

QUÉBEC POLICY ON SCIENCE AND INNOVATION

FIRST-YEAR RESULTS

KNOWLEDGE TO CHANGE THE WORLD

TABLE OF CONTENTS

Foreword	4
CONSOLIDATING QUÉBEC'S INNOVATION SYSTEM TO STRENGTHEN THE COMPETITIVE ADVANTAGES OF QUÉBEC'S ECONOMY	4
Commercial development of research	5
Harmonizing ownership of intellectual property	5
Strengthening liaison and transfer	5
Consolidating incubators of technological businesses	6
Innovation for regional development	6
PROVIDING QUÉBEC WITH A WORLD-CLASS RESEARCH SYSTEM	7
Restructuring funding	7
Funding infrastructures for research and development	8
Developing promising technology-intensive industries	8
Strengthening the international impact of Québec research	9
Developing strategic information and forecasting	9
MAKING SCIENCE AND TECHNOLOGY SERVE THE NEEDS OF SOCIETY AS A WHOLE	10
Responsible scientists	10
Informed citizens	10
A qualified upcoming generation, and enough of them	11
OUTLOOK	11
IMPLEMENTATION OF STRUCTURING MEASURES IN THE QUÉBEC POLICY ON SCIENCE AND INNOVATION	13

UPDATE TO PERFORMANCE TRACKING INDICATORS OF THE QUÉBEC SCIENCE AND INNOVATION SYSTEM	16
By learning and sharing science, enabling Québec men and women to participate fully in the knowledge-based society	17
Québec scientists are contributing to the development of knowledge and to the economic, social, and cultural development of Québec	19
The capacity for innovation of all organizations is being strengthened for the benefit of all Québec men and women	21
LIST OF AGREEMENTS SIGNED WITH QUÉBEC REGIONS AS PART OF IMPLEMENTATION OF THE QUÉBEC POLICY ON SCIENCE AND INNOVATION	22

Foreword

A little over a year ago, the Québec government adopted the *Québec Policy on Science and Innovation—Knowledge to Change the World*. This policy, through its measures and action strategy, aims to improve the well being of Québec society, ensure a common level of prosperity for everyone, and enrich Québec's culture while contributing to the international pool of knowledge.

The policy was developed in concert with the entire community of researchers, scientists, and innovators. It was welcomed as a cornerstone of a social vision for excellence in human resources, for technological and social innovation, and for societal quality of life. The joint consultation that gave rise to the policy was no accident. It was part of a broader government vision that sought not only to bring all Québec men and women into the process of developing the strategy and measures, but also to share information from successive monitoring and evaluation of the achievements and impacts of these measures.

This document is a progress report on efforts to implement the *Québec Policy on Science and Innovation* (QPSI). It has been structured to account for all achievements that have been observed over the first fifteen months. For economic and institutional stakeholders, it is clear that these achievements have strongly helped consolidate Québec's national innovation system, thus strengthening the competitive advantages of Québec's economy. For the community of researchers and scientists, these achievements have helped give Québec a world-class research system. Finally, for the public, these achievements have helped science serve the needs and concerns of society as a whole.

This document also deals with the structuring measures, major performance indicators, and special regional agreements that come under implementation of the *Québec Policy on Science and Innovation*.

Although the policy is a long-term one, the report for the first year of the *Québec Policy on Science and Innovation* shows that two-thirds of the policy's proposed structuring measures have already benefited from government funding and action to carry them out.

CONSOLIDATING Québec's innovation system to STRENGTHEN the competitive advantages of QUÉBEC'S ECONOMY

Québec is well on the way into the new economy and is relying on its research and innovation system to push on even further. Its competitive advantage, which it is trying to improve, will depend largely on the performance and dynamism of its national innovation system.* The system's pillars are the institutions devoted to research and commercial development of research results, to liaison and knowledge transfer, and to strengthening of innovation in all regions and all economic sectors.

*As defined in the documents of the Conseil de la science et de la technologie du Québec, the national innovation system is made up of a number of public and private institutions whose activities aim to create, acquire, transform, and disseminate new technologies with a view to intensifying technological and social innovation. This system fosters interaction between private and public organizations (small or large), universities, and government agencies whose activity aims to produce science and technology in a given nation. Essentially, the national innovation system conveys the specific social, cultural, and institutional features of the society that created it.

COMMERCIAL DEVELOPMENT of research

The Québec government has helped start up four Québec-based corporations to develop the results of academic research for commercial ends, this being done through an initial grant of \$50 million via Valorisation-Recherche Québec. The corporations are: i) SOVAR, for Université Laval and Centre hospitalier universitaire de Québec, with \$10 million in funding, ii) VALEO, for the Université du Québec network including the INRS, the Institut Armand-Frappier, and Concordia University, with \$10.6 million in funding, iii) UNIVALOR, for Université de Montréal and its affiliated schools and institutions, with \$15 million in funding, and iv) MSBI, for McGill University, Université de Sherbrooke, Bishop's University, and affiliated university health-science institutions, with \$15 million in funding. Three of the corporations are already at work strengthening business capacity for innovation and competition as well as supporting the development and introduction of social innovations into various organizations.

