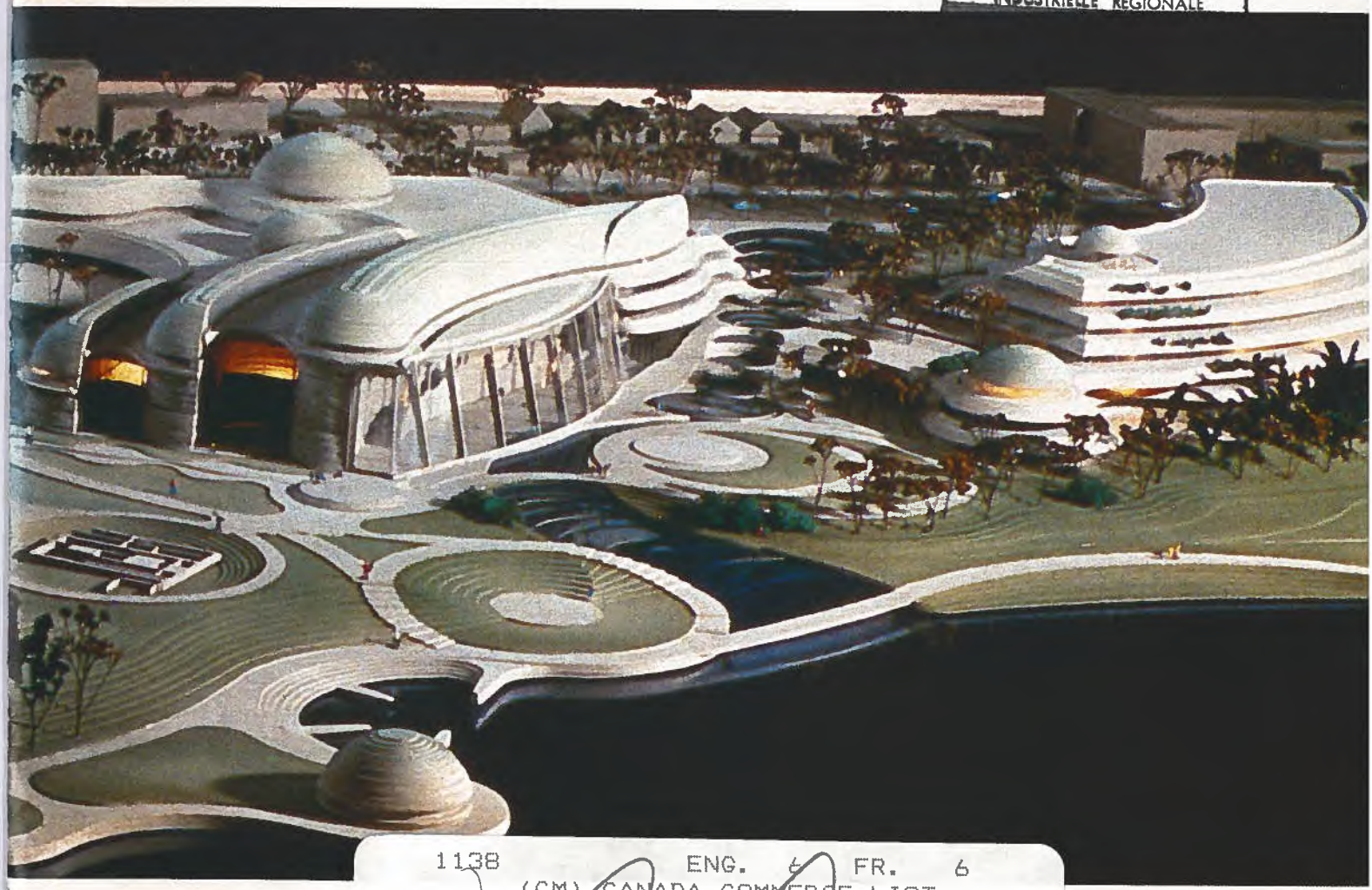
Canada Commerce

December/January 1984-85



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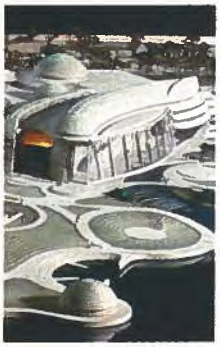
Canada Commerce

The Honourable Sinclair Stevens
Minister of Regional Industrial Expansion

The Honourable Thomas McMillan
Minister of State for Tourism

The Honourable André Bissonnette
Minister of State for Small Businesses



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List of Regional Offices — inside back cover.

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Business Review

Communicating Office Technologies

A Canadian company, Micot, has begun construction in downtown Hull, Quebec, of a 2 500 m^2 "Institute of Communicating Office Technologies". The 22-storey complex is designed to tap an estimated billion-dollar-a-year market in office automation equipment, supplies and services forecast for the National Capital Region by 1987.

The developers believe that this trade/shopping centre concept will provide significant benefits to potential government and industrial customers who must employ the latest techniques in office automation to meet the productivity challenge.

The new centre will include a 500-seat auditorium, with ground floor computer store and training facilities. The second floor will feature three actual working office environments while the third floor will be subdivided and rented to smaller suppliers of consultants who wish to use Micot's services. The fourth floor will be used as showrooms by major suppliers of communicating office equipment.

For further information, contact MICOT, P.O. Box 4893, Station E, Ottawa, Ontario K1S 5J1.

New Test Facilities for Alberta

The Alberta Research Council is to provide an Electronic Products Test Centre in its new quarters in Edmonton. Expected to be in operation early in 1985, the centre is designed primarily to address the needs of niche product manufacturers.

The council has a number of other programs designed to assist small and medium-sized businesses. In addition to the services of a staff of 300 research and development professionals backed by extensive laboratory and testing facilities, the council can provide a client with the latest technical literature available. On-line searches access more than 500 databases worldwide and staff are available to interpret data at any level required.

For further information, contact Alberta Research Council, 7th Floor, Terrace Plaza, 4445 Calgary Trail South, Edmonton, Alberta T6H 5R7; Tel: (403) 438-1666.

Pay from Your Savings

Energy Systems Company (ESC) of Downsview, Ontario, has developed a "pay as you go" energy conservation plan for industrial, institutional, commercial and large residential buildings. The system pays for energy conservation capital costs out of the ongoing savings of the installation.

For example, if a company would like to undertake a capital project for which the capital costs are about $17 000 and the annual savings $10 500, the program could be set up with a repayment of $7 500 a year creating a cost avoidance of $3 200 a year. At the end of three years and for an additional payment of $1 700, the capital equipment may be obtained with all the future savings.

For further information, contact Energy Systems Company, 167 Dolomite Drive, Downsview, Ontario M3J 2N1; Tel: (416) 663-5701.

Deficit Top Concern of Business Executives

According to a recent survey in the U.S., government deficits are the main concern of 1 000 corporation executives polled. Some 65 per cent of them named the deficit as the issue of greatest concern to business while 17 per cent placed it in second place.

Interest rates were chosen as of greatest concern by 31 per cent while other areas of concern included foreign competition, unemployment and anti-trust enforcement.

CEGELEC Wins Chinese Contract

CEGELEC Industrie of La Prairie, Quebec, has outbid strong international competition to obtain an important contact to supply high-voltage circuit breakers to China. The first part of the contract, which is to develop in stages, is for $4.1 million to provide high-voltage 500 kW gas circuit breakers and is part of a larger-scale project which will necessarily involve any future tenders.

For further information, contact CEGELEC Industrie Inc., 1400, boulevard Industriel, La Prairie (Québec) J5R 2E5; Tel: (514) 659-8921 or 861-1254.

Special Events Post Office

A relocatable post office is the newest unit in the "Olympic Modular Building Systems" line of portable structures built by MNG Plastics Ltd. of Renfrew, Ontario.

Although intended primarily as a temporary installation providing post office facilities in emergency situations or at special events (such as Olympic Games), the portable post office could be installed as a permanent facility.

The completed structure, designed in close collaboration with Canada Post Corporation, is 11.2 m long by 2.8 m wide and 2.4 m high. Made of fire-resistant plastics, it is divided into a separate letter sorting area, a vestibule, a mail drop area and an employee washroom.

