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*Support for
Technology Development*

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Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

Canada

ERRATA

1. The following federal-provincial subsidiary agreements expired on March 31, 1989: the Canada-Alberta Subsidiary Agreement on Forest Resource Development (page 32), the Canada-Manitoba Subsidiary Agreement on Urban Bus Industrial Development (page 35), the Canada-Prince Edward Island Subsidiary Agreement on Agri-Food Development (page 38) and the Canada-Saskatchewan Subsidiary Agreement on Advanced Technology (page 40).

2. In the list of ISTC Provincial Offices on page 55, Yukon and Northwest Territories are listed together with a single address and phone number, which in fact pertain only to the office for Yukon. The correct address and phone number for the Northwest Territories regional office is listed below:

Industry, Science and Technology Canada
Northwest Territories
10th Floor
Precambrian Building
P.O. Bag 6100
Yellowknife, Northwest Territories
X1A 2R3
(403) 920-8578

3. Some of the phone numbers listed for other ISTC regional offices on pages 55 and 56 are not accurate. Correct phone numbers are listed below:

Alberta	(403) 495-4782
Manitoba	(204) 983-6182
New Brunswick	(506) 857-4782

4. The following program was inadvertently omitted:

Defence Industrial Research (DIR) Program -- This program is intended to strengthen the Canadian Defence industrial base. It covers up to 50 percent of the costs of eligible research projects undertaken by Canadian-based companies with a product mandate for Canada. Applicants must demonstrate the relevance of their projects to the national defence of Canada or its allies. Intellectual property resides with the applicants.

Contact: Mr. Douglas Laurie-Lean
Program Manager, Defence Industrial Research Program
Chief of Research and Development Branch
National Defence Headquarters
George R. Pearkes Building
101 Colonel By Drive
Ottawa, Ontario
K1A 0K2
(613) 992-8938

5. Responsibility for the Canada-Alberta Subsidiary Agreement on Agricultural Processing and Marketing (page 32) has been transferred to Western Economic Diversification Canada (403) 495-4164.

6. The entry for Western Economic Diversification Canada (pages 15 and 16) does not include the department's British Columbia office. Its address and telephone number are listed below:

P.O. Box 49276

#1200-1055 Dunsmuir Street

Vancouver, British Columbia

V7X 1L3

(604) 666-6256

7. Western Economic Diversification Canada's Headquarters (page 16) has moved. The correct address and phone number are listed below:

Suite 1500, Canada Place

9700 Jasper Avenue

Edmonton, Alberta

T5J 4H7

(403) 495-4164

These changes and any others that come to the attention of ISTC will be included in the next edition of Support for Technology Development.

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Support for Technology Development

A Summary of
Federal Programs
and Incentives
1989

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Support for Technology Development

If Canada is to maintain and improve its standard of living and international competitiveness, it must focus on developing and applying new technologies. This simple fact underlies the federal government's long-term plan to strengthen Canadian industry by promoting the growth of science and technology.

The creation of the new federal department — Industry, Science and Technology Canada (ISTC) — reflects this philosophy. While this new department incorporates the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology, much more than a name change has taken place.

ISTC heralds a dramatic shift in the federal government's approach to industrial development. The department is integrating science and technology policy with industrial strategies to the fullest extent possible. With this change in direction, ISTC is acknowledging the central role of technology in obtaining a competitive advantage in all sectors of the economy.

In 1988-89, the federal government will spend an estimated \$4.4 billion on science and technology. This amount would be even greater if it could include tax incentives for research and development, which are outlined in this publication. While most federal expenditures go towards basic and applied research (performed in federal laboratories, universities and industry), a substantial amount is directed towards technology development.

This booklet is a summary of the programs, incentives and other support mechanisms provided by the federal government to encourage technological development in Canada. After each brief program description, a contact address and phone number are provided. Although not all federal government organizations have specific technology transfer programs or support mechanisms, many of them use existing contracting-out policies and the targeted programs of other departments and agencies listed in this publication. Federal government departments and agencies are pleased to continue to offer advice and assistance wherever possible to Canadians involved in technology development.

Harvie Andre
Minister, Industry, Science
and Technology Canada

William C. Winegard
Minister of State
(Science and Technology)

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Tax Incentives

Section 37 of the Income Tax Act allows taxpayers to immediately deduct the full cost of all qualifying current and capital expenditures for scientific research and experimental development (R&D) conducted in Canada. Qualifying current expenditures for R&D conducted outside Canada may also be deducted in this fashion. The cost of general purpose buildings acquired after 1987 is no longer eligible for immediate deduction.

In addition to the deduction noted above, R&D expenditures made in Canada entitle the taxpayer to an investment tax credit. The basic investment tax credit is 20 percent of the taxpayer's expenditures in Canada on R&D, except for expenditures made in the Atlantic provinces and the Gaspé, where the credit is 30 percent. For Canadian-controlled private corporations (CCPCs) eligible for the small business deduction, the investment tax credit for R&D expenditures made in Canada is generally 35 percent. CCPCs whose taxable income, combined with that of any associated companies, did not exceed \$200,000 in the previous taxation year are entitled as a group to a tax credit of 35 percent on the first \$2 million of current and capital R&D expenditures incurred in Canada in the year. The basic rates of 20 percent and 30 percent apply to R&D expenditures by CCPCs in excess of the \$2 million limit.

Investment tax credits may be used to offset federal income taxes otherwise payable. In the case of large corporations, this use of the credit is limited to 75 percent of the federal income tax payable for the year. CCPCs are exempted from the 75 percent limitation on that portion of their income that is eligible for the small business deduction, i.e., maximum income of \$200,000 annually or \$24,000 of federal income tax, computed at current rates. Any remaining tax credits in the year may be carried back for three years or carried forward for ten years to offset federal income taxes in those years. For current R&D expenditures not eligible for the 100 percent refund described below and for capital R&D expenditures, 40 percent of unused credits earned in the year may be refunded to CCPCs, individuals and certain trusts. Investment tax credits earned by corporations, other than CCPCs, are no longer eligible for a refund.

Increased Refunding of Tax Credits for Small Canadian R&D Firms

For expenditures made after May 23, 1985, the 35 percent tax credit earned by CCPCs for current expenditures on R&D has been made 100 percent refundable. This refund is available in respect of the first \$2 million of current R&D expenditures in Canada and could result in a refund of up to \$700,000 per annum. Credits earned by CCPCs on other R&D expenditures continue to qualify for the partial 40 percent refund.

Improved Definition and Administration of R&D

Revenue Canada has established a special assessing and audit group to administer claims and to provide refunds to R&D firms as soon as possible.

New administrative measures and amendments to the Income Tax Act were announced in 1988 to expedite refunds of R&D tax credits to qualifying CCPCs. Most CCPCs with established track records as R&D performers should now receive their claims within two months of filing with Revenue Canada. In essence, the process of validating claims for these applicants will occur after the refund has been issued.

Contact:

Senior Science Advisor
Revenue Canada
Taxation
123 Slater Street, Room 501
Ottawa, Ontario
K1A 0L8
(613) 957-3617

Financial Assistance for Research and Development

Defence Industry Productivity Program (DIPP)

DIPP is designed to develop and maintain strong defence-related industries across Canada that are capable of competing successfully over the long term in domestic and export markets. The objective includes the development and maintenance of a defence-related production capability and of an advanced defence-related technology capability. The industrial environment is characterized by relatively high commercial, technical and financial risk and by foreign firms that are typically heavily supported directly and indirectly by their respective governments.

Contributions are extended toward the eligible costs of:

- research and development of defence-related products and sustaining the associated technology base;
- establishing qualified Canadian suppliers of defence-related products;
- acquiring advanced production equipment to modernize or upgrade engineering and/or manufacturing capability in Canada for defence-related products; and

- market feasibility studies, to establish the specifications and characteristics of defence-related products required to meet market demand or determine market sector characteristics for those products when needs have been identified in Canada or export markets.

Contact:

Defence Industry Productivity Program (DIPP)
Aerospace, Defence and Industrial Benefits Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-3188

Industrial Research Assistance Program (IRAP)

The National Research Council (NRC) has built up and maintains a national network for technology diffusion and technology transfer. Firms all across Canada are served by a nearby member of the network.

This technology network, which has been established through the Industrial Research Assistance Program (IRAP), also extends overseas. Through a combination of IRAP and the Technology Inflow Program (TIP) of the Department of External Affairs, Canadian embassies and consulates abroad help firms identify and obtain access to useful foreign-based technology.

