) organizations, which may also receive private contributions and become R&D and commercial development partners with universities. Such funding is funnelled through intermediaries like Génome Québec or VRQ-created research consortiums.

2. Relations of these recipients with their partners

All research or service contracts should be governed by an institution policy that is consistent, in all relevant cases, with the Action Plan's guidelines and rules.

Any other relationship that involves public or private funds and that involves management of intellectual property or the results of commercial development of research should also, in all relevant cases, be consistent with the Action Plan.

SIX FUNDAMENTAL VALUES

1. Academic freedom

The essential role of university professors is to create knowledge and pass it on. This interaction between research and advanced training is specific to the university; through it are developed fundamental attitudes that govern an ongoing process of creating and questioning knowledge. To struggle against prejudice and to call entrenched beliefs into question, we need intellectual rigour that is best expressed in a climate of complete academic freedom. We can never repeat too often that academic freedom is both a fundamental right of professors—that goes with social responsibility—and an essential, inalienable dimension of the university's mission.

Furthermore, a policy for intellectual property management cannot infringe on the researchers' freedom in choosing and conducting research work. Nor can it infringe on their decision to disseminate their findings to the scientific community. It is up to researchers to decide whether their discoveries should be commercialized. In addition, unless otherwise stated by the provisions of an agreement, academic freedom leaves it up to researchers to decide whether their findings should be published before being protected if they feel that the findings must be made public. On the other hand, it is highly important for researchers to be adequately informed and advised in such a decision. The institutions in question should seriously consider forming an internal committee that would confidentially advise researchers in this decision.

2. Respect for the fundamental missions of institutions

Research seeks to push back the bounds of human knowledge and expand the world's scientific and cultural heritage. Training seeks to pass on both fundamental and more specialized knowledge and skills, with a view to empowering people to be active and creative in the present and future. An institution's policies must recognize these two fundamental university missions and make them easier to pursue.

In the health and social service network, university-designated institutions have three or four fundamental missions depending on their designation: teaching, research, and assessment of technologies or procedures to be integrated into care and service activities. Institutions that are not designated but have signed an affiliation agreement with a university also conduct teaching and research activities that pertain to the delivery of care and services.

3. Public interest

Researchers and public institutions have, for the same reasons as many commercial development stakeholders, a responsibility to transfer research findings to society. As well, reasonable limits to the exercise of academic freedom exist in the institution's objectives, in its teaching and research programs, and in its material and financial means. In some cases, a professor may voluntarily agree to a temporary limit on his/her right to disseminate research findings because of the imperatives involved in legally protecting intellectual property and because of the rules and conditions imposed by external funding bodies.

4. Commercial development begins with the researcher

Researchers are at the source of the creative process. By virtue of this fact alone, they are at the origin of commercial development and must have the option of remaining the main player. After all, the researcher is the one who has made the invention or discovery and no one is in a better position to add value. Yet, as may be seen from the literature on this subject, the process involves many interacting players with a variety of interests. Researchers must recognize this reality.

5. Intellectual integrity

When developing knowledge for commercial uses, as in other academic activities, researchers and institutions must meet the highest standards of intellectual integrity. Good practices of commercial development must consider all aspects of scientific integrity, honesty, and fairness in all relations with research community members, institutions, and partners, as well as the principles of ethics that will govern the conduct of research activities, the presentation of results, and the proper use of public and private funding.

6. Transparency and accountability

All players in commercial development must be both transparent and accountable to the research community, the government, and the public. It is expected that good practices of commercial development will take these two factors into account.

FIVE PRINCIPLES OF ACTION

1. Responsibility of all stakeholders to transfer research findings to society

Intellectual property is a precious asset that must be protected. To protect it, however, it must be known—and recognized. To be sure, not all research findings can be transferred to the social and economic sphere, far from it. But when this is the case, they should be adequately protected and, if need be, turned into innovations without unnecessary or excessive delay. This is a legitimate demand from the public. It is also a fundamental responsibility of researchers and institutions with respect to the potential spinoffs from the findings of public research.

Consequently, if the researcher intends to develop any research findings for commercial ends or examine the feasibility of such commercial development, the findings must be disclosed to the appropriate authorities in the institution. It is understood that if a research finding is published too soon, before its commercial potential can even be assessed, there may be a significant loss of potential revenue.