Report Supports Science Education for All

One of the greatest challenges to educators today "is training young people who will have to confront a working environment evolving so rapidly that the knowledge they have acquired is frequently obsolete or no longer required", according to Marcel Risi, former commercial director of the Centre de recherche industrielle du Québec.

To help meet this challenge, a recent study of the Science Council of Canada, *Science for Every Student — Educating Canadians for Tomorrow's World*, supports the concept of "science for all", an aim, the study affirms, that can be achieved through a balanced curriculum.

This curriculum would prepare students to:

- pursue further studies in science and technology;
- participate in a technological society as informed citizens;
- enter the modern work world;
- develop intellectually and morally.

Unfortunately, the study concludes, although most curriculum guidelines contain these aims, there is a serious gap between what science education is supposed to achieve and what it does.

For further information, contact Science Council of Canada, Publications Office, 100 Metcalfe Street, Ottawa, Ontario K1P 5M1.

Conference Round-Up

Canadian Mineral Processors

The 17th Annual Operators Conference of the Canadian Mineral Processors Division, the Canadian Institute of Mining and Metallurgy (CIM), will be held in Camsell Hall, Ottawa, January 22 to 24, 1985. The meeting is limited to invited operators from the Canadian Mineral Processors' nine regions.

For further information, contact Denyse B. Crawford, Information Officer, the Canadian Institute of Mining and Metallurgy, Bureau 400, 1130, rue Sherbrooke ouest, Montréal (Québec) H3A 2M8; Tel: (514) 842-3461.

Canada's Largest Minerals Convention

The largest minerals industry convention in Canada, the 87th Annual General Meeting of the Canadian Institute of Mining and Metallurgy (CIM) will be held in Hotel Vancouver, Vancouver, British Columbia, April 21 to 25, 1985. All CIM divisions, societies and committees will sponsor technical sessions on the theme "Canada — A Pacific Rim Nation".

A trade show will be held in the Hyatt Regency Hotel in conjunction with the general meeting and will feature 113 booths displaying products and services for Canada's minerals industry.

For further information, contact Denyse B. Crawford, Information Officer, the Canadian Institute of Mining and Metallurgy, Bureau 400, 1130, rue Sherbrooke ouest, Montréal (Québec) H3A 2M8; Tel: (514) 842-3461.

New Company Wins Overseas Biomass Contract

Two major companies in the energy field, SNC Group and Nouveler Group of Montreal, have joined forces in a new company, Biodev, to design and build biomass-fed power plants. The new company has won its first contract for a $9 million, 6.7 megawatt installation in French Guiana.

Biodev is using a new gasification technology developed by Omnifuel Gasification Systems Ltd. of Toronto and adapted by Biosyn, a subsidiary of Nouveler. The feedstock can be wood, peat, straw or bagasse.

This biomass technology could generate an estimated $200 million in exports of equipment over the next few years.

For further information, contact Nouveler, 1080 Beaver Hall, Suite 1810, Montreal (Quebec) H2Z 1S8; Tel: (514) 879-1938.

Underground Operators Conference

The 7th Underground Operators Conference, sponsored by the Canadian Institute of Mining and Metallurgy, will be held in Danny's Motor Inn, Bathurst, New Brunswick, February 18 to 20, 1985.

For further information, contact Denyse B. Crawford, Information Officer, the Canadian Institute of Mining and Metallurgy, Bureau 400, 1130, rue Sherbrooke ouest, Montréal (Québec) H3A 2M8; Tel: (514) 842-3461.

Aerosols Symposium

On May 19 to 24, 1985, the 2nd U.S.-Dutch International Symposium: Aerosols, will be held in the Williamsburg Hilton Inn, Williamsburg, Virginia, U.S.A.

Further information may be obtained from Dr. Si Duk Lee, U.S. Coordinator, 2nd U.S.-Dutch Symposium: Aerosol, U.S. Environmental Protection Agency (MD-52), Research Triangle Park, North Carolina NC 27711, U.S.A. Additional information may be obtained from Alice Cathell, TRC Environmental Consultants, Inc., 701 West Broad Street, Suite 401, Falls Church, Virginia VA 22046, U.S.A.; Tel: (703) 241-5535.

The Professional Development Institute Seminars

A series of seminars on a variety of topics will be conducted under the sponsorship of The Professional Development Institute.

Two seminars of two-and-a-half days each will be conducted January 28 to February 1, 1985, in Toronto by A.P. Martin on "The Complete Project Management Cycle".

A three-day follow-up seminar will be held in Ottawa, March 4 to 6, 1985, on "Project Management" conducted by A.P. Martin.

Two seminars, each of two-and-a-half days will be held on "Executive Secretaries and Administrative Assistants", the first in Toronto, February 18 to 20, 1985, and the second in Ottawa, March 25 to 27, 1985. They will be conducted by DeAnne Rosenberg.

On February 11 to 12, 1985, DeAnne Rosenberg will conduct a two-day follow-up session seminar which will be held in Ottawa on "Executive Secretaries and Administrative Assistants".

"Government Policy Making and Issue Management" will be the subject of a three-day seminar conducted by Dr. Robert J. Jackson in Ottawa, February 18 to 20, 1985.

Monica Belcourt will conduct a three-day seminar in Ottawa, February 4 to 6, 1985, on "Management Skills for Women".

The above are just a few of the ongoing seminars and sessions sponsored by The Professional Development Institute. Further information on them and others may be obtained from Louise Brooks, Program Director, The Professional Development Institute, P.O. Box 1181, Station B, Ottawa, Ontario K1P 5R2; Tel: (613) 523-3333.

The 1984 IRDP — Streamlined and Responsive

Imagine you were the owner of a small tool-and-die operation. Business was rough the first couple of years, but once you had an established clientele and a couple of really solid product lines, you decided you'd like to expand your plant capacity. However, the capital costs were too high to go it alone financially — you needed about $50 000 to make the dream a reality.

You went out to scout for financial assistance. In the maze of 20-some federal incentive programs and a myriad of provincial grant programs, you found your way to the Industrial and Regional Development Program (IRDP). Once there, however, you found the application procedure complex and the processing of your application overly time consuming. Frustrated, you ended up withdrawing the application.

While this is not a common scenario, it does describe what some small business people have experienced in applying for IRDP assistance.

Now, because of adjustments announced November 9, 1984, designed to streamline the program, this type of situation should not re-occur.

One of the major features of the streamlined program will be automatic eligibility for new maximum levels of assistance for eligible projects requiring government support of less than $100 000, providing basic criteria are met. The new maximum levels of assistance reflect average levels of assistance that have been actually granted under the program.

Since 72 per cent of all IRDP contributions to date have been for projects involving government support of less than $100 000, this change will significantly speed up the approval process for small and medium-sized business applicants, who traditionally request support well below the $100 000 range.

Another major adjustment of the IRDP will refocus the program to give priority to projects that emphasize R&D and the development of new products and processes. This change, together with making the program more accessible to small business, will help to meet one of the challenges which the new government has set for itself in the pursuit of economic renewal for Canada. That is, "to foster higher investment, greater innovation, increased international competitiveness and a positive climate for the birth and growth of new enterprise".

A third important element in the streamlining of the program will concentrate funding in areas of the country where it is needed most. The IRDP has always been regionally sensitive, with funding based on a development index which ranks Canada's census divisions into four groups, or tiers, depending on levels of employment, income and the fiscal capacity of the province.

Much of the complexity and time-consuming administrative procedures have been eliminated from the new, streamlined 1984 IRDP.

The tier system will remain intact, but the new program adjustments will mean that the more prosperous areas of the country — those designated Tier I — will not be eligible for assistance in projects involving plant establishment, modernization and expansion. This will allow those funds to be diverted to tier group areas of greater economic need.

As Minister Sinclair Stevens said in announcing these changes, the new, streamlined version of the IRDP "reflects the government's intention to re-orient federal support for the private sector towards activities that will be of most benefit to the national economy and achieve a better regional balance in industrial development".

The Changes in Detail

Termination of Industrial Development Climate Element:

Under this element, assistance was provided for studies and courses relating to industrial development; the establishment of non-profit centres or institutions that support work related to industrial development; and for infrastructure directly related to regional industrial development if cost-shared with a province or municipality.