Members of the technology network can be found in every major Canadian city. The delivery of IRAP services involves industry technology advisors from NRC, provincial research organizations, technology centres and the Association of Consulting Engineers of Canada. It also involves project managers from NRC, other government departments and universities. Also included are NRC laboratory liaison people (industry liaison officers) and Department of External Affairs representatives abroad (science and technology counsellors and technology development officers).

A brief description of IRAP services follows:

- **FIELD ADVISORY SERVICE (IRAP-C)**

A confidential on-site service for companies with limited technical resources.

Advisors help firms develop the technological base necessary to make their operations competitive and profitable. Companies are also put in touch with the full range of IRAP services and other government programs available to them.

- **STUDENT PROJECTS (IRAP-H)**

Skilled hands and minds put to work on short-term technical problems.

Salaries and relocation expenses are covered for university or technical college students hired by firms to tackle projects under the supervision of IRAP technology advisors or other qualified professionals.

- **SHORT-TERM PROJECTS (IRAP-L)**

Financial assistance for companies needing outside technical services.

IRAP helps offset the cost of contracting for services or use of equipment with research institutes, laboratories, universities or consulting firms. Companies are provided with the resources to solve short-term technical problems, improve production operations and expand their effective technology base.

- **MEDIUM-TERM PROJECTS (IRAP-M)**

Salary support for company or subcontracted personnel undertaking specific medium-term R&D projects.

Cost-shared financial assistance is provided for smaller companies that would normally lack the resources for important projects to develop new or improved products and processes.

- **LONG-TERM PROJECTS (IRAP-R)**

Collaborative projects with government and university or foreign laboratories and Canadian companies.

This element offers industry the means to commercialize the latest in technical knowledge, inventions and scientific know-how. The program helps companies put together a technical and market research plan, makes available the best technical facilities and expertise in government or university labs or from foreign sources of technology, and provides financial assistance on a cost-sharing basis.

Contact:

Industrial Research Assistance Program
National Research Council
Building M-55, Room 260-C
Ottawa, Ontario
K1A 0R6

IRAP Field Network
(613) 993-2012

IRAP Laboratory Network
(613) 993-1790

Or contact the regional offices of NRC's Industrial Research Assistance Program listed in the Yellow Pages under Technology —Assistance Programs.

Strategic Grants Program

Strategic grants (administered by the Natural Sciences and Engineering Research Council) enable university researchers to conduct targeted research in selected fields of national importance. Major areas targeted for support include:

ADVANCED TECHNOLOGIES

- Information Systems
- Biotechnology
- Industrial Materials & Processes
- Manufacturing Systems
- Energy

RESOURCE MANAGEMENT

- Food/Agriculture
- Forestry
- Mining
- Fisheries/Oceans

ENVIRONMENTAL QUALITY

In addition, as in the past, applications will be considered in an "open" area. This allows NSERC to support proposals in other fields of national concern where the applicant can demonstrate an important opportunity.

Industrial support is desirable but not mandatory.

Contact:

Natural Sciences and Engineering
Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-6295

Research Partnerships Program

The Natural Sciences and Engineering Research Council (NSERC) offers a special program to accelerate partnerships among Canadian universities, federal government departments and industry. NSERC will help companies locate university-based expertise and will make substantial contributions to the cost of industrially relevant research conducted by universities. It also provides financial support to enable companies to hire undergraduates and recent PhD graduates. Joint programs with federal government departments are under development.

The following are examples of the shared-cost ventures NSERC supports under this flexible program:

COOPERATIVE RESEARCH AND DEVELOPMENT PROJECTS

Grants for projects ranging from short-term endeavours to commercialize a university innovation to long-term university research in a technology relevant to Canadian companies.

Industrial contribution and involvement required.

SHARED EQUIPMENT AND FACILITIES

Contributions towards joint acquisition or upgrading of research equipment for use by industrial and university researchers.

INDUSTRIAL RESEARCH CHAIRS

A major initiative that allows universities to build strength in scientific and technological fields important to industry. Grants pay for salaries of research professors of international calibre and for equipment and research costs.

Industrial contribution and research collaboration are mandatory.

NSERC VISITING FELLOWSHIPS

Salary support for senior researchers either in industry or universities who take leave in the other sector. The objectives are to enhance the industrial orientation of university laboratories and to stimulate productive interchange between sectors.

WORKSHOPS AND SEMINARS

Contributions towards the organization of workshops, seminars and exhibits involving participants from both sectors. Subjects may range from a technology of interest to a company to an in-depth analysis by university researchers of a particular industrial problem.

INDUSTRIAL RESEARCH FELLOWSHIPS

Provides up to three years salary support for a company adding a recent doctoral graduate to its research and development team.

INDUSTRIAL POSTGRADUATE SCHOLARSHIPS

Contributes to the salary of industrial employees returning to university for an advanced degree.

INDUSTRIAL UNDERGRADUATE STUDENT RESEARCH AWARDS

Salary support for qualified undergraduate students wishing to obtain industrial research experience.

Contact:

Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-6295

Matching Grants Policy for University Research

The federal government is providing up to \$380.2 million over the four years 1987-88 to 1990-91 to match private-sector contributions to university research, with the intention of encouraging university-industry research collaboration and increasing the overall level of financial support for university research. The matching funds are channelled through the three federal granting councils (the Natural Sciences and Engineering Research Council, the Medical Research Council and the Social Sciences and Humanities Research Council) and are in addition to

base budgets totalling \$2.2 billion over the same period. Each granting council administers the policy through a program of its own.

The matching policy is under evaluation.

Contact:

Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-5794

University-Industry Program
Medical Research Council
Jeanne Mance Building
Ottawa, Ontario
K1A 0W9
(613) 954-1972

Programs Branch
Social Sciences and Humanities
Research Council
255 Albert Street
Ottawa, Ontario
K1P 6G4
(613) 995-5455

The Strategic Technologies Program

The Strategic Technologies Program offers financial support for R&D and technology application alliances in advanced industrial materials, biotechnology and information technologies. These industry-led alliances can also involve universities and research institutes. R&D projects must be pre-competitive and application projects pre-commercial.

The program is intended to help Canadian industry develop or apply the technology necessary to:

- produce internationally competitive, value-added products;
- add value to commodities and diversify the products of resource-based companies; and
- improve productivity and quality in manufacturing processes.

Other components of the Strategic Technologies Program include:

- the Artificial Intelligence R&D fund, which finances projects within the federal government;
- The National Advisory Panel on Advanced Industrial Materials, which provides private-sector advice to the federal government;
- the Advanced Industrial Materials component of the Technology Outreach Program, which helps establish networks involving developers and users of technology; and
- the Biotechnology Regulatory Information Office, which serves as an information clearing house.

Contacts:

Information Technologies Alliances
Information Technologies Industry Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-5598

Advanced Industrial Materials Alliances
Advanced Industrial Materials
Resource Processing Industries Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-3084

Biotechnology Alliances
Biotechnology and Health Care Products
Resource Processing Industries Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-3138

Other Components of the Strategic Technologies Program
Director General
Technology Policy Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 993-5649

The Atlantic Canada Opportunities Agency (ACOA) Action Program

The ACOA Action Program replaces the previous Industrial and Regional Development Program (IRDP) and the Atlantic Enterprise Program (AEP). It offers seven main areas of assistance adapted to the special needs of Atlantic Canada. These areas are:

- loan insurance;
- interest buy-downs;
- business support;
- studies;
- innovation assistance;
- new facility establishment; and
- expansion/modernization/new product expansion.

The sectors eligible for assistance under the ACOA Action Program are:

- aquaculture;
- business service industries;
- certain agricultural industries;
- commercial research and development facilities;
- freight forwarding industry;
- logging industry;
- manufacturing and processing industries;
- repair and maintenance services;
- storage and warehousing industries; and
- tourism.

Contact:

ACOA Head Office
P.O. Box 6051
770 Main Street, 10th Floor
Moncton, New Brunswick
E1C 9J8
1-800-561-7862 (toll free)

Western Economic Diversification

The Department of Western Economic Diversification (WD) offers a variety of support mechanisms, ranging from small business assistance to large, systematic industry-wide programs. The Western Diversification Program is particularly targeted toward projects that involve new products, new markets and new technologies, including import replacements and industry-wide productivity enhancements.

Contacts:*HEAD OFFICE*

*Cornerpoint Building
10179 - 105th Street
Room 604
Edmonton, Alberta
T5J 3N1
(403) 495-4164*

SASKATCHEWAN

*119 - 4th Avenue South
Room 601
Saskatoon, Saskatchewan
S7K 5X2
(306) 975-4373*

MANITOBA

*712 - 240 Graham Avenue
Winnipeg, Manitoba
R3C 0J7
(204) 983-4472*

National Research Council Biotechnology Program

The NRC Biotechnology Program invites science-based and high-technology enterprises to submit proposals for collaborative research with researchers from its three biotechnology divisions. These include the Division of Biological Sciences (DBS) in Ottawa, the Plant Biotechnology Institute (PBI) in Saskatoon and the Biotechnology Research Institute (BRI) in Montreal.