2. Obligation of the institution and its commercial development partners to respond speedily and effectively

On the one hand, researchers have a responsibility to disclose. On the other, the institution has a responsibility to tell them within a reasonable time, as defined in its policy, the commercial potential and legal status of their research findings. After assessing a finding's value, the institution may apply for a patent or protect the finding by any other legal means. It will then have to provide the researcher with effective services for ongoing protection, promotion, and commercialization of the intellectual property. Before it exercises these responsibilities, it should have already concluded a comprehensive agreement with the development corporation that it belongs to.

Finally, if the institution declines to exploit the intellectual property, the researcher will be fully free to develop it.

3. Exclusive ownership of intellectual property once the commercial development process has begun

Ownership is initially vested jointly in the institution and in the researchers, including post-docs, students and, where applicable, research professionals and technicians. Joint ownership continues until a decision is made to go ahead or not with commercial development. Through disclosure, researchers notify the institution about any intellectual property to be held in joint ownership.

This approach unequivocally recognizes the contribution of researchers as sources of intellectual property. It also takes into account the status, resources, environment, and infrastructures that public institutions make available to researchers for them to get funding and do their work.

The Québec Policy on Science and Innovation stresses the advantages of having a single representative for the commercial development of intellectual property, notably in simplifying management and in preventing unexpected claims that may hold up or invalidate negotiations and transactions surrounding intellectual property. Multiple ownership may greatly encumber or even compromise management of intellectual property. Finally, to negotiate with full authority, the party responsible for commercialization should be the one who holds the rights.

The institution is probably best positioned to handle conflicts of interest and guarantee fair revenues to the parties who helped create the intellectual property. In addition, institutional ownership may be more effective in helping retain and exploit intellectual property rights in Québec, with a view to maximum socioeconomic spinoffs for all of Québec society.

Once the institution has formally entered the process of commercial development or signs an agreement to this effect, the researchers cede their share of the ownership to the institution (without renouncing their share of the benefits). Conversely, if the institution declines to exploit the intellectual property or takes longer to act than the time agreed upon (see Principle 2), it must cede back its share of the rights to the researchers if they so request. The division of future revenues between the institution and the researcher(s) should then be determined by prior agreement. In certain cases, and under certain clearly specified conditions, the researchers may start off with full ownership rights as well as oversight of commercial development.

4. Partnership between researchers and institutions

The institution makes substantial resources available to researchers, but the researcher is the main vector of scientific development. Ideally, no partner will dominate the other and, as shown by many studies, even if the institution assumes oversight over the work, the success of the commercial development process will depend a lot on the inventors' participation in assessing the worth of their ideas and on their motivation in pursuing product development.

5. Fairness

The principle of fairly recognizing all intellectual contributions must govern all aspects of research and commercial development, be it scientific publications, research partnerships, application for a patent, distribution of royalties, or participation in the share capital of a spinoff company. The principle of fairness must also govern the distribution of net revenues: 50% to the researchers and 50% to the institutions. In each case, it will be up to all partners to work out together the exact revenue-sharing formula. Needless to say, a third party who has provided funding for a project may claim a share in the revenues from commercial development.

SECTION II

RESPONSIBILITIES OF PARTNERS

RESPONSIBILITIES OF PARTNERS

To reach the general objective of the Action Plan, seven major families of measures must be implemented.

- Define, promote, and introduce standards
- Follow-up, monitor, and keep track of new trends to support the work of defining and introducing standards
- Systematically prospect for and disclose any research finding that has potential for commercial development
- Actively and speedily promote intellectual property
- Explicitly recognize the inventive and creative contribution of researchers, including post-docs, students and, where applicable, research professionals and technicians.
- Inform, raise awareness, and train
- Disseminate exemplary practices

RESPONSIBILITIES OF QUÉBEC'S THREE RESEARCH COUNCILS

1. Define and promote standards and ensure compliance

Traditionally, Québec's three research councils have had the function of defining and promoting standards for the way their funding is used. To this end, they have had to keep track of recent trends in research and industry. It is also incumbent on them to ensure that these standards are introduced and met as a condition for funding. They must thus get a commitment from researchers for research grants and from institutions for infrastructure grants.