HARMONIZING ownership of intellectual property

In the area of intellectual property, activities to date have led to an action plan to harmonize management of intellectual property in universities and their affiliated institutions. The plan has been developed in concert with research funding bodies. It maintains and builds upon the intellectual property aims and guidelines of the *Québec Policy on Science and Innovation*. It will be made public in the next few weeks.

A similar effort will soon come out with guidelines for managing intellectual property that results from research in Québec government departments and agencies. The interdepartmental committee in charge of developing a standardized framework for management of intellectual property produced by government R&D is headed by the Ministère de la Recherche, de la Science et de la Technologie (MRST) and includes several other departments: the Ministère de l'Industrie et du Commerce (MIC); the Ministère des Transports (MTQ); the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ); the Ministère des Ressources naturelles (MRN); and the Ministère de la Culture et des Communications (MCC). The committee also has a representative from the Institut de la statistique du Québec (ISQ). Adoption of this management framework is slated for the autumn of 2002.

STRENGTHENING liaison and transfer

In the area of liaison and transfer, the policy's first year has seen significant achievements. The network of CLTs (*centres de liaison et de transfert* – liaison and transfer centres), in existence for 20 years now, saw its resources strengthened and its actions consolidated, thus ensuring better dissemination of new knowledge, new expertise, and advanced technologies throughout various sectors of the economy.

The MRST increased its support for CLTs and CCTTs (*centres collégiaux de transfert de technologie* – junior college centres for technology transfer). In comparison to the year 2000-2001, funding for CLTs will go up 20%. This increase is being made as grant agreements come up for renewal. It is also conditional on the CLTs creating networks for dissemination of knowledge and on their intensifying transfer of knowledge to businesses, to various industries, and to all regions.

To support the CCTTs and to intensify their overall impact, the MRST has developed and implemented a strategy to reinforce them. A total of \$2.3 million a year is being invested in the 23 existing CCTTs (i.e., \$100,000 per CCTT). Over the last two years, the CCTTs have also been given \$4.6 million for new

equipment to help them strengthen their research and knowledge-transfer activities. Equivalent amounts of funding are now available under PAFI (*Programme d'appui au financement d'infrastructures* – support program for infrastructure funding) to continue improvements to their facilities. The new funding is on top of funding already granted by the Ministère de l'Éducation (MEQ) under its support program for CCTT activities. As well, the moratorium on CCTT accreditation has been lifted and new CCTTs can be created.

A program has also been launched to release CEGEP professors from their teaching duties so that they can devote themselves uniquely to research. The program is run jointly by the MRST, the MEQ, and the Fonds québécois de recherche sur la nature et les technologies. It has a budget of \$1 million per year for two consecutive years. Each year, over twenty professors will be released for research purposes.

CONSOLIDATING incubators for technological businesses

The MRST has supported new economy businesses by taking part, with the Ministère de l'Industrie et du Commerce, in business incubation projects, especially in biotechnologies. Government investments in the order of \$11 million were announced in 2001-2002 for several promising incubators, such as Inno-Centre-Région in Québec City, Centre d'incubation bioalimentaire in La Pocatière, Incubation en biotechnologie de la santé in Sherbrooke (CDEB), and other incubators in the Gaspé Peninsula and the Mauricie region.

INNOVATION for regional development

The Government is aware of the importance of technological innovation in creating competitive advantages and in expanding the new economy. It is also aware that, in an age of economic globalization, crucial competitive advantages for businesses are created through regional innovation systems.* The *Québec Policy on Science and Innovation* contains many measures to create and maintain an environment that supports the innovation process, to the benefit of all regions and organizations, whether public or private.

To this end, the MRST program *Soutien à la valorisation de l'invention* (support for commercial development of inventions) forged ahead over the last year with a \$1.2 million budget to increase the number of technological inventions that will lead to business creation or licence agreements. To date, 400 applications for assistance have come in from across the entire province under the program. The MRST is coordinating its activities with those of the Ministère des Régions (MREG) to strengthen the impact of the mentoring network and to combine its efforts with those of the CLDs (*Centres locaux de développement* – local development centres).

More than ever, regional economic development is closely bound up with access to new technologies and to integration of new knowledge to ensure rational development of productive resources. The last budget speech acted on this concern by earmarking funds to implement a strategy for resource region development (\$800 million over three years). The strategy gives a central place to promotion of research and innovation in the regions and to creation of new *carrefours de l'innovation* (forums for innovation).

*As defined by the Conseil de la science et de la technologie du Québec, a regional innovation system is characterized by a number of economic, political, and institutional interactions that take place in a geographical area and that generate a group learning process that leads to rapid dissemination of knowledge and the emergence of good practices that are conducive to innovation.