This element has been eliminated because it is felt that requests for such assistance can be more effectively dealt with through federal-provincial agreements.

Termination of Restructuring Element:

Restructuring assistance was provided for the cost of hiring consultants and for loan guarantees, repayable contributions and participation loans. This element has been eliminated because it was rarely used.

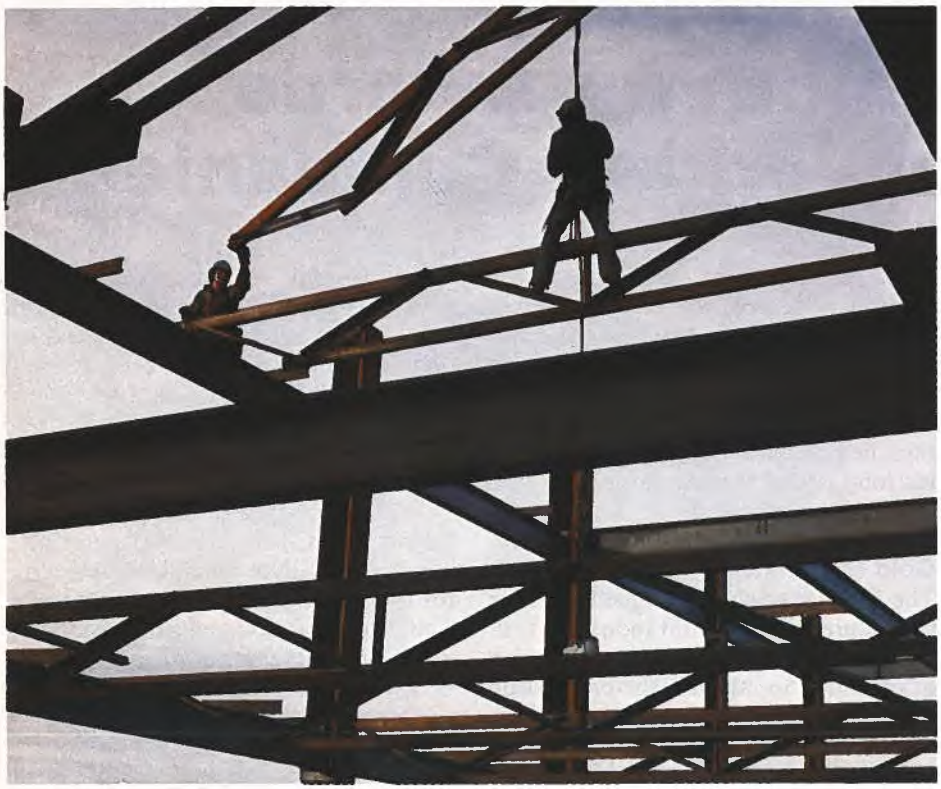
Restriction of Modernization and Expansion Element:

Tiers II, III and IV represent the areas of greater economic need in Canada. An important tool for stimulating industrial development in those regions will continue to be direct financial assistance through the IRDP in the establishment, modernization or expansion of manufacturing and processing facilities.

Reduction in Maximum Levels of Assistance:

Maximum levels of assistance are being reduced to two-thirds of the former levels for innovation projects and related studies, and to one-half of former levels for establishment, expansion, modernization and marketing projects and related studies.

This approximates the average level of assistance that has been actually given. Eligible projects involving contributions of less than $100 000 will now automatically receive the new maximum levels of support if criteria of viability, incrementality and economic benefit to Canada are met.



Ineligibility of Tourism Projects:
Because of their diversity and uniqueness and the strong provincial interest in them, tourism projects can be dealt with more effectively through instruments such as federal-provincial agreements.

Ineligibility of Crown Corporations:
Since Crown Corporations are instruments of government, it is more appropriate that they are funded through the legislatures.
The 1984 IRDP is a program that is streamlined and more responsive to the needs of business and the regions.

The project elements have been trimmed down to those that will most effectively increase industrial productivity and international competitiveness:

- **Innovation** — to encourage the development of new products and processes and support promising R&D activities;
- **Establishment** — to assist in the establishment of new production facilities;
- **Modernization/Expansion** — to improve, modernize and expand existing manufacturing and processing operations, including the installation of microelectronic devices;
- **Marketing** — to facilitate the identification, development and exploitation of new domestic and international market activities and enhance competitiveness within existing markets, when the assistance is requested by non-profit organizations.

Element	Maximum Level of Assistance by Tier (% of eligible project costs)				
	I	Special I	II	III	IV
Innovation	33.3	33.3	40	50	50
Establishment					
a) Studies	N/A	30	30	37.5	37.5
b) Plant Establishment	N/A	17.5	17.5	25	30
Modernization/Expansion					
a) Studies	N/A	30	30	37.5	37.5
b) Modernization/Expansion	N/A	17.5	17.5	25	25
c) Microelectronics	N/A	30	30	37.5	37.5
Marketing					
a) Non-Profit Organizations	45	45	45	45	45
b) Studies	25	25	30	37.5	37.5

The more precise targeting of assistance under various elements to those regions of the country needing it most and the establishment of reduced maximum levels of assistance will ensure that government support is focused on those projects and in those areas of the country which will provide the maximum economic benefits to Canada.

Finally, the establishment of an automatic eligibility for projects requiring less than $100 000 in Crown support, providing they meet the basic program criteria, will mean that small business applicants will now be able to determine, in advance, the amount of support their project will receive if eligible.

IDRP reflects the intention to re-orient federal support towards activities of most benefit to the economy — Minister Sinclair Stevens.

Much of the complexity and time-consuming administrative procedures will be eliminated, and many more small businesses will be able to pursue innovative investment and growth plans and make their applications with the confidence of getting a fast response.

For more complete information on the streamlined IRDP — program elements, eligibility criteria, tier groups and levels of assistance — contact the nearest regional or local office of the Department of Regional Industrial Expansion (DRIE) listed on the inside back cover of this issue of *Canada Commerce*.

— by Toni Timmermans
Canada Commerce

National Productivity Awards Honour Metalworking Companies

Major productivity improvements by seven Canadian-based metalworking firms were honoured in October at the third National Productivity Awards in Toronto. Thirteen more firms received awards of merit.

This year a total of 32 entries, five more than last year, were received from 25 companies across Canada. Organized by *Canadian Machinery & Metalworking*, the National Productivity Awards promote productivity and design in the Canadian metalworking industry.

An awards luncheon was held on October 10 at the Harbour Castle Hilton Centre and was attended by more than 300 industry executives and guests.

Eric Crawford Memorial Award

Winner of the **Eric Crawford Memorial Award** for the best overall entry submitted in either the products or systems categories was the Standard-Modern Division of Baxter Technologies Corp. The Toronto-based firm has developed a new line of CNC turning systems that are highly productive to build and less costly than their Japanese counterparts.

Eric Crawford, for whom the award was named, was editor of *Canadian Machinery & Metalworking* for well over 25 years. Until his retirement in 1968 he was extremely active on behalf of the metalworking industry. In fact, he became so widely known during his long career that he earned the title of "Mr. Machinery".

Gold Medalists

The **Gold Medal — Products** winner was Supreme Aluminum Industries Ltd. of Scarborough, Ontario, for the design of machines to improve the production of its line of aluminum ladders.

Haley Industries Ltd. of Haley, Ontario, won the **Gold Medal — Systems** for a new, semi-automatic system to radically improve the productivity of its foundry.

Silver Medalists

Diemaster Tools Inc. of Mississauga, Ontario, was the National Productivity Awards' first double winner. It won the **Silver Medal — Products** for the development of a patented method for the fast and accurate internal grinding of long, thin-wall shafts used in helicopter transmissions. In 1983, Diemaster won the **Gold Medal — Systems** for the design and layout of its new plant.