2. Contribute to cultural change

Criteria for review and recognition must consider the full range of a researcher's professional activities and, in particular, activities relating to commercial development of research findings. Peer-review committees, notably, will have to integrate criteria that go beyond publishing in journals with review committees. Such criteria could, for example, include patents, participation in setting up a spinoff company, or development of tools for knowledge transfer. Evidently, such criteria will apply only in fields and contexts that warrant their use.

3. Provide the public with a return on their investment in research

As legal agents of the government in managing public funds, Québec's research councils could legitimately demand, on behalf of the public, a share in the possible results of commercial development of discoveries that flow from the research activities that they have funded. Generally, however, they assign this right to the public institutions that receive their funding, usually universities. They have never used this right, which is theirs.

ACTIONS FOR THE RESEARCH COUNCILS	DEADLINES
1) Include the Action Plan guidelines in a preamble to each of their grant and scholarship programs, and get a commitment from researchers to comply with them, e.g., by adding a mention to this effect in the “Applicant’s Commitment” form.	From spring 2002 onward
2) Promote the Action Plan, by all appropriate means, and promote the information and training required for researchers and institutions.	On an ongoing basis, from spring 2002 onward
3) Ensure that commercial development activities are recognized as a marker of researcher and research centre performance, when applicable.	On an ongoing basis
4) In connection with the MRST, which will liaise with partner government departments (MSSS, MEQ), require institutions to adopt a framework for good practices of commercial development and ensure that the framework meets the objectives of harmonization.	From spring 2002 onward
5) Annually report on research council efforts to promote the Action Plan, and the results of these efforts.	Annually from 2003 onward

RESPONSIBILITIES OF INVESTING PARTNERS OF UNIVERSITIES

Universities often work with several investing partners whose nature and means of action vary considerably. Some of these partners have a large pool of public funds that are subject, as are all government financial contributions, to grant agreements. This public funding gives them responsibilities under the Action Plan.

This is notably the case with Valorisation-Recherche Québec (VRQ). This strategic investment fund is fully independent in managing its funds while being exclusively funded by the Québec government. In this sense, its action is more like that of the research councils.

Génome Québec is similarly independent in managing its funds. This agency for strategic investment and research is notably responsible for funding Québec-based genomics research by participating in research projects that it has selected and added to its own business plan. To this end, it can amass both public and private funds.

Finally, there are the Networks of Centres of Excellence (NCE) that were created under a federal program in the late 1980s. They too support research projects through mixed funding. Several of these networks are already earning some of the net revenues from commercial development of research they have supported.

ACTION FOR INVESTING PARTNERS OF UNIVERSITIES	DEADLINE
6) For VRQ, Génome Québec, and similar R&D funding agencies, ensure compliance with the Action Plan by all agreements that will be signed and that involve public funds.	As soon as possible and no later than December 31, 2002

RESPONSIBILITIES OF GOVERNMENT DEPARTMENTS AND AGENCIES WITH RESEARCH PROGRAMS

As with other public funding bodies, Québec government departments and agencies will have to bring their funding of university-based research into line with the guidelines and rules laid down in the Action Plan. Management of intellectual property that flows from funding of non-university organizations, either grants or research contracts, as well as internal funding of research, will be dealt with in another action plan.

ACTION FOR GOVERNMENT DEPARTMENTS AND AGENCIES WITH RESEARCH PROGRAMS	DEADLINE
7) Publicize the Action Plan and bring your funding of university-based research into line with the Action Plan.	As soon as possible and no later than December 31, 2002

RESPONSIBILITIES OF INSTITUTIONS

1. Obligation to be speedy and effective

For all stages in the process of commercial development, i.e., screening, assessment, and commercial development per se, the institution has to act within a reasonable length of time. In conjunction with the research community, it will set a maximum time that it will not exceed for each key stage of the process, and it will write these maximum times into its policy. The institution will bear the costs associated with this task. The costs may be recovered if the protected intellectual property results in commercial exploitation. In exercising these responsibilities, the institution should have reached a comprehensive agreement with the development corporation that it belongs to.