The MRST has provided a total of \$9 million in funding to 26 regional projects, with over \$2.9 million being funnelled through special regionalization agreements (the 14 special agreements signed to date are listed in an appendix to this document). It has also allocated \$5 million in additional funding for consensus-building initiatives within each region on research, science, and innovation.

Through its different activities, the MRST helps science and innovation serve the interests of regional development, especially in development processes for regional strategic planning. For instance, the Policy's activities have helped develop regional profiles and strategic positioning plans for the regions, open up new promising market niches, and strengthen the social capital needed for innovation.

By working together, the MRST, the Ministère des Régions, and various sector-oriented departments have, for instance, helped forge a consensus to develop a promising market niche in marine resources, science, and technology for the Bas-Saint-Laurent, Gaspésie–Îles-de-la-Madeleine, and Côte-Nord regions.

As part of its effort to strengthen regional innovation systems, the MRST has conducted numerous studies and sought many scientific opinions on the issue of regional innovation. The Conseil de la science et de la technologie du Québec has come out with many highly useful opinions and recommendations for actions (both public and private) to spur commercial development of research for the benefit of regional development.

PROVIDING Québec with a WORLD-CLASS research system

Strengthening the excellence and quality of Québec research will depend a lot on the ability of the national research system to provide itself with necessary financial resources, adequate infrastructure, and relevant programs to ensure that the next generation of university graduates will be sufficient in number and of high quality. The Policy's structuring measures reflect these key strategic concerns for Québec society.

RESTRUCTURING funding

During its first year, the *Québec Policy on Science and Innovation* has led to a restructuring of research funding bodies. Areas of assistance are now better defined in terms of research sectors (rather than research disciplines) and will optimize conditions for federal grant applications. The Fonds en sciences humaines et sociales (Fonds québécois de recherche sur la société et la culture: FQRSC) was given a status comparable to that of the other two funding bodies, i.e., the one for health sciences (Fonds de la recherche en santé au Québec: FRSQ) and the one for natural sciences, mathematics, and engineering (Fonds québécois de recherche sur la nature et les technologies: FQRNT).

The funding bodies were restructured in the first year of implementation of the Policy. The FQRNT now provides firmer support to research in natural sciences, mathematics, and engineering. The FRSQ has broadened its responsibilities and will cover all dimensions of the health of individuals and populations. The FQRSC's purview now covers the social sciences and the humanities, including arts and literature.

In 2001-2002, all three bodies received \$152.8 million, i.e., up 12% over the previous year. This amount includes a \$3.4 million grant to upgrade operating budgets, and a \$2.7 million grant to offset a budget shortfall in the level and number of merit scholarships and to top up post-doctoral scholarships.

FUNDING INFRASTRUCTURES for research and development

A new mechanism for interdepartmental coordination (involving the MRST, the MSSS, and the MEQ) has been created to coordinate funding of research infrastructure projects in Québec. Called *Recherche Québec*, it soon became a key tool in leveraging matched funding from the federal government for activities of the Canada Foundation for Innovation (CFI). In conjunction with its partners, the MRST has greatly contributed to funding of new major infrastructures and new office/lab spaces for research in Québec.

Two new infrastructure-funding mechanisms have been created to assist in acquiring and modernizing infrastructures for public research, for business liaison and technology transfer, and for Québec organizations that disseminate science culture. One mechanism is PAFI (*Programme d'appui au financement d'infrastructures* – support program for infrastructure funding). The other is a \$100 million budget administered by PAIP (*Plan d'accélération des investissements publics* – plan for acceleration of public investments).

In total, an investment budget of \$446.9 million has been earmarked for funding of R&D infrastructures. Outlays of \$137.8 million have already been authorized by the secretariat of the Conseil du trésor and contributions worth up to \$173 million have been allocated as Québec's contribution to projects funded by the third *Innovation Fund* competition. Other projects adding up to over \$24 million are being approved. Finally, projects worth almost \$100 million are currently under study at the MRST.

The Québec government has granted, for the current year, \$13.9 million in funding for several research projects under CFI's New Opportunities program. It has also paid out, via *Valorisation-Recherche Québec*, for the current year, \$18.7 million in co-funding for research projects that have been selected in the infrastructure section of the Canada Research Chairs Program.

Several organizations and research centres have benefited from these new investments. Recently, the MRST has supported development of research infrastructures for the National Optics Institute (NOI), the Clinical Research Institute of Montréal (IRCM), and the Centre de recherche Les Buissons Inc., thus helping these firms take their place as international frontrunners.

DEVELOPING PROMISING TECHNOLOGY-INTENSIVE INDUSTRIES

Nanotechnologies are among the most promising sectors of the 21st century. With government funding, *Valorisation-Recherche Québec* has granted the Nano Québec network \$10 million over three years to structure and promote Québec's effort in nanotechnologies. These investments will help the academic institutions in question come together and create integrated research programs.