The objective of the program is to encourage the expansion of Canadian industrial biotechnology capabilities through: various mechanisms which may involve direct financial support through contributions to cost-shared projects; contracting-out which complements or extends NRC expertise; contracting-in to provide a full complement of services to industry; and guest worker arrangements accommodating corporate and/or university research personnel.

Contact:

*Biotechnology Research Institute
6100 Royalmount Avenue
Montreal, Quebec
M4P 2R2
(514) 496-6100*

*Division of Biological Sciences
National Research Council
Building M-54
Montreal Road
Ottawa, Ontario
K1A 0R6
(613) 993-6005*

*Plant Biotechnology Institute
110 Gymnasium Road
Saskatoon, Saskatchewan
S7N 0W9
(306) 975-5570*

Microelectronics and Systems Development Program (MSDP)

DEFINITION

A \$60 million program, administered by Industry Science and Technology Canada, which is designed to provide financial support to encourage Canadian companies to undertake technologically innovative ventures in microelectronics and systems development.

OBJECTIVE

To support the development of advanced microelectronics and information technologies systems that will enhance the international competitiveness of Canadian manufacturing, processing or service industries.

ELIGIBLE APPLICANTS

Any taxable corporation operating in Canada, including manufacturing, processing or service companies with in-house systems engineering capabilities; companies specializing in systems and software development; and developers of microelectronics or specialty electronic equipment for integrated systems applications.

ELIGIBLE PROJECTS

- 1) Microelectronics — the research and development of innovative, generic microelectronic components for use in advanced systems; or*
- 2) Systems Development — the research and development of systems, based on advanced microelectronics and information technologies, for application in the manufacturing, processing and service industries.*

PROGRAM CRITERIA

Important program criteria are:

- the extent to which the international competitiveness of the Canadian companies using the system or technology and the developer of the system or technology will be enhanced;*
- the degree to which the system or the technology being developed is in advance of anything commercially available;*
- the degree to which user applications and potential market requirements are identified and the degree to which the need for the development of the technology is endorsed by prospective end users; and*

- the degree of innovation and risk inherent in the project and the financial and market risk for the applicant.

Collaboration with Canadian and foreign partners is also encouraged in the context of MSDP.

PROJECTS NOT ELIGIBLE

Projects that do not qualify for MSDP support are:

- those more appropriately supported under other government programs;
- those directed solely at public and para-public sector requirements without any significant commercial prospects or potential for export;
- those that would proceed without government assistance; and
- software development activities that are not an integral part of the development of a technology or system qualifying for support under MSDP.

The development of stand-alone software packages generally does not qualify for MSDP support.

SUPPORT AVAILABLE AND ELIGIBLE COSTS

The MSDP can cover up to 50 percent of the eligible costs of a project, to a maximum of \$5 million. Full repayment is required for contributions exceeding \$500,000.

Eligible costs may include:

- salaries of scientists, engineers, technologists, technicians, draftsmen, researchers, laboratory and experimental shop labour, and market analysts as foreseen in the agreement as well as qualified management personnel performing an eligible role;
- project components, materials and special-purpose equipment (subject to limitations);
- testing and evaluation of prototypes;
- travel directly associated with the project;
- patent and copyright searches and filing in North America; and
- subcontracts and consultants.

Contact:

The Coordinator
Microelectronics and Systems Development Program
Information Technologies Industry Branch
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-3476

Scientific and Technical Information

Canadian Patents and Development Limited (CPDL)

CPDL is the Crown corporation responsible for arranging the commercial exploitation of inventions and other technological advances arising from research carried out by government departments, universities and public research institutions. Businesses and individual entrepreneurs may obtain rights to develop and produce inventions and other technological advances commercially by way of licences or other suitable arrangements.

CPDL maintains an inventory of technologies that are available for such commercial exploitation. These technologies are brought to the attention of industry by means of trade shows, technical publications and an "Innovations" listing.

The corporation sponsors, in conjunction with Industry, Science and Technology Canada, the Inventor's Assistance Program at the Canadian Industrial Innovation Centre in Waterloo, Ontario, and the Centre d'Innovation Industrielle in Montreal, Quebec. The program is designed to offer inventors an assessment of the technical and

commercial feasibility of their inventions along with recommendations on the need for further development, markets, etc. This service is provided to inventors for a nominal flat fee. The inventor retains full rights to the invention.

The corporation also conducts technology transfer seminars across Canada in conjunction with government, university and other sponsoring organizations.

Contact:

Marketing and Licensing
Canadian Patents and Development Limited
275 Slater Street
Ottawa, Ontario
K1A 0R3
(613) 990-6100

Intellectual Property Directorate

The Intellectual Property Directorate, which is part of Consumer and Corporate Affairs Canada, administers legislation dealing with patents, trade marks, timber marks, copyright and industrial designs.

The Patent Branch examines applications for patents to ensure compliance with Canadian laws and practice, grants patents accordingly, maintains search files of Canadian and foreign patents, grants compulsory licences, and disseminates technological information found in patents.

The Trade Marks Branch examines applications for the registration of trade marks, registers the marks, registers licensed users of registered trade marks, and maintains registers and indexes for search purposes.

The Copyright and Industrial Design Branch is responsible for the registration of copyrights and industrial designs. Because copyright protection is automatic under Canadian law, there is no examination of copyright applications other than to assess the suitability of subject matter for registration.

Contact:

Intellectual Property Directorate
Enquiries Section
Consumer and Corporate Affairs Canada
Place du Portage
Hull, Quebec
K1A 0C9
(819) 997-1936

Patent Information Exploitation (PIE) Program

The PIE program, established by the Intellectual Property Directorate of Consumer and Corporate Affairs Canada, aims to stimulate technology transfer, promote industrial innovation, and provide research and development support through the exploitation of technological information contained in patents.

The PIE Program is directed at small and medium-sized businesses, research establishments, and government agencies. Under this program, the Patent Office offers a state-of-the-art patent search service designed to help clients discover solutions to technical problems, avoid duplication of R&D, generate ideas for new products and processes, locate domestic and foreign technologies for licensing, and evaluate alternative technologies. To ensure convenient access to PIE Program services, the Intellectual Property Directorate has created a nation-wide network of intermediaries, including provincial research organizations, industrial innovation centres, and various other federal and provincial agencies through which clients can request patent information.

The PIE Program also includes a Public Education and Awareness component that provides specially trained experts to speak on subjects relating to intellectual property at selected meetings, conferences and seminars.

Contact:

Intellectual Property Directorate
Information and Technology Exploitation Branch
Consumer and Corporate Affairs Canada
Place du Portage
Hull, Quebec
K1A 0C9
(819) 997-1936

Canada Institute for Scientific and Technical Information (CISTI)

Operated by the National Research Council, CISTI has one of the largest and most comprehensive collections of scientific and technical literature in the world. Documents from this collection are made available to businesses of all sizes through the loan and photocopying service. CISTI offers a complete range of information services, including direct access to its databanks of bibliographic and numeric information, current awareness, literature searching, help in finding translated versions of foreign-language materials, reference, and referral to experts.

Contact:

Canada Institute for Scientific and Technical Information
National Research Council
Montreal Road
Building M-55
Ottawa, Ontario
K1A 0R6
(613) 993-1600

Training Activities

Two programs under the Canadian Jobs Strategy — Skill Shortages and Skill Investment— provide funding to support training and training-related activities.

Skill Shortages

The Skill Shortages Workplace-Based Training option provides training costs, wage subsidies and other costs to employers to train employed or unemployed persons in areas of regional or potential occupational skill shortages.

Eligible employees include businesses, organizations and Indian band councils.

Eligible employees are existing or newly hired workers capable of undertaking designated occupational training.

Training agreements can operate for a minimum of three weeks (or 80 hours) to a maximum of three years. Relevant training can take place in a formal classroom setting, at local educational institutions, on the job under appropriate supervision while the worker learns the duties of the job, or some combination of these settings.

Skill Investment

The Skill Investment Retraining option assists with the adjustment problems of small business (less than 100 employees). It provides financial aid to employers who train or retrain workers. Funding can help pay wages and training costs.

Eligible employers include businesses, organizations and Indian band councils.

The minimum training time is 80 hours. Agreements can last up to three years.