ACTIONS FOR INSTITUTIONS	DEADLINES
8) Develop a regulatory framework that is conducive to exploitation of intellectual property rights and that complies with the Action Plan and with the values and principles stated herein.	By May 31, 2003
9) Set up an effective, complete process for commercial development of intellectual property. To this end, a) Ensure the presence of an effective, researcher-friendly mechanism for prospecting and commercial development, with involvement by the research teams. b) Establish an official means of disclosure to the institution, e.g., through an invention declaration form that would specify: ▪ The name, affiliation, and contact information of all inventors and their respective contribution to the invention ▪ A description of the invention and its position in relation to the current state of knowledge and technology ▪ A history of work on the invention, specifying the nature of the involvement of each inventor ▪ The status of the invention (e.g., public disclosure, degree of progress of work or development of the innovation) ▪ Steps already taken (e.g., search for prior patents, patent application, contacts made with businesses, operating agreements, and existing contracts) ▪ Rights of third parties to the intellectual property c) After disclosure, inform the researchers of the results of the assessment within a time period jointly agreed upon and stated in the institution's policy. d) If need be, ask the research ethics committee to judge the risks that may be associated with the disclosed research finding. e) If you go ahead with commercial development of the intellectual property, stay within the time allotted for negotiating the conditions of commercial development, as established and stated in the institution's policy. f) If you decline to exploit the intellectual property or if you fail to do so within the allotted time, negotiate alternative mechanisms with the researchers or cede the intellectual property rights back to them if they so request.	By May 31, 2003
10) Annually report to the follow-up and monitoring committee (see Section III) about your efforts to promote intellectual property produced by your research activities.	Annually from May 31, 2004 onward (2003-2004 academic year)

2. Relations with researchers: raising awareness, information, involvement, and recognition — protecting the rights of students and post-docs

The business-university liaison offices (BLEU - Bureaux de liaison entreprise-université) (or any other authority designated for this purpose by an institution), in conjunction with their partners and notably the MRST, and with support from the development corporations, will implement awareness programs and offer them regularly to the different research personnel.

The institution must undertake to consult the inventors throughout the activities of managing, developing, and transferring the intellectual property. It must involve them very early and continually in the process if the researchers so wish. In all cases, it must regularly keep them abreast of progress in the matter. It must also provide an appeal mechanism in the event of differences between the parties.

The contribution by researchers to inventions and to commercial development activities must also be explicitly recognized in the institution's policy on academic promotion and tenure. When CEGEP researchers collaborate with university-based research projects, the institution should ensure fair recognition of the rights of these researchers, through any appropriate mechanism.

Finally, research professionals and technicians are not always excluded from a share in the revenues. This being said, unless they are given rights under an employment contract or a collective agreement, this decision is at the discretion of the researchers and the institution.

ACTIONS (Institutions)	DEADLINE
11) Make researchers aware of the issue of intellectual property and adequately inform them about related subjects, including the commercial development process, e.g., through regular information sessions.	On an ongoing basis
12) Together with the development corporations, support, involve, and accompany the researchers throughout the process of developing intellectual property for commercial ends.	On an ongoing basis
13) Provide, within the institution, an effective, functioning mechanism that allows people to resolve disputes before resorting to other authorities. Inform researchers about the existence of this mechanism.	On an ongoing basis from January 1, 2003
14) Introduce mechanisms for explicit recognition of the contribution by researchers to inventions and to commercial development activities, this being as much for those of the professors as for those of the students, post-docs and, where applicable, research professionals and technicians.	On an ongoing basis
15) Spell out, in the institution's policy, the initial joint ownership over rights to research findings.	By May 31, 2003

16) Ensure a fair division of revenues from commercial development among all parties concerned, using the initial revenue-sharing formula: 50% to the party of the researchers and 50% to the party of the institutions.	On an ongoing basis
17) Invest commercial development revenues in activities that further the institution's missions or in commercial development of research. Inform the academic community about the use of these revenues.	On an ongoing basis

Commitments may have to be obtained from the students. The institution must then ensure that the rules are clear and that the students fully understand the rules, their implications, and the special requirements and constraints associated with them (e.g., non-disclosure and/or confidentiality). Moreover, in all circumstances, the institution must protect a student's right and legal capacity to submit his/her thesis or dissertation. An agreement must be signed to this end. A student cannot be made to cede any right to a professor or to a business with which the professor is associated, without the approval of the vice-rector for research, who will ensure that the request is justified and that the student has freely given informed consent.