In genomics research, the Québec government has granted \$40 million to five research projects selected by Génome Québec (\$10 million/year). The funding is allocated on the basis of Genome Canada's first competition and is being channelled through *Valorisation-Recherche Québec* (\$10 million) and the MRST (\$30 million, i.e., \$10 million a year for the next three years). As well, programs for international collaboration are under way, notably with France, to strengthen genomics and proteomics research. These investments will certainly increase, and the MRST has already agreed in principle to fund Génome Québec projects that have won Genome Canada's second competition.

The Québec government has granted \$5.9 million to help set up a micro- and nano-manufacturing laboratory with advanced research infrastructures at the Institut national de la recherche scientifique (INRS). The lab will cost a total of \$15 million and will be used for designing advanced prototypes in microelectronics, radio-frequency electronics, and photonics. This research work aims to strengthen innovation in telecommunications, biomedicine, and aerospace.

Through investments in research infrastructures, the MRST has also helped strengthen health-care research. This field of research is already well established in Québec and has benefited from much investment in research at the IRCM, the Centre de développement des entreprises biomédicales (CDEB), the Centre de recherche clinique et évaluative en oncologie of the CHUQ, the Institut d'immunovirologie et cancer of the Université de Montréal, the Consortium for Brain Imaging Research of the Montreal Neurological Institute, and the McGill University Health Centre.

STRENGTHENING THE INTERNATIONAL IMPACT of Québec research

Several activities have been undertaken over the last year to bring Québec scientists into the main international research/innovation networks and alliances. A support program for international research and innovation initiatives is already in place at the MRST. International meetings have been held on such topics as food traceability, electronic transaction security, nanotechnologies, biotechnology, and biomedical ethics.

DEVELOPING Strategic Information and Forecasting

The MRST implemented, in 2001-2002, several strategic tools for forecasting and keeping abreast of new developments. An Observatoire réseau en science et en innovation (ORSIQ – science and innovation monitoring network) was created with a view to organizing and improving monitoring of new developments in research and innovation and to strengthening joint activities between government departments and agencies that are active in these matters. A \$810,000 budget has been earmarked for setting up the ORSIQ.

Along the same lines, in concert with the Ministère des Régions, the MRST has developed the concept of regional observatories and has selected three pilot regions (Bas-Saint-Laurent, Mauricie, and Estrie) to try out various methods and options for implementation. The new observatories will be used to examine regional innovation systems, to understand interactions among local stakeholders affected by innovation, and to inform regional and national decision makers about market niches and strategic development prospects in each region. A total of \$390,000 has been earmarked to set them up.

The MRST has pursued its efforts, in conjunction with the funding bodies, to create a *Carte des compétences de la recherche universitaire* (university research competency card). This avant-garde project aims to create an information system that can fully portray the state of university research in Québec. It will detail the strengths of Québec academic research, its lines of development, and its performance trends in comparison to what is going on in other research systems. The information thus obtained will make decision making easier and investment in research more efficient.

Government research has also benefited from a periodically updated inventory. The MRST annually prepares a detailed picture of the Québec government's efforts in research and innovation. This picture is based on investigative work done on its behalf by the Institut de la statistique du Québec (ISQ) and focuses on the Québec government's expenditures and areas of activity in research, science, technology, and innovation.

Together, these different tools will generate strategic information to make forecasts and develop competition benchmarks that will help position Québec's research and innovation system in the global marketplace.

Making SCIENCE AND TECHNOLOGY SERVE the needs of SOCIETY as a whole

Through different measures, the *Québec Policy on Science and Innovation* strives to make scientists aware and citizens better informed about issues relating to research, science, and new technologies.

Responsible SCIENTISTS

To benefit all citizens, a knowledge-based economy must ensure that scientific research develops in a way that respects people and society's values. The MRST has supported the Conseil de la science et de la technologie (CST) in setting up a *Commission de l'éthique de la science et de la technologie* (commission on science and technology ethics), whose main mandate is to advise the government on ethical issues raised by research and new technologies.

The MRST has also financially supported the creation of the Institut international de recherche en éthique biomédicale (IIREB – international research institute for biomedical ethics), in partnership with the Ministère des Relations internationales, the Ministère de la Santé et des Services sociaux, and France. It has also sat on the follow-up committee, which was formed to oversee the introduction of the MRST's action plan for research ethics and scientific integrity. The follow-up committee has assisted all 18 research centres of the health-care system in preparing and adopting a regulatory framework for research activities that take place in these institutions. With the regulatory framework, it is now possible, for instance, to determine needs in ethical training, to harmonize the efforts of research ethics committees, and to propose mechanisms for accrediting these committees.

Informed CITIZENS

Citizens are interested in research, science, technology, and innovation, this interest being an essential lever for popularizing technological progress and facilitating the development of innovation. To strengthen this interest, activities during the policy's first year have featured many events to promote and disseminate science and technology, especially among young people. *Le Québec technologique - Tout simplement génial!*, *Science et société*, *Comment c'est fait ?*, etc. have been enjoyed by over 250,000 visitors and aired at length on TV.