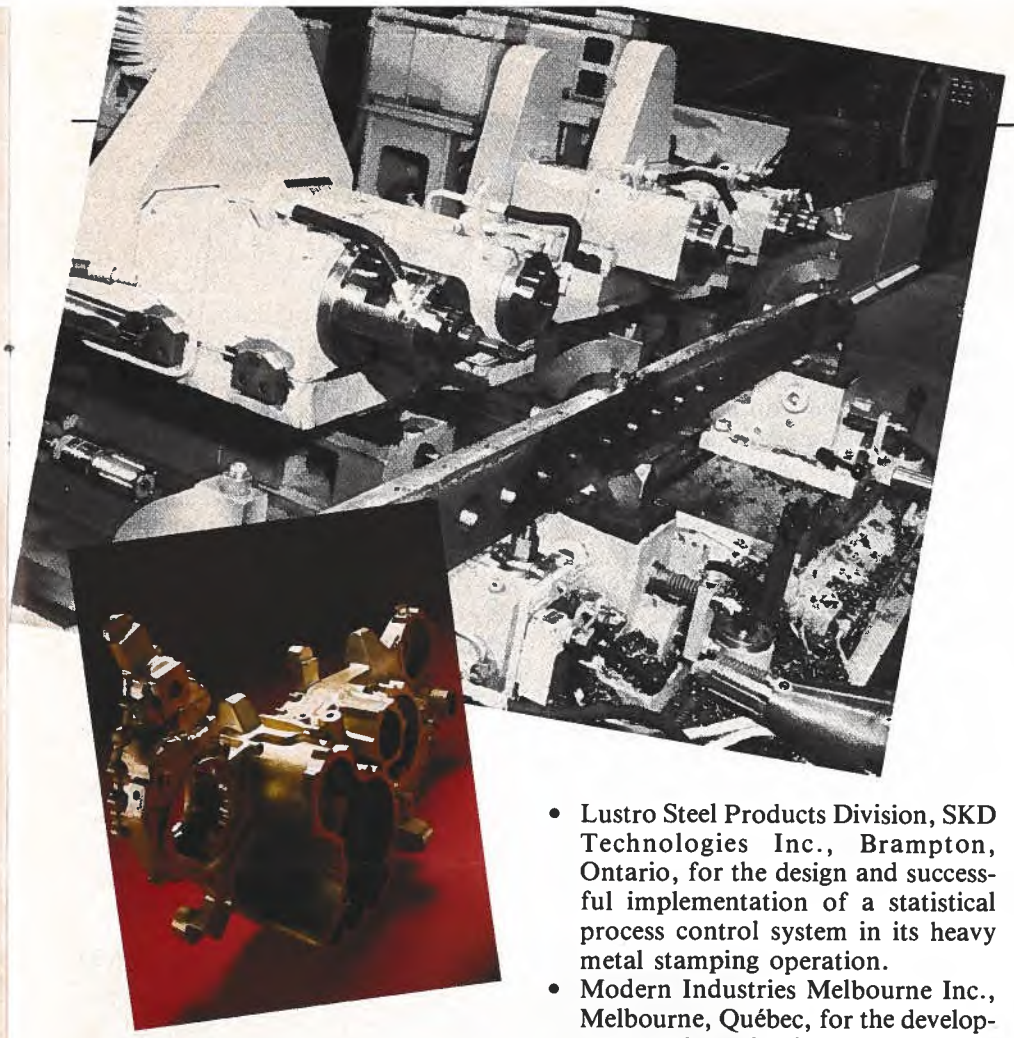
Tri-Way Machine Ltd. of Windsor, Ontario, was the other silver medalist, winning the **Silver Medal — Systems** for the design and manufacture of two CNC machines that lowered the costs of producing oil well guns for a major U.S.-based customer.

Bronze Medalists

The **Bronze Medal — Products** went to Cascade Lead Products Ltd. of North Vancouver, British Columbia, for the development of a small hand tool to cut notches in metal "U" channels used in the stained glass industry. The tool was later developed into a small but efficient rollformer.

The **Bronze Medal — Systems** was won by Westinghouse Canada, Turbine and Generator Division, for the development of a modular tooling system to reduce cycle times and costs at its components plant in Renfrew, Ontario.

Robert Heath of Standard Modern Division, Baxter Industries, left, receives the top Productivity Award from Clare Wescott of the Ontario Government, and Bill Fisher, chairman of the '84 National Productivity Awards committee.



Awards of Merit

- Butler Metal Products, a Division of Guthrie Canadian Investments Ltd., Cambridge, Ontario, for the installation of six welding robots to improve the performance, quality and quantity on its line to produce automotive front body hinge pillar assemblies.
- Canron Inc., Rexdale, Ontario, where a four-member "Production Task Force" improved safety, cleanliness and efficiency in the company's plants.
- Fisher Gauge Ltd., Fishercast Division, Peterborough, Ontario, for the development of die-casting skills that enabled a manufacturer in Britain to build at low cost an accurate low-voltage or amperage meter.
- Hayes-Dana Inc., Barrie, Ontario, for the use of a "rationalization" concept on its welding production line of rear axle housings to improve efficiency, lower costs and reduce inventory.
- Ipsco Inc., Steel Division, Regina, Saskatchewan, for improvements to the plant's Number 5 furnace to increase productivity and improve product quality.
- Lustro Steel Products Division, SKD Technologies Inc., Brampton, Ontario, for the design and successful implementation of a statistical process control system in its heavy metal stamping operation.
- Modern Industries Melbourne Inc., Melbourne, Québec, for the development and production of the Trudo MCH 800 CNC machining centre.
- Mikro-Tek, Dunville, Ontario, for adapting a machining centre to improve its production of up to six sizes of ladders.
- Spar Aerospace Ltd., Toronto, for the development of a five-point T700 productivity plan in its gears and transmissions division.
- TRW Canada Ltd., Carr Division, Stoney Creek, Ontario, with a project to reduce labour and material costs of electro-mechanical devices using a tape welding machine.
- Techniprodec Ltée, Québec, for the development of an accessory tool that, for specialized tasks, can replace the standard vise jaws of a vertical milling machine.
- Westinghouse Canada Inc., Motor Division, Hamilton, Ontario, for the successful transfer last year of the plant's manufacturing cell concept to a product cell concept involving marketing, engineering and manufacturing personnel.
- Westinghouse Canada Inc., Turbine and Generator Division, Hamilton, Ontario, for the development of an air-conditioning system using a ground water cooling system.

Awards Began in 1982

The National Productivity Awards were started in 1982 by *Canadian Machinery & Metalworking*, a monthly business publication dedicated to improving the productivity of Canada's metalworking industry.

Each year *Canadian Machinery & Metalworking's* readers are asked to send in details of the productivity improvements they have made in their plants. The entries from across Canada have ranged from designing and building machine tools to installing new, semi-automatic systems to improve productivity or organizing in-plant programs to boost efficiency.

In the first year there were only five entries. But last year there were 27 and awards were presented at Ontario Place mid-week during the Production Show at Exhibition Park in Toronto.

This year, after entries were closed, a seven-member judging committee evaluated all entries and chose the winners, under the chairmanship of Bill Fisher, founder and president of Fisher Gauge Ltd., Peterborough, Ontario. Mr. Fisher's company won the Eric Crawford Award in 1983.

In addition, each year a number of companies in metalworking manufacturing industry, together with federal and provincial government departments, sponsor the celebratory awards day luncheon.

Foundation Established

Last year *Canadian Machinery & Metalworking* **established the National Productivity Awards (NPA) as a non-profit foundation. Its objectives are:**

- To create an awareness of the need for innovation in design and productivity improvements by Canadian industry;
- To recognize and reward companies and individuals for achievements and to generate industry-wide recognition for their accomplishments;
- To raise the image and profile of the Canadian metalworking industry among groups whose positive attitudes could assist its growth and development. This includes the general public, customers and governments.

— by Nick Hancock
Canadian Machinery & Metalworking

Canadian Patents and Development Limited

Hundreds of Ideas Patented

With increased emphasis on technology development and transfer, CPDL has undertaken a promotion of its services and inventions.

Ideas are the raw materials of Canadian Patents and Development Limited (CPDL), the Canadian government's main means of getting technology out of the lab and into the market.

CPDL, a Canadian Crown corporation, takes title to most federal government inventions automatically and those of universities and other institutions by individual agreement. The 300 ideas handled in an average year range from "what if" concepts to full working prototypes covering such diverse fields as agriculture and satellite hardware.