ACTIONS (Institutions)	DEADLINE
18) Ensure that a student/post-doc policy or, failing that, the institution's policy, addresses issues of property, revenue sharing, and ability to disseminate research findings, while complying with the following guidelines: a) The students retain ownership over their academic work with respect to copyright and software rights, except for cases duly specified in the institution's policy. b) Their contribution to the invention or work is fully and fairly recognized by appropriate means. c) Students get a fair share of commercial development revenues. d) Neither the publishing of their findings nor the submission of their thesis or dissertation (or any other document required for a degree) may be delayed beyond a clearly specified period. e) The students are informed about the conditions for their participation and about their rights and duties in contractual research or in a project related to a spinoff company. f) The students are informed about their responsibilities to the institution, their research director, their post-doc supervisor, and their student or post-doc colleagues. g) The students are informed about the institution's mechanisms for counselling and mediation.	By December 31, 2002

3. Harmonize policies with, as the case may be, the university of affiliation or the affiliated institutions

When developing common standards, institutions must comply with the general principles stated in Section I, notably with regard to the respective commitments of institutions and researchers. Over the last year, universities and their affiliated centres have discussed drafts of agreements in principle on shared standards and rules for intellectual property management. Institutions could use available model agreements for drafting of their own framework agreements.

ACTIONS (Institutions)	DEADLINES
19) Draft a framework agreement for the university and its affiliated institutions, which will comply with the Action Plan's guidelines and notably address the following points: a) Rules for disclosure b) Formula for allocation of intellectual property rights, depending on whether the institution accepts or rejects the proposal for commercial development c) Intellectual property management d) Relations with the development corporation that the institutions belong to e) Sharing of financial benefits f) Procedure for mediation in the event of a real or apprehended problem during the process of commercial development	By December 31, 2002
20) Identify agreements that antedate implementation of the Action Plan and review them, with the consent of all parties, in light of current rules of good practice.	By December 31, 2002

4. Oversee relations with private businesses and prevent conflicts of interest

It is generally agreed that the transfer of intellectual property rights to a business must not unduly delay publishing or the granting of a degree. Nor must it disrupt the continuity of research or cause the abandonment of something that may later lead to an even more important discovery. Because these issues affect more than one individual and sometimes even the entire community, the institution is probably best placed to judge the consequences of decisions affecting the fate of intellectual property and to prevent such situations from arising.

With regard to research contracts, each situation is special and demands much flexibility. All institutions, however, should develop a comprehensive framework as a starting point for discussions, in order to speed up negotiation while reducing uncertainty and legal costs. With some redesigning, this framework could be used for a research partnership.

ACTIONS (Institutions)	DEADLINES
21) Draft a model agreement with the business, clarifying the provisions on intellectual property management in the case of a research contract or a research partnership. This framework must comply with the Action Plan in all relevant cases and address the following points: a) Distribution of work between the parties b) Resources offered by each party (previous knowledge, expertise, lab and office space, facilities, human resources, and other resources) c) Scientific responsibility d) Ownership of rights to research findings, methodology, and expertise e) Financial conditions (e.g., payments, revenue sharing, indirect costs) f) Conditions for exploiting intellectual property g) Interim reports h) Confidentiality clauses (purpose and duration) i) Dispute-resolution procedure	By May 31, 2003
22) Invite the signatories of current contracts that jointly apply to professors or clinical researchers and student/researchers to familiarize themselves with good practices of commercial development and comply with them.	By December 31, 2002
23) Be sufficiently qualified to judge the value of an invention, the advisability of ceding the rights, or the conditions of granting a licence.	On an ongoing basis

It is widely believed in fields that deal with intellectual property and its development that clear, well-defined rules, policies, and processes are an absolute prerequisite for prevention of potential conflicts of interest. Certain universities already have policies that clearly state the principles for technology transfer.