The Skill Investment Continuing Employment option helps people whose employment is threatened. It provides financial aid for training, wages and other costs to employers who hire and train displaced workers.

Eligible employers are businesses, organizations and Indian band councils.

Eligible employees are people whose employment is threatened as well as workers who are in danger of losing or have recently lost their jobs because of market or technological change.

The minimum training time is 80 hours. Agreements can last up to three years.

Purchase of Training Option

A variety of courses, ranging from basic skill development to advanced skill training, are given in provincial vocational schools, community colleges and training centres operated by non-government organizations. The federal government utilizes courses tailored to meet the labour market's demand for skills and the needs of individual clients. When taking courses, people receive training allowances or unemployment insurance benefits if they qualify.

Contact:

Employment and Immigration Canada,
Canada Employment Centres (CECs)
(listed in Government Services section of local
telephone directories)

Northern Scientific Training Program

This program is designed to increase the number of graduate and other advanced students in Canadian universities who have specialized in some aspect of northern studies, and have northern research experience. To accomplish this, it provides support to Canadian universities giving advanced students professional experience in the North and encouraging them to develop a commitment to northern work.

Contact:

Scientific Affairs Division
Circumpolar and Scientific Affairs Directorate
Indian and Northern Affairs Canada
Les Terrasses de la Chaudière
Ottawa, Ontario
K1A 0H4
(613) 997-9666

Research Manpower Programs

The Natural Sciences and Engineering Research Council is the largest federal granting council and the mainstay of Canada's research effort in fields that range from biotechnology to artificial intelligence to materials science to engineering to high-energy physics. Through its extensive programs of grants and scholarships for university-based research, NSERC provides both the advanced knowledge base and the skilled graduates needed to ensure competitiveness in the most demanding technological environments.

Canada's performance in science and technology depends on the creation of a supply of young scientists and engineers to fill the many advanced positions that will open in industry, government and universities in the future. NSERC places a high priority on training these researchers

and offers a range of programs of scholarships and fellowships to undergraduate and graduate students, postdoctoral fellows, and university scientists and engineers. Most awards are decided in open competitions and pay a stipend to the holder.

Contact:

Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-6424

Applicants to the program must be Canadian citizens or permanent residents and plan to register as full-time students in a first-year university program in an eligible discipline. Scholarships are tenable only in Canada.

Contact:

Canada Scholarships Program
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 993-6857

Canada Scholarships Program

The Canada Scholarships Program was established in 1988 to recognize gifted students and encourage them to pursue full-time undergraduate studies in natural sciences, engineering or a related discipline. Under the program, 2,500 scholarships worth \$2,000 a year are awarded annually for a maximum of four years. A minimum of 50 percent of the scholarships are awarded to women. Each province and territory will also see at least ten of its residents receive scholarships.

Technology Support Through Procurement

Contracting-Out Policy

In 1972, the federal government established a contracting-out policy which directs that government requirements for mission-oriented science and technology are to be contracted-out to the private sector, preferably to Canadian industry, unless a department can justify intramural or foreign performance.

The policy applies to present and new requirements in all scientific and technological activities in the natural sciences and to human science and technology requirements in the fields of urban, regional and transportation studies.

Although the contracting-out policy is primarily a procurement policy, it is intended to promote the development of a Canadian industrial R&D capability.

Contact:

Science Programs Branch
Supply and Services Canada
Place du Portage
Phase III, 12C1
Ottawa, Ontario
K1A 0S5
(819) 956-1784
or
(819) 956-1781

Unsolicited Proposals (UP)

In 1974, the federal government expanded the contracting-out policy to cover unsolicited science and technology proposals that are submitted by industry and that fall within the mission of a government department. The Unsolicited Proposals Program, managed by Supply and Services Canada, permits the government to respond quickly to sound, unique proposals from the private sector in support of government science missions.

Part of the UP program is a fund that provides bridge financing for proposals that are accepted from the point of view of sponsorship, scientific merit and uniqueness, but which cannot be funded from the sponsoring department's current appropriations.

The Unsolicited Proposals Program was expanded in 1985 to include projects that aim at demonstrating new technologies in operational settings within the government. This program expansion is particularly helpful to small businesses.

Contact:

Science Programs Branch
Supply and Services Canada
Place du Portage
Phase III, 12C1
Ottawa, Ontario
K1A 0S5
(819) 956-1784
or
(819) 956-1781

Profit Policy

Administered by Supply and Services Canada, this directive sets out the policy and guidelines for the calculation of the profit applicable to negotiated contracts with Canadian suppliers for both products and services with total costs of \$50,000 or over.

The amount of profit to be applied will be calculated on the basis of four factors: capital employed, general business risk, contractual risk and contractor's contribution to a Canadian Value-Added Strategy. The following are the areas in which recognition of Canadian Value Added will be made for profit purposes:

- *reduction of regional disparities;*
- *promotion of R&D in Canada; and*
- *Canadian content program.*

Contact:

Policy and Evaluation Branch
Supply and Services Canada
Place du Portage
Phase III, 14A1
Ottawa, Ontario
K1A 0S5
(819) 956-0870

Technology Support Through Institutes

Technology Centres

The primary function of technology centres, which are supported through federal grants, contributions or contracts, is to support industry needs for new technology or specific technical skills. The centres may be operated by the federal or provincial governments, by universities, or by industry.

In a recently introduced policy, all federal laboratories with a significant service-to-industry mandate will be brought under a new management regime. The aim of the new policy is to make industry-oriented laboratories more responsive to user needs.

Contact:

Science Strategy and Federal Research Branch
Science Sector
Industry, Science and Technology Canada
235 Queen Street
8th Floor West
Ottawa, Ontario
K1A 1A1
(613) 990-6256

Technology Outreach Program (TOP)

The Technology Outreach Program will consolidate and redirect existing federal assistance to technology centres outside the federal establishment. TOP will provide start-up assistance for new centres as well as sustaining assistance for existing centres.

Start-up assistance will be provided only if tangible industry assistance is forthcoming and there is no other centre in existence that serves the related market with the proposed services. Sustaining assistance will be available for non-profit, separately incorporated technology centres. In general, assistance will not be directed towards a centre's cost-recoverable activities, but will support, fully or in part, technology development and diffusion services that cannot be expected to recover full costs.

Contact:

Technology Liaison
Industry, Science and Technology Canada
235 Queen Street, 5th Floor
Ottawa, Ontario
K1A 0H5
(613) 954-2907

IRAP Field Network
Industrial Development Office
National Research Council
Montreal Road, Building M-55
Ottawa, Ontario
K1A 0R6
(613) 993-0331

Communications Research Centre (CRC)

Located near Ottawa, the Communications Research Centre is the Department of Communications' main research establishment, employing 300 scientists, engineers and support staff. The centre undertakes research in communications technology, information technology and systems R&D, space technology, applications, broadcasting technologies, and communications devices and components.

Companies can become involved with CRC in a number of ways, including:

- the contracting-out of R&D and product fabrication;
- arrangements for staff exchanges and cooperative projects; and
- the provision of advice to firms and universities upon request and assistance, as required, to perfect the skills of these organizations.

Contact:

Communications Research Centre
Department of Communications
3701 Carling Avenue
P.O. Box 11490
Station H
Ottawa, Ontario
K2H 8S2
(613) 998-2325

Canadian Workplace Automation Research Centre (CWARC)

Also connected to the Department of Communications, the Canadian Workplace Automation Research Centre is located in Laval, Quebec, northwest of Montreal. Through CWARC, cooperative efforts between private companies, universities and government agencies concentrate on improving office systems, hardware and software, and on the social and organizational impact of office automation.

CWARC's major objective is to provide leadership in applied research on computerized office systems and to adapt the findings to enhance productivity in the public and private sectors.

Areas of research include office communications (teleconferencing, cable and satellite communications) as well as bilingual and multilingual systems; electronic information flow; organizational methods and structures as they pertain to workplace productivity and performance; computer-assisted translation; expert systems; and data management.

Contact:

Canadian Workplace Automation Research Centre
1575 Chomedey Blvd.
Laval, Quebec
H7V 2X2
(514) 682-3400

or

Department of Communications
Communications Development Branch
300 Slater Street
Ottawa, Ontario
K1A 0C8
(613) 990-4295

Canadian Home Builders Association (CHBA)

Energy, Mines and Resources Canada funds the Canadian Home Builders Association (under agreement until 1991) to deliver the R-2000 Home Program to the residential construction industry. Working through CHBA's provincial affiliates, the program provides training workshops for builders, sub-trades and inspectors in the techniques of building and marketing energy-efficient housing.