Licensing provides the cash to keep CPDL operating as an inventions clearing house, to reward inventors and to encourage new ideas. Licensing also allows the smaller company, often one formed especially for new enterprise, to compete with corporate giants because a licence's short-term monopoly helps recoup development costs.

Although it has been in existence for almost 40 years (since 1947), CPDL has not been well known outside the small research laboratory and development communities. With increased emphasis on technology development and transfer in recent years, CPDL has undertaken a promotion of its services and available ideas and inventions.

An important step in developing this higher profile was the establishment in 1983 of a Business Development Branch and upgrading the Marketing and Licensing Branch.

Two Initiatives

Two initiatives in this promotional effort were the education program, which included seminars held from coast to coast, and the mounting of display booths at high technology shows. Both were successful if the interest of the participants and visitors is any indication — so much so that the popular seminars and exhibits will be increased in the future.

These initiatives were, no doubt, largely responsible for last year's 17 per cent increase in CPDL's business activities as compared with the previous year and the previous five-year average.

Of the 276 new invention disclosures received, 60 new patent applications were filed; 80 additional patent applications were filed in respect of inventions for which original patents had been previously filed; and 165 patent searches were carried out, a number which involved pre-project patent searches.

Pre-project patent search is a CPDL service that has always been available to its sources of inventions but not extensively used in the past, probably due to its low profile. This CPDL service, available at no cost to the user, includes a patent expert's comments on the relationship between the project to be undertaken and the similar type patents found.

While the major portion of CPDL funds comes from royalties and service charges, the federal government does provide a parliamentary appropriation of $350 000 a year when necessary.

Senior Officers

In addition, the government has three senior officers on the CPDL board of directors including the president and chief executive officer. The remaining eight directors are from the business and academic communities.

Another major contributor to the increase in overall business was the Marketing and Licensing Branch which negotiated 50 new licences for new technology during the fiscal year 1983-1984. This brought to more than 200 the number of corporations which have licences from CPDL for a wide range of developments arising from its sources of technology.

Chances are most Canadians have come into contact with one or more of these CPDL developments.

Examples

For example, there are the stereophones that use a CPDL patented fluid seal. Some 20 years ago they started the "silent music" boom and licensees such as Koss Electronics and Willson Products Division of Ray-O-Vac still get the benefits.

Or instant mashed potatoes — CPDL holds the patents on the process that preserves them water-free, yet retains their distinctive taste and texture. Canadian licensees include Carnation, Kellogg, Salada and McCain.

Other Canadians are using dozens of drugs and being treated by medical instruments on which patents are held. As well, hundreds of other less obvious developments (e.g. an innovative breakwater or a laser that marks consumer goods or components inexpensively, accurately and instantly) help enrich the lives of Canadians and many others in countries around the world.

Most Important Service

But perhaps the most important service to Canadian entrepreneurs and businesses is Canadian Patents and Developments Limited's "idea pool" which outlines the 500 CPDL inventions available for licensing.

This "inventions catalogue" may be obtained from CPDL for a modest fee. While the catalogue is divided for easy reference into seven sections — chemistry, biology, mining and metallurgy, mechanics, electricity, instruments and miscellany — users are urged to scan the entire listings for applications in their own interest group since any classification system is bound to be arbitrary and many of the listings could apply to several categories.

To keep the catalogue current, it is updated by regular supplements listing new cases, and by a reprint every two years. While it contains brief descriptions of the inventions, detailed information, in the form of patents, patent descriptions or papers, can be obtained on request.

To keep the inventions catalogue current, it is reprinted every two years and there are regular supplements listing many new cases.

General enquiries can also be useful since CPDL staff may be able to suggest applications that are not so obvious, or they may know of research in progress in specific fields of interest.

In general, the seven sections of the catalogue are broken down as follows:

- **Chemistry** — chemical and petroleum processes, products and equipment;
- **Biology** — biological processes and equipment, food technology and pharmaceuticals;
- **Mining and Metallurgy** — metallurgy, mining, alloying, welding, plating, heat treating, moulding and casting;
- **Mechanics** — mechanical devices and process equipment;
- **Electricity** — electrical and electronic devices;
- **Instruments** — instruments for measuring, monitoring and controlling;
- **Miscellany** — acoustics, computers, optics, lasers and the wide range of inventions not easily classified in any of the above categories.

To obtain a copy of these listings and for further information on licences or the Canadian Patents and Development Limited, please contact:

Canadian Patents and Development Limited
275 Slater Street
Ottawa, Ontario
K1A 0R3
Tel: (613) 996-5736

— by Bob McDonell
Canada Commerce

Recycling in Canada

The Shift from Consumer to Conserver

In the late 1960s a research division of the United Nations observed that, with only six per cent of the world's population, North America was responsible for more than 60 per cent of the world's waste!

Environmentalists immediately cried out that this alarming misuse was leading to rapid deletion of renewable resources and extensive pollution of untapped resources.

Initial research suggested that much of the waste was a potentially valuable global resource and this mismanagement had occurred on a mistaken premise that North America contained an unlimited reservoir of renewable resources.

It was realized that economic and environmental success of future generations would depend on the immediate increased recovery and recycling of these valuable wastes. Recycling offered immediate conservation of natural resources and a gradual reduction of pollution, the report observed.

When the oil crisis crippled North America in the early 1970s, a further value of recycling became more evident to a much wider world cross-section, especially in industry. Contained in waste was a frozen energy value which not only could save large amounts of energy when reused but could also be used as an energy product.

Industrial Response

Today, nearly 20 years later, small to medium-sized Canadian manufacturing companies still dispose of millions of dollars of valuable natural resources each day at a rising economic and social cost when, often enough, recycling could substantially reduce costs and produce revenues.

Many larger manufacturers have long since passed the time when waste was not a money-making proposition and have made large investments to expand recycling services.

Major food and beverage companies realize hundreds of thousands of dollars in revenue each year from cardboard packaging recovery; the automotive industry recovers and sells millions of dollars of scrap iron and steel each year; publishers and printers recover hundreds of thousands of tons of paper and ink; computer companies recover large quantities of valuable precious metals in production — the list goes on and on.

Canadian primary industries are steadily increasing their use of secondary materials as substitutes for raw materials. For example, Canada's largest industry, pulp and paper, has increased its consumption of recyclable paper by more than 40 per cent since 1977.

In 1982, the 43 paper and paperboard mills in Canada that rely wholly or in part on waste, recyclable paper as raw material used 1.115 million tonnes. Of this amount, almost one-third was imported, mainly from the United States. In practical terms, there are more than 17 000 trailers of waste paper entering Canada from the United States annually.

Canada's steel industry uses more than four million tonnes of scrap iron and steel in its annual average manufacture of 12 million tonnes of iron and steel products.

The oil industry has invested more than $50 million in the last decade for collection networks and equipment to recover and recycle numerous grades of automotive and industrial oils.

Canada's largest industry, pulp and paper, has increased its consumption of recyclable paper by more than 40 per cent since 1977.

Industry of the Future

All in all, recycling markets are growing at a dramatic pace in Canada and North America.

Recycling is definitely a strong growth industry of the future with estimates that, by the year 2000, it could become a mirror economic image of all industry in existence today. It is already a $50-billion-a-year industry in North America that could grow by 1 000 per cent over the next 20 years.

The materials revolution is also demanding new technology to recover large amounts of plastics, rubbers, chemicals, alloy metals and other man-made substances.

In addition to providing a revenue tomorrow for today's waste, the recycling industry offers to Canadian small business an important multi-billion-dollar international market for products and services that has been too often overlooked.

Information on Tap

Information on recycling in Canada is available from a number of sources but one of the most prominent is *Recoup's Material Recycling Information Service* which offers Canadian companies up-to-date information on recycling opportunities in North America.

It features:

Materials Recyclying Markets (MRM) — A monthly newsletter providing the only pricing sheet for ferrous, non-ferrous and paperstock scrap materials in various regions across Canada. MRM also features recycling companies advertising for scrap materials as well as recycling industry developments of interest.