ACTIONS (Institutions)	DEADLINES
24) In conjunction with the development corporations, establish and disseminate a clear, precise policy on technology transfer that would notably address the following points: a) Conditions for a researcher's participation in a spinoff company or a company bound by a contract to university-based research b) Maximum incubation time in the institution's lab and office space c) Payment for rent, human resources, and physical resources d) Mechanisms for examining and dealing with possible problems	On an ongoing basis from January 1, 2003 onward
25) Introduce clear, transparent mechanisms, made known to everyone, for examining and rapidly dealing with problems that may come up.	By December 31, 2002
26) Review the code of ethics and the code of intellectual integrity, or whatever serves this purpose, in light of the development of relations with businesses, as well as the institution's own entrepreneurial activities.	By December 31, 2002

5. Encourage training of skilled personnel

Personnel assigned to commercial development are generally required to display four kinds of skills: scientific, legal, financial, and commercial. Already scarce, these skills will become increasingly crucial with the development of commercial development activities. For both reasons, the university community will have to prepare, through basic and ongoing training, a new generation of personnel with the desired expertise and general knowledge.

RESPONSIBILITIES OF DEVELOPMENT CORPORATIONS

Development corporations are the key vehicle in developing the findings of publicly funded university research for commercial ends. With their unique inter-institutional perspective, they can help assess the social and economic impact of different strategies for intellectual property management and identify the best ones at the national and institutional levels. Such strategies would help promote commercialization of research, maximize social and economic benefits, protect institutional and public interests, and limit opportunities for conflicts of interest.

ACTIONS FOR DEVELOPMENT CORPORATIONS	DEADLINES
27) Depending on the conditions you have agreed upon with the institutions, assist the institutions in providing information to the university community and in screening research work on campus; participate in assessing the invention or discovery.	On an ongoing basis

28) Together with the universities and according to the conditions agreed upon, support, involve, and accompany researchers throughout the process of commercial development of intellectual property.	On an ongoing basis
29) Collaborate with other development corporations, as well as with the BLEU offices, in implementing measure 21 with respect to a model agreement with private businesses.	On an ongoing basis from May 31, 2003 onward
30) Collaborate with other development corporations, as well as with universities, research councils, and the MRST in identifying, promoting, and disseminating exemplary practices.	On an ongoing basis
31) Adopt common guidelines on ethics and fairness, as well as rules of business and conduct that have been adapted to the new context.	By May 31, 2003

RESPONSIBILITIES OF RESEARCHERS

1. Disclose findings that have a potential for commercial development

Without this being an infringement on their academic freedom, researchers have a responsibility to disclose their findings to their institution once they have decided to develop them for commercial ends. They will then be asked to be sufficiently discrete throughout the process of assessing and protecting the findings. Disclosure by researchers does not in any way mean ceding their share of the intellectual property rights or losing their option to participate in the commercial development process. Although researchers should be made aware of the importance of disclosure, this will not exempt the institution from having to set up an official process, made known to everyone, for screening and disclosure of research findings. Researchers are not always aware of the potential commercial value of their discoveries. In addition, the experience of many European universities has been that disclosure of research findings, even when required, remains hit and miss. On the other hand, systematic researcher-friendly screening of different research projects has clearly proven to be effective.

2. Participate in the commercial development process

Inventor/researchers must cooperate with the commercial development process within the limits of their means and knowledge. As recognized in Principle 4, commercial development will stand a greater chance of success if the researcher participates.

3. Ensure that student/researchers, post-docs and, where applicable, research professionals and technicians are adequately recognized and informed

It is up to the research director and the post-doc supervisor to recognize, fully and fairly, everyone's contribution to a discovery or invention. Together with the institution, he/she must inform the candidate about all conditions surrounding the work of the research project. He/she must also obtain from the candidate a freely written and informed commitment to comply with these conditions, and advise the candidate about the existence of an appeal mechanism within the institution.

On top of the creative activity that has generated the intellectual property, there is also in some cases entrepreneurial activity. Here is where we need to distinguish between the founding inventors, i.e., the researchers who take an active part in starting up and developing the spinoff company, and their non-founding co-inventors. The creation of a spinoff company gives founding inventors a major role in determining, with the institution, a fair division of the benefits among all inventors.