Contact:

Program Delivery and Marketing Division
Operations Branch
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0E4
(613) 996-8152

Heating, Refrigeration and Air Conditioning Institute of Canada

Under contracts with Energy, Mines and Resources Canada (EMR), this institute trains and certifies designers and installers of ventilation systems for R-2000 homes and industry development. In addition, EMR funds the refinement and establishment of standards for new technology used in R-2000 homes through the Canadian Standards Association and the testing of new products and equipment, e.g., Canadian-made heat recovery ventilators at ORTECH International.

The institute also develops training courses for the servicing of heating equipment by contractors.

Contact:

Energy Efficient Technologies Division
Technology Branch
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0E4
(613) 996-6126

Canadian Institute for Advanced Research (CIAR)

The federal government is providing up to \$7 million over four years (1987-88 to 1990-91) to match private-sector contributions to the institute.

The institute facilitates leading-edge research by university scientists in areas of national importance, including artificial intelligence, robotics, superconductivity and evolutionary biology.

The institute has been highly effective in enhancing the level and stature of fundamental university-based research within the program areas it supports.

Contact:

Dr. James A. Ham
Special Advisor to the President
The Canadian Institute for Advanced Research
179 John Street
Suite 701
Toronto, Ontario
M5T 1X4
(416) 971-4251

National Research Council of Canada

The National Research Council, Canada's leading science and technology agency, helps Canadian firms improve productivity, develop new products and solve technical problems.

With a staff of 3,000 and a budget of \$400 million, NRC develops knowledge from its own basic and directed research programs aimed at improving Canada's economic competitiveness.

Each year, about 6,000 firms receive direct help from NRC and 10,000 more are assisted through NRC's industry development programs.

Canadian companies can make various types of arrangements for the use of NRC's facilities and expertise. These include:

- *customized research and development projects;*
- *specific testing, analysis, verification and calibration;*
- *collaborative research projects (several partners share financing, facilities, equipment, expertise or advice);*
- *co-funded projects jointly controlled and managed by NRC and a partner;*
- *access to major engineering facilities and installations;*
- *opportunities for company researchers to work within NRC with NRC specialists; and*
- *licences to know-how and patents.*

Contact:

*National Research Council
Building M-58
Montreal Road
Ottawa, Ontario
K1A 0R6*

*Public Relations & Information Services
(613) 993-3041*

Technology Support Through Economic and Regional Development Agreements

Economic and Regional Development Agreements (ERDAs) are designed to facilitate the development of economic and regional development policies, programs, and activities at the federal and provincial levels of government. Each agreement contains its own set of objectives that reflect the strategic priorities agreed upon by both governments.

Specific initiatives under each ERDA are implemented by Subsidiary Agreements which are developed, negotiated, signed and implemented jointly by the federal and provincial ministers responsible.

The following is a list of Subsidiary Agreements with science, technology and/or research components that may be of assistance to the private sector.

Alberta

- 1) Canada-Alberta Subsidiary Agreement on Agricultural Processing and Marketing (1986-1991)

PROGRAM III: RESEARCH AND DEVELOPMENT ASSISTANCE

Developing new or improved products or processes and pilot projects.

Contact:

Ernie Belsek
Industry Science and Technology Canada
10179-105th Street
Suite 505
Edmonton, Alberta
T5J 3S3
(403) 495-2944

- 2) Canada-Alberta Subsidiary Agreement on Forest Resource Development (1984-1989)

PROGRAM II: APPLIED RESEARCH AND TECHNOLOGY DIFFUSION

This program is designed to stimulate the transfer, adaptation and diffusion of technology.

Contact:

Steve Price
Forestry Canada
Northern Forestry Centre
5320 - 122nd Street
Edmonton, Alberta
T6H 3S5
(403) 435-7210

British Columbia

- 1) Canada-British Columbia Subsidiary Agreement on Industrial Development (1985-1990)

PROGRAM I: PROGRAM IN SUPPORT OF MODERNIZATION

This program is designed to support resource-based industries, primarily forest products, in meeting a range of modernization needs through use of advanced technology.

PROGRAM III: INDUSTRIAL DIVERSIFICATION

Component — Strategic Industrial Incentive Program

Assistance to stimulate investment in major industrial ventures.

PROGRAM IV: INDUSTRIAL DEVELOPMENT SUPPORT
COMPONENT — INSTITUTIONAL SUPPORT
PROGRAM

Assistance to stimulate the transfer, adaptation and diffusion of technology.

Contact:

Industry, Science and Technology Canada
P.O. Box 11610
900 - 650 West Georgia Street
Vancouver, British Columbia
V6B 5H8
(604) 666-0434

- 2) Canada-British Columbia Subsidiary Agreement on Agri-Food and Regional Development (1985-1990)

PROGRAM I: PRODUCTIVITY ENHANCEMENT

Technology development, technology transfer, market and new product development.

Contact:

Bob Ion
Agriculture Canada
Room 116
816 Government Street
Victoria, British Columbia
V8W 1W9
(604) 388-0273

- 3) Canada-British Columbia Subsidiary Agreement on Small Business Incentives (1985-1990)

PROGRAM A: ASSISTANCE PROGRAM FOR
SMALL BUSINESS

PROGRAM B: INDUSTRIAL DEVELOPMENT ASSISTANCE PROGRAM

Both programs A and B are designed to encourage the establishment, modernization and expansion of commercial operations for high-technology firms and manufacturing firms.

PROGRAM C: AQUACULTURE ASSISTANCE PROGRAM

This program is designed to encourage the establishment and expansion of viable aquaculture operations.

Contact:

Barry Oakley
Industry, Science and Technology Canada
P.O. Box 11610
Suite 900 - 650 West Georgia Street
Vancouver, British Columbia
V6B 5H8
(604) 666-0434

- 4) Canada-British Columbia Subsidiary Agreement on Science and Technology Development (1985-1993)

PROGRAM I: ADVANCED SYSTEMS INSTITUTE/ FOUNDATION

This program was established, as part of the Advanced Systems Foundation, to stimulate the development and application of computer science, microelectronics, applied mathematics and robotics technology to maintain a high-technology industrial base in the province and to promote its expansion.

Contact:

Advanced Systems Institute
Suite 310 - 3700 Gilmore Way
Burnaby, British Columbia
V5G 4M1
(604) 435-0551

PROGRAM III: UNIVERSITY/INDUSTRY LIAISON OFFICES

This program was set up to establish university-industry liaison offices at each of British Columbia's three public universities and to provide for patenting search services, incubation centres and related university/industry initiatives.

MART (Market Assessment of Research and Technology) Grants

As part of Program 3, MART grants are designed to assist researchers in British Columbia universities, colleges and institutes to determine the market potential of discoveries made during the institute's own research activities or through research conducted in collaboration with an industrial company.

Contact:

The Science Council of British Columbia
Suite 100 - 3700 Gilmore Way
Burnaby, British Columbia
V5G 4M1
(604) 438-2752

Manitoba

- 1) Canada-Manitoba Subsidiary Agreement on Urban Bus Industrial Development (1984-1990)

PROGRAM I: RESEARCH AND DEVELOPMENT

The objective of this program is to pursue selected technologies identified as strategic to the development of an advanced urban bus industry in Manitoba. For activities under this program, the participation of industry and other interested parties will be pursued.

PROGRAM II: PRODUCTION DESIGN AND DEMONSTRATION

The objective of this program is to support the design, development and demonstration of pre-production models of advanced urban bus technology.

Contact:

Gary Hosea
Industry, Science and Technology Canada
Industry and Trade Development
Bank of Montreal Building
608 - 330 Portage Avenue
P.O. Box 981
Winnipeg, Manitoba
R3C 2V2
(204) 983-2952

- 2) Canada-Manitoba Subsidiary Agreement on Communications and Cultural Enterprises (1984-1989)

Sector A: Communication/Information Technologies — Component 1, Technology Applications

The objective of this part of the agreement is to encourage the development of specific application projects in communication and information technologies.

Contact:

Department of Communications
200 - 386 Broadway Avenue
Winnipeg, Manitoba
R3C 3Y9
(204) 983-2630

New Brunswick

- 1) Canada-New Brunswick Subsidiary Agreement on Industrial Development (1985-1990)

PROGRAM A: DEVELOPMENT CLIMATE AND INDUSTRIAL SUPPORT PROGRAM

A program of financial incentives aimed at overcoming specific weaknesses within the business support environment in the area of entrepreneurial development, the hiring of skilled personnel, and encouraging the introduction of computer technology into small firms.

PROGRAM B: INDUSTRIAL DIVERSIFICATION

This program offers assistance to encourage the introduction of new products through the purchase of manufacturing rights or licences, particularly the non-resource-based industrial sector.