Several other initiatives were started during the policy's first year. The program *Cap sur la science* aims to support major structuring projects to adapt science and technology. The MCC has also pursued its

programs (\$2.8 million). As well, several competitions for promotion of science culture and several grants have encouraged the holding of scientific meetings and conferences that are open to the public.

A QUALIFIED UPCOMING GENERATION, and enough of them

A knowledge-based society will need human resources. To meet this need, the Policy supports efforts to train the next generation. The MRST program, *Aide à la relève en science et en technologie* (assistance for generational renewal in science and technology) has continued, with \$1.6 million in funding per year, and supports over 50 projects to improve the “toolbox” of people and professors who will be training younger generations. These activities have developed very fruitful interactions between schools, research communities, and industry.

In the same vein, the *Programme de soutien aux intervenants majeurs en diffusion de la science et de la technologie* (program of support for major organizations that disseminate science and technology) is in progress, with an investment of \$1.3 million per year, to support and strengthen, in conjunction with the regions and conseils de loisirs scientifiques (scientific recreation councils), the activities of organizations dedicated to promoting science and technology to the public.

In addition, the MRST actively takes part in the activities of “employment-education” fairs and supports the Centre d’étude sur l’emploi et la technologie (CETECH – centre for the study of employment and technology), an organization that, through its work in analysis and forecasting, is contributing to the development of the next generation of scientists and technicians by helping young people choose their career.

OUTLOOK

For research, the activities for 2002-2003 are directed at supporting the introduction of new 3-year plans for the three funding bodies. The MRST also intends to find, in partnership with the Ministère de l’Éducation and the Ministère de la Santé et des Services sociaux, a lasting solution to the problem of funding for indirect research expenses, notably by making appropriate representations to the federal government. It will continue the work undertaken, via *Recherche Québec* notably, to support structuring capital projects in Québec. The activities also aim to optimize access to research funding from the Innovation Fund, the New Opportunities program, and the infrastructure section of the Canada Research Chairs Program.

For innovation, the activities for 2002-2003 will involve implementing the two action plans for intellectual property management (the university plan and the government plan) and strengthening liaison and transfer activities to quicken the pace of development and innovation in all economic sectors and all regions. After the lifting of the moratorium on CCTT accreditation, nominations will be reviewed and judged with a view to creating new CCTTs.

For social innovation, the MRST’s efforts will be focused on assessing the state of social innovation in Québec and setting up mechanisms to increase transfers of research results from the social sciences and the humanities to the community.

For promotion and dissemination of science and technology, the MRST will work, with the Conseil de la science et de la technologie and other relevant partners, to report on the state of scientific and technical culture in Québec and to set up an advisory committee on this subject. With respect to research ethics, the MRST will address issues relating to databases and genetic material, this mandate having been given to the Conseil de la science et de la technologie and its ethics commission. Genetically modified organisms (GMOs) are the subject of an opinion recently issued by the Conseil de la science et de la technologie. They will be a special concern for upcoming activities.

Implementation of STRUCTURING MEASURES

Update to PERFORMANCE INDICATORS

List of SPECIAL AGREEMENTS signed with the regions

**IMPLEMENTATION of STRUCTURING MEASURES
in the
QUÉBEC POLICY ON SCIENCE AND INNOVATION**

KNOWLEDGE		
MAJOR THEMES	STRUCTURING MEASURES	MEASURES IMPLEMENTED
INFORMED CITIZENS AND RESPONSIBLE SCIENTISTS	Creation of SCIENCE ATOUT , to support initiatives to adapt and disseminate science and technology (S-T)	
	Development of information and training tools in ethics	✓ ¹
	Formation of an ethics commission and a discussion group to adapt and disseminate science and technology	✓
	Increase in the effectiveness of research ethics committees	✓
TRAINING OF YOUNG PEOPLE AND TRAINING CONDITIONS	- Funding of school supplies needed for teaching S-T in elementary school classes	✓
	- Creation of links between discipline-oriented programs and high-school teacher training programs	
	- Measures to support S-T training of teaching staff at the elementary and high school levels	
	- Continuation and extension of career promotion: <i>Aide à la relève en science et technologie</i>	✓
MANPOWER NEEDS OF THE KNOWLEDGE-BASED SOCIETY	- Pursuit of interdepartmental committee work to support advancement of Québec women in the sciences and to deal with technological innovation	
	- Increase in the number of merit scholarships for graduate studies	✓
	Continuation and topping up of funding for CETECH (Centre d'étude sur l'emploi et la technologie)	✓
	Continuation of funding for short training activities of the Ministère de l'Éducation	
	Support to develop and market Québec products in online training and continuing education	✓

¹ ✓ : indicates that the QPSI structuring measure has benefited from government funding or government action. Implementation of the measure has begun or is complete.