The onus is on student/researchers to be informed about their rights and also their duties with respect to intellectual property.

ACTIONS FOR RESEARCHERS	DEADLINES
32) When you decide to develop your discoveries for commercial ends, disclose any research finding that has commercial potential to the institution.	On an ongoing basis
33) Collaborate in the commercial development process, within the limits of your means and knowledge.	On an ongoing basis
34) Fully comply with intellectual property policies and the institution's commercial development policy, notably with respect to post-docs, students and, where applicable, research professionals and technicians under your responsibility.	On an ongoing basis
35) For research directors with assets in a spinoff company, declare this participation to all researchers involved in the work, including students, post-docs and, where applicable, research professionals and technicians.	On an ongoing basis
36) For post-doc supervisors and research directors, adequately inform your post-docs, students and, where applicable, research professionals and technicians about the existence of the institution's policy on intellectual property, as well as their intellectual property rights and duties.	On an ongoing basis
37) For research directors, use graduate courses to encourage people to attend the institution's information sessions on intellectual property.	On an ongoing basis
38) For student/researchers, post-docs, and research professionals and technicians, comply with the institution's current standards on intellectual property, on information associated with intellectual property, and on conflicts of interest.	On an ongoing basis

RESPONSIBILITIES OF THE MINISTÈRE DE LA RECHERCHE, DE LA SCIENCE ET DE LA TECHNOLOGIE

1. Support the process of introducing the intellectual property policy: follow-up, monitoring, and assessment

In conjunction with the research councils, the Ministère de la Recherche, de la Science et de la Technologie (MRST) will set up and coordinate a process of follow-up, monitoring, and assessment, as discussed in Section III.

2. Promote good practices of intellectual property management

The MRST has an important role in identifying and promoting good practices. It will develop commercial development indicators and compile them for follow-up and assessment. For international benchmarking, these indicators will closely follow those already widely used by established organizations, like the *Association of University Technology Managers* (AUTM). On this point, data regularly released by universities and development corporations will certainly be quite useful.

3. Keep track of new trends in intellectual property issues

Given the complexity of the subject and the rapid changes in this field, the MRST will fulfil its mandate to monitor and prospect by keeping track of international trends that affect laws and regulations on intellectual property.

ACTIONS FOR THE MINISTÈRE DE LA RECHERCHE, DE LA SCIENCE ET DE LA TECHNOLOGIE	DEADLINES
39) In conjunction with the research councils, start up and coordinate a process of following up, monitoring, and assessing introduction of the intellectual property policy.	On an ongoing basis from spring 2002 onward
40) In conjunction with the universities, define the support required for policy introduction, notably in terms of screening research findings and informing personnel.	On an ongoing basis
41) On the basis, notably, of information from the development corporations, develop, compile, and disseminate commercial development indicators, with the support of external organizations if need be.	On an ongoing basis
42) Examine the advisability of shared production of information documents for all users (e.g., videos, information brochures).	By December 31, 2002
43) Invite the institutions and the development corporations to hold regular information sessions on the subject.	From spring 2002 onward

44) Make economic partners aware of the policy on university intellectual property.	On an ongoing basis
45) If need be, periodically review the Action Plan.	On an ongoing basis
46) In conjunction with the funding bodies, monitor current trends in order to identify exemplary practices in commercial development of intellectual property; promote and disseminate these exemplary practices.	On an ongoing basis

4. Liaise with the federal government: harmonization and promotion of Québec's interests

Even though Québec has clearly taken the lead in management of university-based intellectual property, it would be wise to avoid contradicting federal directives that may be issued in this area. The MRST will consequently maintain close ties with relevant partners at the federal level. It may also be asked to document arguments with a view to making representations to federal authorities about Québec's needs and positions on any subject that relates to intellectual property and that may affect Québec players in science and innovation, including universities.