PROGRAM C: MARKET AND TRADE DEVELOPMENT PROGRAM

This program provides assistance to businesses in developing marketing capability — market identification, planning and feasibility studies — in order to strengthen their position in domestic and foreign markets.

Contact:

Paul Landry
Atlantic Canada Opportunities Agency
590 Brunswick Street
P.O. Box 578
Fredericton, New Brunswick
E3B 5A6
(506) 452-3124

- 2) Canada-New Brunswick Subsidiary Agreement on Industrial Innovation and Technology Development (1986-1991)

PROGRAM I: STRATEGIC TECHNOLOGY SUPPORT

The purpose of this program is to support and strengthen strategic technology resources and capabilities and to enhance technology transfer in the province. It includes

the following sub-programs: opportunity identification and prioritization; public sector-sponsored applied R&D; and applied technology infrastructure.

PROGRAM II: TECHNOLOGY VENTURE INITIATIVES

The purpose of this program is to support the creation of a climate that encourages entrepreneurs and innovators in proposed product/process development or improvement and business proposals.

PROGRAM III: DIRECT SUPPORT TO PRIVATE SECTOR

This program is designed to provide financial and technical assistance directly to private firms, individuals or industry associations which are technology-based or facing issues which are technological in nature.

Contact:

Paul Landry
Atlantic Canada Opportunities Agency
590 Brunswick Street
P.O. Box 578
Fredericton, New Brunswick
E3B 5A6
(506) 452-3124

Newfoundland

- 1) Canada-Newfoundland Ocean Industry Subsidiary Agreement (1984-1989)

PROGRAM A: OCEAN INDUSTRY ASSISTANCE

This program will serve to provide financial assistance to Newfoundland-based firms engaged in applied R&D, the application/transfer of high and medium technologies to the manufacturing, processing and servicing industries, where such activities are in direct support of the ocean industry.

PROGRAM F: INNOVATION AND PRODUCTIVITY SUPPORT

This program provides financial assistance to research institutions and firms for the acquisition of equipment and expertise of major significance to the ocean industry sector. Eligible activities will include the acquisition of equipment, expertise and materials to facilitate product and process development initiatives; prototype design, fabrication and testing; computer modelling; materials analysis; and technology demonstration projects.

Contact:

Paul Mills
Ocean Industry Development Centre
Atlantic Canada Opportunities Agency
Atlantic Place
215 Water Street
P.O. Box 1060
St. John's, Newfoundland
A1C 5M5
(709) 772-2455

Nova Scotia

- 1) Canada-Nova Scotia Subsidiary Agreement on Technology Transfer and Industrial Innovation (1985-1990)

PROGRAM I: MODERNIZATION AND INDUSTRIAL INNOVATION

This program consists of various initiatives to encourage businesses, research institutes and universities to become aware of, and begin adopting, advanced technologies relevant to their operation.

PROGRAM III: TECHNOLOGY TRANSFER INCENTIVES

This program is designed to encourage entrepreneurs, inventors, technology-based firms, researchers and academics to identify, evaluate, develop and commercialize innovative ideas.

Contact:

R. A. Russell
Office of the Executive Director
Industry, Science and Technology Canada
Brewery Building
1489 Hollis Street
P.O. Box 940, Stn. M
Halifax, Nova Scotia
B3J 2V9
(902) 426-3458

Ontario

- 1) Canada-Ontario Subsidiary Agreement on Mineral Development (1985-1990)

PROGRAM C: IMPROVING PRODUCTIVITY THROUGH
MINING AND MINERAL TECHNOLOGY

This program is aimed at increasing efficiency and productivity while maintaining or improving safety in the Ontario minerals industry. Mining productivity and safety will be enhanced through programs such as those developing improved computer packages for mine design to maximize their usefulness.

Contact:

Peter Andrews
Energy, Mines and Resources Canada
580 Booth Street, Room 734
Ottawa, Ontario
K1A 0E4
(613) 995-9466

Prince Edward Island

- 1) Canada-Prince Edward Island Subsidiary Agreement on Agri-Food Development (1984-1989)

PROGRAM B: PRODUCTIVITY ENHANCEMENT

Assistance will be provided to producers and private-sector organizations for the evaluation and demonstration of technology that will increase the quality, improve the productivity and decrease the unit cost of production of potatoes, cereals and forages, beef and swine.

Contact:

John Enman
Agriculture Canada
P.O. Box 2949
Charlottetown, P.E.I.
C1A 8C5
(902) 566-7300

PROGRAM C: TECHNOLOGY DEVELOPMENT

Assistance is provided to private-sector firms and educational institutions to develop: better adapted cereal and forage varieties, improved management practices for potato production and storage, a system of intensive cereal management, and crop management practices that reduce soil erosion.

Contact:

Bonita MacFarland
Agriculture Canada
Research Branch
P.O. Box 1210
Charlottetown, P.E.I.
(902) 566-6800

Quebec

- 1) Canada-Quebec Sub-Agreement on Scientific and Technological Development (1985-1990)

PROGRAM A: OPPORTUNITY OR FEASIBILITY STUDIES

This program covers up to 75 percent of the eligible costs of studies for R&D projects aimed at the development of new products, services or processes or application of new technology.

PROGRAM B: MODERNIZATION OF R&D EQUIPMENT

This program covers up to 50 percent of the eligible cost of equipment required for major projects up to \$1 million.

PROGRAM C: NEW INITIATIVES IN R&D

This program covers up to 50 percent of the eligible cost of new R&D projects, pilot projects or other similar initiatives.

Contact:

The Joint Office of Project Evaluation
Canada-Quebec Subsidiary Agreement on Scientific
and Technological Development
1111 St. Victoria Street
Suite 104
Montreal, Quebec
H2Z 1Y6
(514) 875-9517

- 2) Canada-Quebec Subsidiary Agreement on Communications Enterprises Development (1985-1990)

PROGRAM I: SPECIAL FUND FOR COMMUNICATIONS INITIATIVES

Feasibility studies, marketing studies, pilot projects.

PROGRAM II-A: DEVELOP, MARKET AND DISTRIBUTE FRENCH-LANGUAGE PROGRAMMING

Fosters the development and the production of audio-visual materials as well as the distribution of these products.

PROGRAM II-B: DEVELOPMENT AND MARKETING OF SOFTWARE AND DATABASES

Develops and markets software and databases that will give users access to electronic information.

PROGRAM III-A: DEVELOPMENT AND IMPROVEMENT OF
COMMUNICATIONS TECHNOLOGIES
AND INFRASTRUCTURES

Provides financial and technical assistance to encourage Quebec firms to do research and development in new communications technologies.

PROGRAM III-B: DEVELOPMENT OF AUTOMATION SYSTEMS
FOR COMMUNICATIONS ENTERPRISES

Develops new systems to make communications enterprises more productive and efficient.

Contact:

Department of Communications
295 Saint-Paul Street East
Montreal, Quebec
H2Y 1H1
(514) 283-7737

- 3) Canada-Quebec Subsidiary Agreement on
Industrial Development (1985-1990)

PROGRAM II: MAJOR INDUSTRIAL PROJECTS

This program offers financial assistance to cover technical and technological studies and project viability demonstration.

Contact:

Regional Office
Industry, Science and Technology Canada
800 Victoria Place
P.O. Box 247
Montreal, Quebec
H4Z 1E8
1-800-361-5367

Saskatchewan

Canada-Saskatchewan Subsidiary Agreement on
Advanced Technology

PROGRAM I: INNOVATION CLIMATE ASSISTANCE
PROGRAM

This program provides financial contributions towards the direct costs of studies to identify and refine factors pertinent to the accelerated growth of the advanced technology industries in Saskatchewan. In addition, the program provides financial support for university-level research pertinent to industry which in turn plays a key role in guiding the direction of the research.

PROGRAM II: INDUSTRIAL ASSISTANCE PROGRAM

The intent of this program is to increase the level of investment by the private sector in industries, services or new product and process development. It is concerned with stability and diversification of advanced technology industries. This intent will be pursued by offering financial assistance for activities ranging from market research to capital investment for new establishments.

Contact:

Dalton Tamney
Industry, Science and Technology Canada
105 - 21st Street East
6th Floor
Saskatoon, Saskatchewan
S7K 0B3
(306) 975-5316

Energy Programs

Industry Energy Research and Development Program (IERD)

IERD is aimed at promoting the development of products, processes or systems that will increase the efficiency of energy use throughout industry and at encouraging the use of the technology developed under the program. Canadian companies, individuals, trade and research organizations, and consulting firms may receive up to 50 percent of the eligible costs of a project.