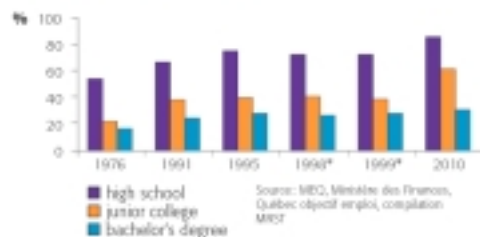
RESEARCH		
MAJOR THEMES	STRUCTURING MEASURES	MEASURES IMPLEMENTED
SUFFICIENT NUMBERS OF HIGH-QUALITY UNIVERSITY GRADUATES	Topping up of professor/researcher strategic program	
	Increase in budget for the program <i>Établissement de nouveaux chercheurs</i>	
STABILITY AND EXCELLENCE OF HUMAN CAPITAL IN RESEARCH	Release of university professor/researchers from teaching duties	
	Improvement of career prospects for researchers/scholars in the health sciences	
	Release of clinical and research scientists from clinical duties	
	Support for international research activities	✓
	Creation of the MRST-MEQ-MAPAQ joint committee for agri-food technology institutes	✓
	Release of junior college researchers from teaching duties	✓
QUALITY RESEARCH ENVIRONMENT	Increased funding for indirect research expenses	✓
	Funding of major infrastructures and research office/lab space	✓
QUÉBEC RESEARCH FUNDING BODIES	- Change to the FCAR mandate - Broadening of the FRSQ mission - Transformation of the CQRS	✓ ✓ ✓
	Creation of a conference of funding body presidents / chief executive officers	✓
	Permanent increase in core funding for the agencies	✓

INNOVATION		
MAJOR THEMES	STRUCTURING MEASURES	MEASURES IMPLEMENTED
COMMERCIAL DEVELOPMENT OF RESEARCH	Responsibility of the funding bodies and the universities	✓
	Work of provisional committee to implement intellectual property recommendations	✓
	Development of management framework for intellectual property resulting from government R&D	✓
LIAISON AND TRANSFER (LT)	Increase in funding for CCTTs	✓
	Increase in funding for CLTs	✓
	Reorientation of CRIQ mission	✓
	Support for AETMIS	✓
	Creation of INTERFACE : an interdepartmental mechanism that supports liaison, transfer, and networking	
INNOVATION IN BUSINESSES	Creation of INNOVATION. INC , an interdepartmental mechanism that supports businesses in their capacity for innovation and ensures greater consistency in support for businesses	
INNOVATION IN ALL ORGANIZATIONS	Creation of INNOVATION. ORG , an interdepartmental mechanism that seeks to increase the capacity for innovation of government, social, and community agencies	

**Update to performance tracking indicators
OF THE QUÉBEC SCIENCE AND INNOVATION SYSTEM**

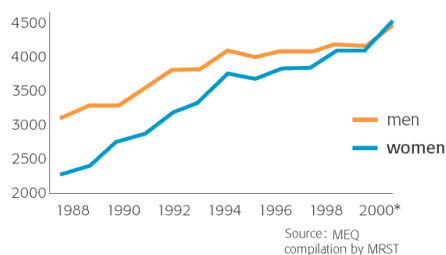
By learning and sharing science, ENABLING QUÉBEC MEN AND WOMEN TO PARTICIPATE FULLY IN THE KNOWLEDGE-BASED SOCIETY

■ QUÉBEC'S GRADUATION RATES
AND OBJECTIVE FOR 2010



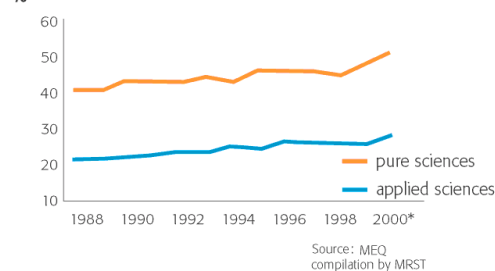
In 1999, graduation rates fell at the high-school and junior-college levels. They rose for university bachelor programs, coming close to the MEQ objective for 2010 (30%).

■ NUMBER OF GRADUATES EARNING
MASTER'S AND DOCTORAL DEGREES



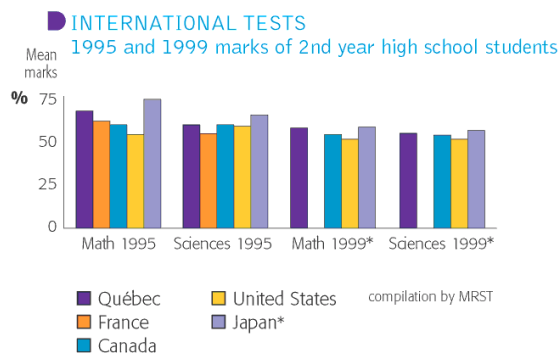
The number of degrees granted at the master's and doctoral levels is on the rise. In 2000, slightly more master's and doctoral degrees were awarded to women than to men.

■ DEGREES GRANTED IN QUÉBEC
proportion of women (B., M., D.)