Numerous contracts are based on MRM monthly prices and smaller companies subscribing to MRM have found buyers for their waste products to realize monthly revenues of anywhere from $1 000 to $10 000. Viable alternatives to the disposal of potentially hazardous wastes are defined and government (federal, provincial and municipal) recycling incentive programs outlined.

Recoup Magazine — A quarterly magazine devoted to recycling industry developments in North America, *Recoup* also offers readers in-depth coverage of international recycling developments; import and export opportunities; new product and technical news; international recycling convention coverage; and much more.

Canadian Recyclers Directory — An annual trade directory featuring company listings by scrap materials handled, articles and references. It includes equipment listings and relevant government departments and acts as an advertising medium for new recycling products or products that may be of interest to recycling companies.

American Recycling Market Directory — An annual trade directory featuring listings of U.S. recycling companies by scrap materials handled; a monthly working calendar section; listings for particular materials handled; and a reference section.

For further information, contact:

Recoup
Material Recycling Information Services
77 — 1262 Don Mills Road
Don Mills, Ontario
M3B 2W7
Tel: (416) 445-5992

Saving Money Through Steam Management

There are many problems associated with projecting Canadian energy supply and demand, the biggest of which seems to be uncertainty.

In the early 1970s it was forecast that there were enough Canadian oil reserves to supply this country's needs for more than 900 years, while gas reserves were declared to be adequate for almost 400 years.

A different Canadian perspective has now emerged, due in part to improved measuring and forecasting techniques as well as an improved industry-government consultative process. While oil continues to be the main problem, the uncertainty of prices is the cause of most concern for Canada rather than the acute shortages that caused such concern when first predicted.

The main reasons for Canada's extraordinary high use of energy include its severe climate, the size of the country, its heavy concentration of primary industries, and the relatively low energy costs the nation enjoyed until the early 1970s. The high rate of consumption and the continued rise of energy costs should give Canadian industrialists reason enough for positive action in curbing energy use.

Steam management offers the plant manager substantial potential for energy savings through a number of different types of conservation programs.

Many companies have been aware of the benefits of steam as an energy commodity for many years and have been actively working to conserve its use. But even these companies are more receptive now to energy conservation programs related to steam use as the cost of fuel to generate steam continues to rise.

The efficiency of a steam generating system is its ability to transfer the energy of the fuel burned to water and steam. This efficiency depends on the excess air of the burner and the heat transfer design on the boiler. The lower the excess air and the better the heat transfer, the greater efficiency of the unit. Other factors to take into consideration include boiler blowdown and preheating feedwater or combustion air.

A poorly adjusted burner often causes smoking because of incomplete combustion. When the operator raises the total air flow to control the smoking and meet air pollution standards, excess air goes beyond the design point and large amounts of fuel are wasted.

While gas burners do not usually require too much attention, oil fired units are sensitive to fuel changes. The viscosity of fuel oil must be kept at a set level for sufficient atomization and correct air mixing. The fuel oil analysis should be reviewed frequently to ensure that the correct temperature is being maintained.

Boiler tubes must be kept clean as encrustations or internal or external tube surfaces impair performance. Some level of blowdown must be accepted and continuous rather than periodic blowdown is better for controlling the associated heat loss.

In addition, boiler water conditions should be checked twice each shift by a chemical analysis of the chloride content or by conductivity measurements. Even if boiler blowdown is reasonably small,

Oil refinery, Saint John, New Brunswick.

heat loss can be kept to a minimum by using a blowdown heat exchanger or a blowdown flash tank.

Blowdown Reduction by Feedwater Control*

At Inco Limited's Stobie Mine complex, the energy conservation committee was concerned that eight per cent of the average output (including chemical treatment) was being blown out of the boiler in order to maintain desired dissolved and suspended solids concentration in the boiler water of the heating plant. The boiler blowdown water contained considerable heat and thus represented a significant loss of energy.

Studies indicated that, with steady, automatic feedwater treatment control, this blowdown could be reduced by about 50 per cent. Existing feedwater chemical treatment consisted of batch-feeding corrosion and scaling control chemicals to the three boilers producing a total of 68 000 kg (150 000 lb.) per day of steam.

Action Taken: A multi-functional liquid boiler treatment coupled with automatic controlled feeding equipment was installed at a cost of only $850.

Energy Savings: With boiler blowdown to about four per cent, annual energy savings amount to 2 900 MMBtu.

Dollar Savings: 2 900 MMBtu/year at $2.00/MMBtu = $5 800/year.

Management must ensure that as little heat as possible is lost before the steam reaches the point at which heat is required. Direct steam leakage from faulty valves and joints should be checked. A considerable amount of heat can also be lost from radiation due to uninsulated steam pipes. It is a fact that a three metre (10-foot) length of uncovered 15 cm (six-inch) pipe carrying steam at seven kg/sq.cm (100 psig) can waste five tonnes of coal or more than 2 460 litres (650 gallons) of oil a year.

Steam traps need attention too and selection of the right steam trap and locating it properly are important as is the use of strainers in front of the traps to prevent accumulation of dirt, a leading cause of traps "blowing steam".

Contact Pyrometer to Detect Faulty Steam Traps*

Dominion Foundries and Steel Limited (DOFASCO) of Hamilton, Ontario, found that one of the most difficult facets of steam trap maintenance is locating faulty traps. Particular problems were encountered when many traps were piped to a common condensate tank.

Action Taken: DOFASCO investigated the use of stethoscopes and an infrared camera to detect leaks but found that the most reliable tool is the contact pyrometer. This is used to measure the surface temperature of the trap discharging piping. Depending on the type of trap and the steam conditions, DOFASCO has been able to develop a link between this exit temperature and the amount of leakage.

Energy Savings: Potential energy savings of about 300 kg/hr. (10 000 lb./hr.) of steam.

10 000 lb./hr. × 1 300 Btu/lb. × 8 760 hr./yr. ÷ 0.8 (boiler efficiency) = 142 350 MMBtu/yr. of fuel.

Dollar Savings: 142 350 MMBtu/yr. × $2.00/MMBtu = $284 700/yr. It is estimated that the cost of finding and repairing leaking steam traps could approach $20 000 to $25 000, however, the potential benefits outweigh that. Net dollar savings — $260 000/yr.

In most industrial applications, condensate from various pieces of equipment is discharged into a common condensate line back to the boiler feed tank. The condensate pipes are often not insulated and the feed tank is uncovered or is just an open tank vented to the atmosphere and the condensate delivered above the water level.

Flash steam formed at traps with the condensate and, if the pipes are uninsulated, much of the steam will condense and the heat will be radiated into the air.

Power transmission towers, Churchill Falls, Labrador.

Steam Flash Tank for Paint System Heat Recovery*

The John Deere Limited works at Welland, Ontario, several years ago seized the opportunity to improve the energy efficiency of its paint system by fully exploiting the potential of steam.

Action Taken: A flash tank was installed to capture low pressure (seven kg/sq.cm — 100 psig) flash steam from the hot condensate from high pressure steam traps. All condensate from the steam coils of the paint system's washer, dryer and bake ovens is release to the flash tank at 0.14 kg/sq.cm (two psig) with 13 per cent of the condensate flashing into steam. This flash steam is absorbed in the washer tank at 71°C (160°F), providing heat and high-temperature makeup for the washing stage. A float regulated valve drains part of the condensate from the flash tank as high-temperature makeup water; the balance is pumped back to the boiler.

Installation was done during normal working hours with no interruption to the paint system except for the final piping connections which were completed on a weekend.

Energy Savings: Approximately 14 000 MMBtu/yr.

Dollar Savings: Approximately $28 000/yr.

Cost of Improvement: $4 500 with a cash payback of less than one year.

* All of the above examples are taken from *Saving Money Through Steam and Compressed Air Management* published by Energy, Mines and Resources Canada.

— By Susan Hallett for Energy, Mines and Resources

Buying and Selling Technology in West Germany

In today's world of rapidly changing technology and increasing competition both from within Canada and abroad, acquiring and applying the technology necessary to keep one or two steps ahead of the competition is an enormous problem.

Few but the largest firms can afford either the substantial outlays which new product development demands or the tremendous risks involved in bringing a new product from the concept stage to ultimate commercial success. No doubt this is why more and more companies, including many large ones, are buying technology off the shelf rather than custom making it for themselves.