Each project must: have a sound technical basis and a reasonable chance of success; generate a significant amount of Canadian development work; involve technology that can be generally applicable in one or more industrial sectors; and provide sufficient potential energy savings, considering all areas of application, to justify the Crown's investment.

Contact:

Energy Efficiency Technology Division
Technology Branch
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0E4
(613) 996-2480

Energy Demonstration Program for the Industrial, Commercial and Institutional Sectors

This program concentrates on the demonstration of proven energy conservation technologies in the industrial, commercial and institutional sectors. Its main objective is to accelerate the adoption and commercialization of energy conservation technologies by supporting industry in this regard and by increasing public awareness of these technologies. The program, which operates on a cost-shared basis, is available throughout Canada.

Contact:

Operations Branch
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0E4
(613) 996-6168

Bioenergy Development Program

The Bioenergy Development Program provides financial support for the research and development of new methods and technologies aimed at substituting biomass for non-renewable fuels and chemicals. Biomass normally includes forest and forest products waste, agrifood residues, peat and municipal solid waste. Technology areas that are given support include direct combustion,

biomass materials handling, densification, biochemical conversion (anaerobic digestion, ethanol, etc.) and thermochemical conversion (e.g., liquefaction and gasification). The program will provide funding for approved R&D work. The requests for proposals for R&D are generally issued annually.

Contact:

Energy Diversity Technology Division
Technology Branch
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0E4
(613) 996-6220

Solar Energy Development Program (includes small and low-head hydro and wind)

This research and development activity is committed to developing and improving cost-effective renewable energy technologies through cost-shared programs.

RESEARCH AND DEVELOPMENT

The research and development component requires cost-sharing of projects with industries that seek to develop new or improved products for near-term commercial or technologies exploitation. Projects that will advance the renewable energy option in the longer term are also

eligible. The contractor should demonstrate the ability to provide a minimum of 25 percent investment for the proposed project.

DEMONSTRATION

The Solar Domestic Hot Water Demonstration component promotes the use of solar domestic water heating. This program assists the solar industry in marketing and installing systems across Canada. A contribution towards the installed cost of a solar domestic hot water system is made directly to a private company (solar manufacturer, installer, building contractor, etc.) that undertakes a group of such installations.

The objective of the Commercial/Industrial Solar Demonstration component is to demonstrate improved system cost/performance and provide the Canadian solar industry with opportunities to design, market, install and operate commercial/industrial solar energy systems. Private companies (manufacturers, installers, building contractors, etc.) and owners/operators of commercial/industrial buildings are eligible.

The Special Projects Demonstration component supports innovative projects that hold promise for significant contribution to the development and application of active and passive solar, photovoltaics, wind and small hydro technologies. In addition, this program supports projects that accelerate the acceptance of such systems by the Canadian public and the commercial sector.

Private companies (manufacturers, installers, designers, building contractors, etc.) and owners/operators of commercial/industrial buildings are eligible.

Contact:

Solar Energy Division
Renewable Energy Branch
Energy, Mines and Resources Canada
580 Booth Street
Ottawa, Ontario
K1A 0E4
(613) 996-9909

Energy Conversion Program

The Energy Conversion Program is administered by the Canada Centre for Mineral and Energy Technology (CANMET), the research branch of Energy, Mines and Resources Canada. The program is designed to assist Canadian industry in applying their resources and expertise to the development of technology to use Canada's fossil energy resources. The program works on a cost-shared basis and examines proposals under four broad categories. These include coal conversion and utilization, extraction and recovery of bitumen and heavy oil, bitumen/heavy oil and natural gas conversion and utilization, and synthetic crude oil upgrading. The program is designed for all industries involved in energy supply, processing or utilization, and for other organizations interested in energy conversion.

Contact:

Research Program Office
Canada Centre for Mineral and Energy Technology
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0G1
(613) 995-4295

Materials for Offshore Structures and Arctic Vessels — Steels

The Canada Centre for Mineral and Energy Technology has a cost-shared research and development program. The program incorporates the development and use of improved steels and welding technology for the construction of future energy-related structures, such as offshore drilling/production platforms, ice transitting ships, and oil and gas transmission pipelines. Of specific interest is the production of improved plate steels and the fabrication, inspection, non-destructive testing and repair of structural components.

The federal government will contribute up to 50 percent of the costs of projects addressing the production of improved plate steels, and the fabrication, inspection, non-destructive testing and repair of structural components.

Contact:

Research Program Office
Canada Centre for Mineral and Energy Technology
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0G1
(613) 995-4295

Research Agreement Program

Energy, Mines and Resources Canada awards research grants on an annual basis to applicants from any Canadian research organization that is not directly managed by the Government of Canada, including universities and colleges, provincial research agencies and private research groups. Grants are awarded on the basis of departmental research priorities in areas of the natural, physical and social sciences and engineering where research is most urgently needed. The Research Agreement Program (RAP) is designed to take advantage of the capabilities of a variety of disciplines and technologies available in Canada to facilitate the better use of our mineral and energy resources and to provide information on Canada's land mass.

Contact:

Research Agreement Program
Energy, Mines and Resources Canada
601 Booth Street, Room 239
Ottawa, Ontario
K1A 0E4
(613) 992-1806

Energy from the Forest (ENFOR)

This program finances research and development (R&D) related to the production of forest biomass for energy. Current areas of R&D emphasis include intensive silviculture to improve biomass productivity, environmental impacts of intensive biomass harvesting, socio-economic influences and technology transfer. Approved projects are conducted primarily under contract.

Contact:

ENFOR Secretariat
351 St. Joseph Blvd.
Hull, Quebec
K1A 1G5
(819) 997-1107

Development and Demonstration of Resource and Energy Conservation Technology (DRECT) Program

The primary aim of the DRECT program is to promote the recovery/recycling of wastes and to save energy through the development and demonstration of innovative new technologies. Funding up to 50 percent of the total estimated cost of a project may be available.

Contact:

Industrial Incentives Division
Technology Development and Technical Services Branch
Conservation and Protection
Environment Canada
Ottawa, Ontario
K1A 0H3
(819) 997-1813

Strategic Grants Program

The Natural Sciences and Engineering Research Council's program of strategic grants in energy promotes high-quality, mission-oriented energy research and development in Canadian universities. The objective of these grants is to help bridge the gap between basic research programs in universities and applied energy research and development programs in government and industry.

Both fundamental and applied research proposals are eligible.

Contact:

Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-6295

Canada Centre for Mineral and Energy Technology (CANMET)

CANMET is the major technological research arm of Energy, Mines and Resources Canada and is the nation's leading agency for mineral and fossil fuel energy research, development and demonstration. Transfer of new technology to industry is a primary objective of CANMET's overall activities. This work is not carried out in isolation: close links are maintained with industry, provincial research organizations and universities to ensure that all projects are undertaken in response to, or in anticipation of, real needs and problems.

Through its Research Program Office, CANMET issues contracts from five laboratories:

- Mining Research Laboratories (MRL);
- Mineral Sciences Laboratories (MSL);
- Metals Technology Laboratories (MTL);
- Energy Research Laboratories (ERL); and
- Coal Research Laboratories (CRL).

CANMET's programs include the Energy Conversion Program and the Program for Materials for Offshore Structures and Arctic Vessels — Steels, both of which are described separately in this booklet.

Contact:

*Research Program Office
CANMET
Energy, Mines and Resources Canada
Ottawa, Ontario
K1A 0G1
(613) 995-4295*

Crop Development Fund (CDF)

This Agriculture Canada program provides financial contributions, on a cost-shared basis, to Canadian agricultural organizations that undertake projects demonstrating commercial potential of new crops, varieties, technologies or production practices.

The principal objectives of the CDF are:

- *to assist in the timely and effective evaluation of new crops, varieties and production techniques;*
- *to assist in the development of new crop varieties and production technologies that may have potential for commercial production, beyond the basic research stage; and*
- *to accelerate the commercial adoption of new crops, varieties and production technologies to meet each market.*

Contact:

Special Programs Division
Agriculture Development Branch
Agriculture Canada
Room 565, Sir John Carling Building
930 Carling Avenue
Ottawa, Ontario
K1A 0C5
(613) 995-9554

Communications Programs

Mobile Satellite Program (MSAT)

In May 1986, final approval was announced for a funding package of \$177 million that will lead to the implementation of a commercial mobile satellite (MSAT) system in Canada. By the early 1990s, MSAT will deliver portable two-way radio, telephone and data service anywhere in the country. Telesat Mobile Incorporated will own and operate the satellite as a commercial venture, investing over \$260 million in the project. By 1997, the federal government will have allocated up to \$50 million to provide technology and product development support and to sponsor service trials for the program. Other federal support will include a bulk lease of service from Telesat for federal users.