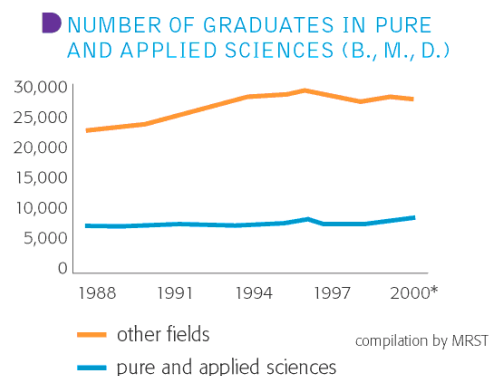


The percentage of women among graduates in pure and applied sciences increased in 2000, thus following the trend of the previous two years.

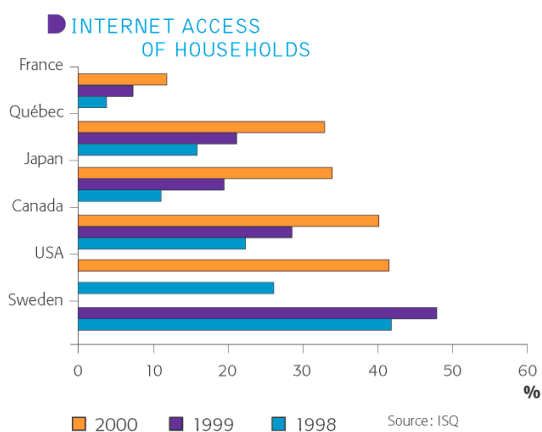
*Indicators updated since publication of the document *Québec Policy on Science and Innovation*.



Québec students got higher marks on international math/science tests than students in most OECD countries. Their marks were also above the international mean. On the 1999 test, Quebec students came 3rd in mathematics and 6th in sciences, among OECD country participants.



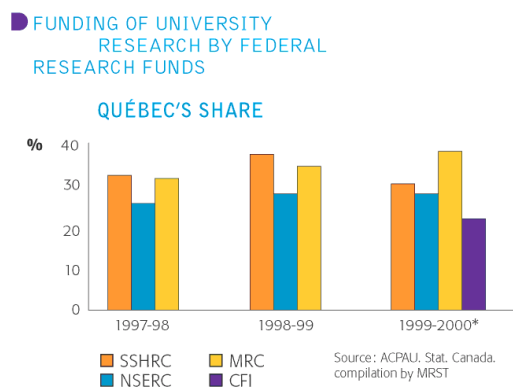
The number of graduates in pure and applied sciences has risen slightly over the last two years. In other fields, the graduation rate has tended to decline.



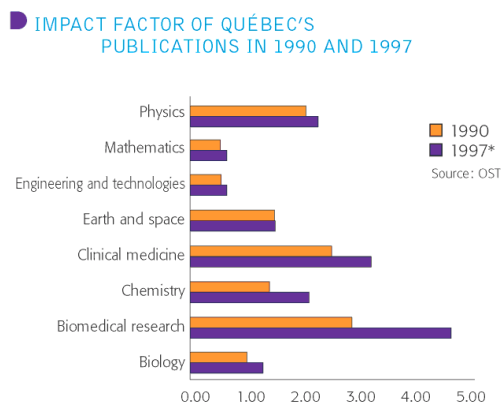
The rate of Internet access among Québec men and women is clearly on the rise. In this area, Québec outdoes France while being well below (at the same level as Japan) rates observed in Canada, Sweden, and the United States.

* = Indicators updated since publication of the document *Québec Policy on Science and Innovation*.

Québec scientists are contributing to the DEVELOPMENT OF KNOWLEDGE AND TO THE ECONOMIC, SOCIAL, AND CULTURAL DEVELOPEMENT OF QUÉBEC



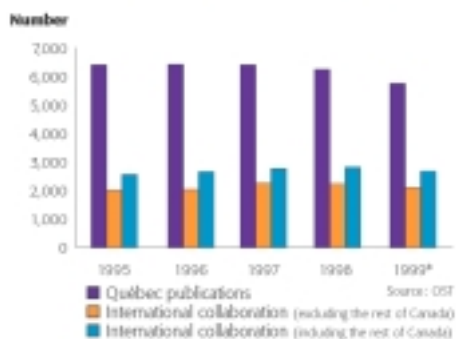
The quality of Québec's university research and the excellence of its scientists are confirmed by the volume of funding obtained in competitions organized by federal funding bodies. The share of grant money that goes to Québec researchers is, as a whole, greater than Québec's share of Canada's population.



International researchers are increasingly citing publications by Québec scientists. The impact factor of Québec publications has risen remarkably, especially in the fields of clinical medicine and biomedicine.