MEASURES (MRST)	DEADLINES
47) Establish and maintain appropriate relations with counterparts in the federal government on intellectual property issues.	On an ongoing basis
48) In conjunction with the Ministère de l'Éducation (MEQ), the Ministère de la Santé et des Services sociaux (MSSS), the Secrétariat aux affaires intergouvernementales canadiennes (SAIC), or any other Québec government department or agency, prepare all advisable actions directed at the appropriate federal authorities on intellectual property issues.	On an ongoing basis
49) Participate, within the limits of the MRST's means and resources, in reflections on global issues that relate to intellectual property.	On an ongoing basis

GENERAL RESPONSIBILITIES OF ECONOMIC PARTNERS

The business community never fails to stress the loss of time and misunderstanding due to the disparate rules that govern intellectual property and the legal complexity that surrounds the negotiation of university licensing agreements. By harmonizing intellectual property policies in the universities, relations will probably be made clearer between these institutions and their partners.

There will be sole ownership of intellectual property rights, and thus clear title, once commercial development is under way. There will be prior knowledge of the rules on revenue sharing. There will be no surprises during the commercial development process. All of these factors should encourage private-partner involvement, strategic alliances and, in the final analysis, an innovation-friendly climate.

In intellectual property agreements between universities, on the one hand, and businesses and other private investors on the other, there is certainly room for sharing of exemplary practices.

SECTION III
IMPLEMENTATION

IMPLEMENTATION

As said earlier, a process of follow-up, monitoring, and assessment will be implemented and coordinated by the Ministère de la Recherche, de la Science et de la Technologie, in conjunction with the funding bodies.

The task as such will be assigned to a committee that includes such representatives as the presidents and chief executive officers of Québec's research councils as well as representatives of the MRST, the MSSS, the MEQ, the universities, the hospitals, and the development corporations.

This committee will meet periodically. Its general mandate will be to follow up policy introduction, as well as assess the measures of the Action Plan, and recommend any new action to be undertaken and any support deemed necessary to facilitate the process, notably in prospecting and in informing personnel. It will also be responsible for developing the Action Plan throughout the course of its introduction and may, for example, end up reviewing some of the Action Plan deadlines.

The committee will table its first progress report in the spring of 2003.

CONCLUSION

Intellectual property policies are being seen everywhere as key to developing and transferring knowledge for commercial purposes. Clear rules and exemplary practices are generally associated with quality research, effective commercial development, and respect for ethical principles, especially fairness.

The *Action Plan for managing intellectual property in universities and institutions of the health and social service network where research activities are conducted* is being brought in at a time when the culture and practices of intellectual property management are undergoing profound changes. It is also a time of convergence, of unprecedented growing interest in the question, and of real concern for facilitating knowledge transfer while clarifying the context of relations between partners who, as we know, are increasingly numerous and diverse.

Already, harmonization of intellectual property policies is making it easier for researchers to move away from their home institution and extend their collaboration beyond. Through the existence of pre-established rules, agreed upon and known to all, such harmonization is bound to facilitate relations between universities, on the one hand, and businesses and investors, on the other.

In addition, compliance with certain fundamental rules and transparent enforcement will clarify and simplify relations among researchers, senior scientists, and students, between researchers and institutions, and between institutions and their research and commercial development partners. All of this hinges on the assumption that the different partners will better understand each other's interests, needs, and objectives.

The Action Plan underscores just how much clear, simple, and harmonized practices can eliminate delays, misunderstandings, and obstructions. It also shows just how much a consensual general policy can endow Québec with a world-class environment for research and commercial development and provide it with competitive advantages. The Action Plan aims to give Québec a framework for good practices that will be to the benefit of everyone: researchers and public institutions active in research, businesses and investors and, definitely, the Québec public.

The Action Plan marks a major step forward, but the work is far from done. The rules cannot all be easily laid down in advance. Nor can we ignore the speed at which experience is developing in intellectual property management, both in Québec and abroad. Consequently, the plan remains open to change. It provides for review of its measures as well as the monitoring activities that are needed to identify, promote, and disseminate emerging good practices.

As may be seen in the Action Plan, we wished to avoid going down the road of restrictive rules. We have instead opted for a voluntary, consensual approach. The Action Plan has been entirely designed around this option. It is part of a wide-ranging collective project to establish a research and commercial development system that will be envied and even, hopefully, imitated. For this project to succeed, all partners will have to cooperate and show goodwill. They will have to understand the underlying issues and motivations. Finally, they will have to carry it out on a daily basis.