Contact:

Department of Communications
MSAT Program
300 Slater Street
Ottawa, Ontario
K1A 0C8
(613) 990-4111

Satellite Communications Applications Program (SCAP)

The objective of this program is to stimulate the development and utilization of satellite communications services, systems and products in Canada through technology transfer, industry support, information exchange, and the development and application of new services and technologies. Past activities under the program have included field trials, pilot projects, experiments and demonstrations. Projects which can be considered under this program include new satellite applications, earth stations and new services development.

Contact:

Department of Communications
Communications Applications Division
Communications Research Centre
P.O. Box 11490
Station H
Ottawa, Ontario
K2H 8S2
(613) 998-2168

Payload and Spacecraft Development and Experimentation (PSDE) Program

Canada is participating in the European Space Agency's PSDE program. The program's objective is to prepare for communications-related space missions that are planned for the 1990s. Activities include payload development and experiments and demonstrations with existing satellites and systems.

Canadian participation in the initial phases of the PSDE program was approved in 1987. In the meantime, Canada has been awarded contracts concerning mobile satellite communications technology and intersatellite/interorbit communications at both optical and monolithic microwave frequencies as well as an important study on future satellite networking. Benefits to Canada include the enhancement of existing Canadian expertise, the opportunity to become involved in European industrial consortia and gaining a window on the European and international market.

Contact:

*Department of Communications
International Satellite Programs
300 Slater Street
Ottawa, Ontario
K1A 0C8
(613) 990-4100*

Strategic Grants Program

The Natural Sciences and Engineering Research Council's program of strategic grants in information systems responds to research and development needs in Canada relating to: the development of the technologies and capabilities needed to be internationally competitive; the application of the new technologies and capabilities to resource-based activities; the use of information systems to replace physical transport; and the equalization of services between urban and rural areas.

Contact:

*Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
(613) 995-6295*

Public Awareness Initiatives

Canada Awards for Business Excellence

These awards honour business enterprises or their divisions located in Canada that have proven excellence in the following categories: Small Business, Quality, Productivity, Marketing, Entrepreneurship, Labour-Management Cooperation, Innovation, Invention and Industrial Design.

Contact:

Canada Awards for Business Excellence (ACAE)
Industry, Science and Technology Canada
235 Queen Street
Ottawa, Ontario
K1A 0H5
(613) 954-4079

Or contact your nearest ISTC Provincial Office listed on pages 55 and 56.

Science Culture Canada

Science Culture Canada is a \$2.5 million program that provides funding for projects and activities across the country to increase public awareness of science and technology. Competitions for funding are held twice a year. Support is divided among project funding, general core funding and youth core funding. Applications are judged by a non-government committee of experts in science and technology awareness.

The program's central objectives are: to increase general public awareness of scientific and technological achievements and potential, particularly those of Canadian origin or application; to stimulate greater public interest in, and understanding of, the role and impact of science and technology in contemporary society; to improve communications between scientists and non-scientists, between the creators and users of technology and between those who generate technological change and those who are affected by it; and to develop and sustain greater interest in, and awareness of, science and technology among Canada's young people.

Contact:

Programs Officer
Science Culture Canada
Science Programs Branch
Supply and Services Canada
12C1, Phase III, Place du Portage
Hull, Quebec
K1A 0S5
(819) 956-1772

International Initiatives in Science and Technology

Defence Programs and Advanced Technology Bureau

This bureau of External Affairs Canada is responsible for policies and programs designed to protect and advance Canada's international interests in science and technology, including space and information technology. Its four divisions (science and technology; information technology and electronics; aerospace, marine and defence products; and defence programs) handle science and technology policy and technology marketing. The bureau pays special attention to the inflow of foreign technology to be used by the private sector in Canada. It is also the focal point for the management of Canada's relations with multilateral organizations with science and technology functions, including United Nations agencies and the Organization for Economic Cooperation and Development (OECD).

Contact:

Defence Programs and Advanced Technology
Bureau (TDD)
External Affairs Canada
125 Sussex Drive
Ottawa, Ontario
K1A 0G2
(613) 996-1745

Technology Inflow Program (TIP)

This program promotes international collaboration that will provide the technological innovation needed to develop new or improved Canadian products, processes or services. It does this in two ways. First, it makes use of Canadian government offices abroad to facilitate the flow of foreign technology to Canada. Second, it provides Canadian scientists and engineers with financial support to assist them in gaining first-hand knowledge of foreign technologies relevant to their needs.

The specialists at posts abroad include seven science and technology counsellors and eleven technology development officers based in key posts in developed countries. The counsellors perform a broad range of duties, from reporting on science and technology developments in their host country to assisting industry in identifying opportunities for R&D collaboration. The officers, who are locally engaged, are responsible for identifying sources of technology requested by Canadian firms. The TIP Fund supports missions abroad and medium-term working visits, and is almost exclusively directed at helping Canadian small and medium-sized businesses acquire foreign technologies.

Contact:

Technology Inflow Program
Science and Technology Division (TDS)
External Affairs Canada
125 Sussex Drive
Ottawa, Ontario
K1A 0G2
(613) 996-0971

TIP can also be accessed through the IRAP field network.
See page 9 of this booklet or the Yellow Pages of your
telephone directory under Technology.

Program for Export Market Development (PEMD)

This program helps incorporated Canadian businesses to develop, increase and sustain their activities by sharing with them specific export marketing efforts. The industry-initiated segment of PEMD is geared to:

- *encourage businesses that have not exported previously to begin export marketing; and*
- *encourage established exporters to expand their activities into new markets.*

PEMD provides up to 50 percent of the costs incurred by a company in its penetration of new markets. These contributions are repayable if sales are made to these markets.

Under the government-planned activities segment of PEMD, missions and trade fairs are organized through the government, and Canadian firms may participate by paying a partial fee.

Contact:

Export and Investment Programs Division (TPE)
External Affairs Canada
125 Sussex Drive
Ottawa, Ontario
K1A 0G2
(613) 992-7155

Research on Impact of Technological Change

Technology Impact Program (TIP)

This contribution program has been established to fund research into the human and social impacts of technological change in the workplace. It is designed to support practical workplace-related research studies and demonstration projects that develop a better understanding of the nature and effects of new technology on jobs, working conditions and workers. It specifically encourages projects that foster labour-management cooperation.

TIP contributions are up to a maximum of \$100,000 per project, and those above \$50,000 require a contribution for the applicant. Priority is given to joint labour-management proposals and to those from labour organizations and other organizations or interest groups that are directly affected or likely to be affected by technological change (e.g., women's groups). The annual deadline for the submission of applications is April 30.

Contact:

Technology Impact Program
Labour Canada
Ottawa, Ontario
K1A 0J2
(613) 997-5470

ISTC Provincial Offices

BRITISH COLUMBIA

900 - 650 West Georgia Street
P.O. Box 11610
Vancouver, British Columbia
V6B 5H8
(604) 666-0434

ALBERTA

Cornerpoint Building
10179 - 105th Street
Suite 505
Edmonton, Alberta
T5J 3S3
(403) 495-2944

SASKATCHEWAN

6th Floor
105 - 21st Street East
Saskatoon, Saskatchewan
S7K 0B3
(306) 975-4400

YUKON & NORTHWEST TERRITORIES

Suite 301, 108 Lambert Street
Whitehorse, Yukon
Y1A 1Z2
(403) 668-5003

MANITOBA

330 Portage Avenue
Room 608
P.O. Box 981
Winnipeg, Manitoba
R3C 2V2
(204) 983-0042

ONTARIO

4th Floor, Dominion Public Bldg.
1 Front Street West
Toronto, Ontario
M5J 1A4
(416) 973-5000

QUEBEC

Stock Exchange Tower
800 Victoria Square
Suite 3800
P.O. Box 247
Montreal, Quebec
H4Z 1E8
(514) 283-3315

NEW BRUNSWICK

*Assumption Place
770 Main Street
P.O. Box 1210
Moncton, New Brunswick
E1C 8P9
(506) 857-6400*

NOVA SCOTIA

*Brewery Building
1489 Hollis Street
Halifax, Nova Scotia
B3J 2V9
(902) 426-2018*

PRINCE EDWARD ISLAND

*Confederation Court Mall
134 Kent Street, Suite 400
P.O. Box 1115
Charlottetown, Prince Edward Island
C1A 7M8
(902) 566-7400*

NEWFOUNDLAND

*Parsons Building
90 O'Leary Avenue
P.O. Box 8950
St. John's, Newfoundland
A1B 3R9
(709) 772-4866*

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