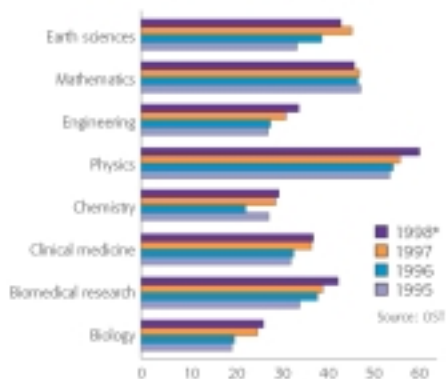
* = Indicators updated since publication of the document *Québec Policy on Science and Innovation*.

■ QUÉBEC'S SCIENTIFIC PUBLICATIONS AND RATE OF INTERNATIONAL COLLABORATION



The qualitative and quantitative importance of the scientific production of Québec researchers continues to give Québec a key place among the most active nations in scientific research. The volume of publications produced through international collaboration is holding steady and one out of three Québec publications is the result of international collaboration.

■ RATE OF QUÉBEC'S INTERNATIONAL COLLABORATION 1995-1998 (%)

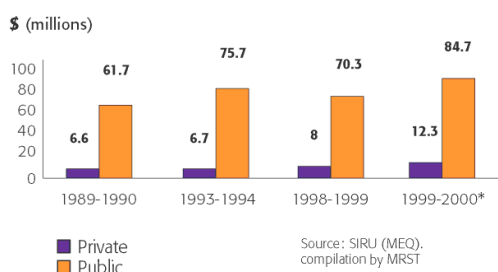


Québec researchers are producing more joint publications with foreign researchers in most fields of scientific research. This collaboration attests to the overall impact and dynamism of Québec's system for research and innovation.

* = Indicators updated since publication of the document *Québec Policy on Science and Innovation*.

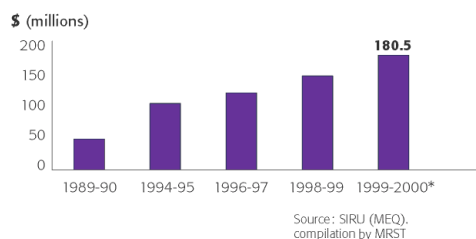
THE CAPACITY FOR INNOVATION of all organizations IS BEING STRENGTHENED FOR THE BENEFIT OF ALL QUÉBEC MEN AND WOMEN

RESEARCH FUNDING FOR SOCIAL SCIENCES AND HUMANITIES IN QUÉBEC



In recent years, private funding for research in the social sciences and the humanities has been increasing noticeably. The increase in private funding parallels the growing commercial importance of the results of such research in making decisions and in implementing social and organizational innovations.

FUNDING BY INDUSTRY OF QUÉBEC UNIVERSITY RESEARCH



There has been an increase in funding of Québec university research by businesses and various private industries. This trend testifies to business interest in university R&D and bodes well for commercial development of the results of Québec research.

* = Indicators updated since publication of the document *Québec Policy on Science and Innovation*.

**List of agreements signed with Québec regions as part of IMPLEMENTATION OF THE
QUÉBEC POLICY ON SCIENCE AND INNOVATION**

REGIONS	AGREEMENTS
Abitibi-Témiscamingue	Research on the environment and on mining tailings at UQAT (mining environment)
	Research at UQAT on technological development in the mining industry (3D geomatics and backfilling)
	Special agreement on “bœuf de créneau” (organic beef)
Bas-Saint-Laurent	Service de recherche et expertise en transformation des produits forestiers (SEREX – research and expertise service for processing of forest products)
Capitale-Nationale	Adapting science and technology, training programs and careers in these sectors
Côte-Nord	Re-launching and development of the Centre de recherche Les Buissons
	Support for forest research and development
Estrie	Development of the agri-food industry in Estrie, R&D and Transfer program component
Montréal	Promotion of science and technology, training programs and careers in these sectors, in the Montréal Island area
Mauricie	Access to work for disabled people (CONSENTRA)
Saguenay-Lac-Saint-Jean	Prevention of school dropout in Saguenay-Lac-Saint-Jean (CRÉPAS)
	Boreal forest research in Saguenay-Lac-Saint-Jean
	Support for the research group Écobes in social innovation
	Development of CONSOREM's structure

PREPARATION AND COPY WRITING

Moktar Lamari

Direction de l'évaluation (MRST)

LANGUAGE QUALITY REVIEW

Mireille Côté

GRAPHIC DESIGN

Ose Design

PRODUCTION

Direction des communications (MRST)

PRINTING

CPL

Special thanks go to everyone in all branches of the Ministère de la Recherche, de la Science et de la Technologie who contributed to this publication.

This document was produced by the Ministère de la Recherche, de la Science et de la Technologie.

1150 chemin Saint-Louis, Sillery (Québec) G1S 4Y9

Phone: (418) 643-8757

Fax: (418) 528-2565

Elsewhere in Québec: 1 877 511-5889

Website: www.mrst.gouv.qc.ca

Government of Québec

Legal deposit 2002

Bibliothèque nationale du Québec

ISBN: 2-550-39430-5