Why licensing?

Licensing technology developed and owned by other companies is not without its drawbacks.

Royalty fees must of course be paid on the technology licences. Care must be exercised in selecting the right technology and to avoid buying a "pig in a poke" (in the past, there have been cases of companies buying technology readily available from public libraries). In addition, licensing agreements are often limited to specific geographic areas or commercial applications.

However, licensing technology can offer quick and ready-made solutions for companies looking for new product ideas or new manufacturing know-how.

Licensing technology can significantly reduce risks for companies trying to develop and market new products. Much of the technology and know-how on offer is for products which have already won commercial success in their home markets. This can be a strong indicator of likely success in Canada especially if the product's home market is a sophisticated and demanding one such as the market in the Federal Republic of Germany (FRG) which shares many characteristics with Canada.

The scope of technology agreements varies significantly. In addition to providing bare bones blueprints, many agreements provide detailed manufacturing and marketing tips based on the owners' detailed practical experience. Sometimes the agreements cover the use of jigs, dies and other production equipment.

Often new products being manufactured for the home market can be imported into Canada for test marketing or to fill gaps during difficult start up periods. Since much of the technology on offer is covered by patents and other intellectual property rights, Canadian licensees can often manufacture and market in Canada with additional assurance.

Why West Germany?

Few readers will need to be reminded of the leading role which West Germany plays in development and commercialization of new technology internationally. West Germany spends as much relatively on its research and development (2.7 per cent of GNP) as does the United States and somewhat more than Japan.

International recognition of the high quality of West German technology is illustrated by the country's export of machinery and motor vehicles. Last year the FRG exported some $35 billion of machinery (including highly sophisticated robotics) and $36 billion of motor vehicles alone.

TABLE 1
West German, Japanese and U.S. Exports of High Technology Products
Average per cent shares (real) of OECD exports 1971-80

Product Group	U.S.	Japan	W. Germany
Aircraft and parts	58.1	0.3	5.9
Office machines, computers	31.7	9.9	17.4
Electrical transmission equipment	0.9	10.6	23.2
Communications equipment	23.7	17.4	14.9
Professional instruments (including optical, medical and photographical equipment)	18.4	17.9	18.9
Drugs and pharmaceutical products	14.2	2.3	18.2
Plastic materials	12.7	10.8	23.0
Engines and turbines	24.4	10.3	19.9
Agricultural chemicals	23.4	7.4	14.7
Industrial chemicals	18.6	5.2	17.8
Radio and TV equipment	6.0	52.2	13.3

Source: FRG Economics Ministry — *High Technologies and the International Competitiveness of German Economy.*

What few readers perhaps realize is that much of the vast reservoir of technology which exists in the FRG is available for export. Many small and medium-sized companies in particular are unable to manufacture or market in North America and are therefore willing to license Canadian companies to use their technology instead.

Several larger Canadian companies are not only well aware but are already taking advantage of this. For example, Bombardier Inc. has been licensed by Volkswagen AG to manufacture the ¼ ton Iltis jeep which Volkswagen developed for the West German Army. Bombardier has already received orders from the Canadian forces and Belgium.

How to find a licence

The following practical steps are recommended to companies wishing to source technology or new product ideas in West Germany.

Write to the post. As the first step write to the embassy in Bonn or one of the three Canadian consulates general in the FRG, introducing your company and describing the sort of technology you are looking for; the business you are in; your corporate and marketing strategies; and what you need the technology for. It would not hurt to send literature on existing products and to describe your export and import business with the FRG (if any).

Pay a visit. As the next step, the post will probably advise a visit to the FRG. If you can afford the time and cost, this is usually by far the most effective way of achieving your objective. West Germany is home to a very large number of international trade fairs. They include horizontal fairs such as the huge exhibition at Hannover (which has a whole section on new technology and inventions, and covers product areas from materials handling equipment to solar energy devices); specialized fairs such as Interbrau in Munich (international fair for beverage technology); and security in Essen (international fair for security equipment).

These fairs are essentially marketing events, international in scope and huge by North American standards. For example, this year's Automechanika in Frankfurt (automotive parts, accessories and service equipment) attracted some 130 000 visitors. Almost half of the exhibitors were non-German companies (from 37 countries around the world).

In addition to being selling events, West German fairs give companies the chance to observe and compare the latest most competitive products on offer. They provide the opportunity for assessing new product ideas and for meeting with manufacturers from all of the world and discussing the licensing and joint venture possibilities.

The post will almost certainly recommend that you spend several days at the most appropriate trade fair. It may even recommend that you exhibit at one of these fairs as an exporter. In some cases the post will be able to arrange company visits.

TABLE 2
Selected Specialist International Trade Fairs to be Held in FRG 1985

Household appliances	**Domotechnica**/Cologne	Feb. 05-08
Hardware, tools, building supplies	**International Eisenwaren-Messn**/Cologne	Mar. 03-06
Machinery and equipment for the wood industries	**Ligna**/Hannover	May 15-21
Chemical engineering	**Achema** 85/Frankfurt	June 09-15
Lasers, etc.	**Laser Optoelectronic**/Munich	July 01-05
Welding techniques and equipment	**Schweissen und Schneiden**/Essen	Sept. 11-18
Industrial safety and occupational health	**AA**/Duesseldorf	Oct. 01-04
Groceries, fine foods, beverages and related equipment and technology	**Anuga**/Cologne	Oct. 12-17
Equipment, plant and raw materials for ceramics industry	**Ceramitec**/Munich	Oct. 15-19

Use the technology exchange scheme. A third step, now available for companies who cannot afford to send a representative to the FRG, at least initially, is to make use of the services offered under a pilot project for the transfer of technology between German and Canadian firms. Arranged between the Canadian Embassy Bonn and the Innovation and Technology Advisory Office of the Hesse Chambers of Industry and Commerce (ITB Hessen), this project allows Canadian companies, looking for technology or with technology to offer, to list their requirements in a German publication to offer called *Technology Exchange*. It is planned that German companies will also shortly be listing their technology offers and requests in a special "Innovation Supplement" of DRIE's publication *Canada Commerce*.

If your company wishes to participate in this German-Canadian technology transfer project you should complete the simple form prescribed for the purpose and send it to the Canadian Embassy in Bonn (from whom copies of the blank forms can be obtained). This information is then passed to the ITB Hessen for publication.

As soon as a German firm informs the ITB Hessen of its interest in making contact with a Canadian firm on the basis of a brief published description of the technology concerned, the firms are notified of the desire to establish contact and can rely on assistance in the event that substantive negotiations come about.

This West German technology exchange scheme is fairly new. As explained by the ITB Hessen, "In 1982 the innovation and technology advisory offices of the German Chambers of Industry and Commerce launched a technology exchange to start a technology transfer between German firms offering and seeking technology. Participation is free of charge for interested firms.

"The compilation of catalogues of technology offered and sought is done by the professional innovation advisors. No costs are passed on to the firms, nor is any contractual relationship sought by the Chamber of Industry and Commerce with the firms offering or seeking technology.

"An analysis of achievements in the fall of 1983 showed that the technology exchange is an extremely effective means of bringing together those seeking and offering technology. What has proved to be a particular advantage is that the technology exchange can be introduced as a means of product diversification within the scope of innovation counselling of a firm. With the aid of this exchange it has been shown for the first time that surplus technologies from one enterprise can become innovations in another."

In the fall of 1983 it was decided to incorporate Canadian offers of and requests for technology into the exchange, on a trial basis.

The Canadian Embassy in Bonn selected participants from a number of firms wishing to take part in the pilot project. With the aid of a simple form containing a description of the commercial and technical advantages of the technology on offer, 42 Canadian firms first entered the German technology transfer program in April 1984.

The only condition of participation is that the technology offered may be expected to be industrially usable. It is not a necessary prerequisite for participation that the technology is high technology. It is, however, a requirement that participants in the exchange must be willing to sell the technology they hold or to make it available under licence. The *Technology Exchange* is not a forum for the marketing of products and does not aim at creating any business consortia.

The *Technology Exchange* is published twice a year as a bound brochure. It has a relatively wide distribution due to the fact that it is used by the innovation advisers in their daily work as an instrument for diversification. The advisers in the Chambers of Industry and Commerce indicate in their discussions with firms and through newsletters how the technology exchange can be used. This permits it to be used in specifically applied ways and minimizes problems.

If you feel that your company can use new technology in this way, why not write to:

Canadian Embassy
Commercial Division
Friedrich-Wilhelm-Str. 18
D-5300 Bonn 1
Federal Republic of Germany

Canadian Consulate General
Esplanade 41-47
D-2000 Hamburg 36
Federal Republic of Germany

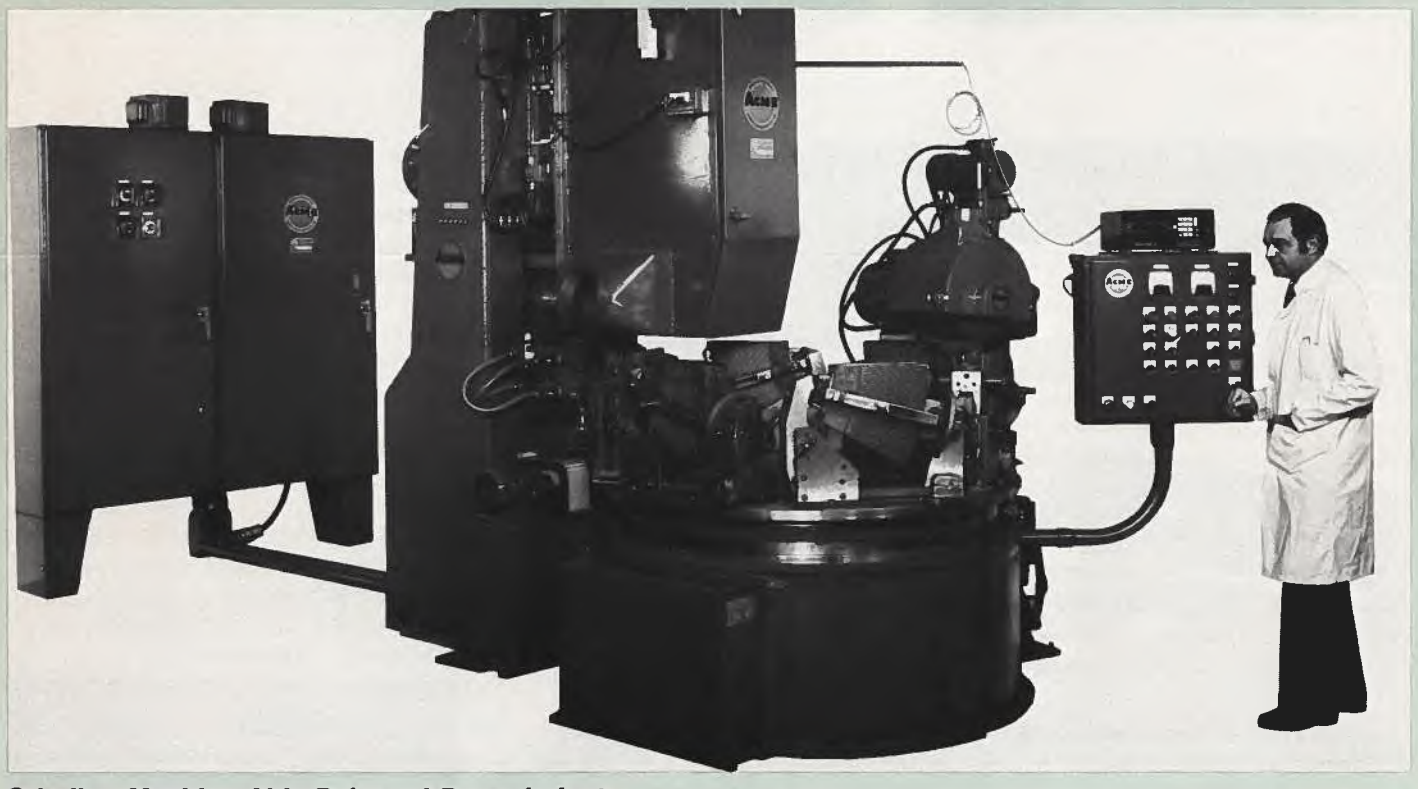
Canadian Consulate General
Immermannstr. 3
D-4000 Duesseldorf
Federal Republic of Germany

Canadian Consulate General
Maximiliansplatz 9
D-8000 Munich 2
Federal Republic of Germany

Or at least look out for the listing of German technology which will be on offer in the special "Innovation Supplement" of Canada Commerce.

CANADIAN COMPANIES & PRODUCTS

Companies wishing to take advantage of this feature may do so without charge simply by sending sufficient material on product or service for no more than 100 words and a glossy black and white photograph to Canadian Companies & Products, ***Canada Commerce*** (BCOM), Department of Regional Industrial Expansion, Ottawa, Ontario K1A 0H5. As ***Canada Commerce*** is produced in both official languages, please send material in both languages if it is available.



Grinding Machine Aids Pulp and Paper Industry

Acme Manufacturing Canada Limited of Kitchener, Ontario, has developed an abrasive belt grinding machine to grind the edges of Ni-Hard and stainless refining plates for the pulp and paper industry. The machine incorporates a 30 h.p. drive, steel contact wheel, digital feed control and special rotating fixtures to assure edge parallelism.

Acme Manufacturing produces a broad range of semi-automatic and automatic grinding, polishing, buffing and deburring machinery.

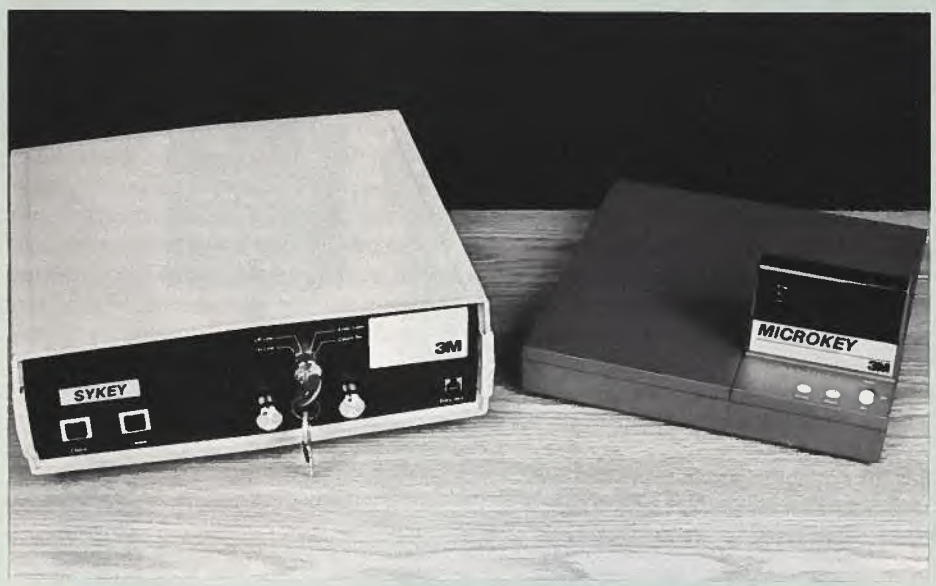
Specialized Export Marketing Services

H. Lee and Associates of Calgary, Alberta, is a mover of goods and services, principally from Canada to the Middle East and the Asian Pacific. The main areas of expertise are international commerce and related matters such as overseas marketing, counter-trade, joint ventures, consortia management and multi-lingual translation service.

The company has in place buyers and personal contacts in more than 40 countries and in various industries.

New Seamless Cylinders Made of Steel
Using a new technology, Seamless Cylinder International Inc. of Sault Ste. Marie produces a range of cylinders made of steel with a modern streamline appearance and strength that equal and exceed the aluminum products that have been the only alternative to date.

The principal market for these products is the fire extinguisher industry. To serve that market worldwide the company's products are component listed with Underwriters' Laboratories. In addition to fire extinguisher cylinders, Seamless Cylinder has the potential to produce air and oil filter bodies, shock absorber cylinders, artillery shell casings, high strength closed end cylinders and precision seamless tubes up to 200 mm in diameter and 800 mm in length.

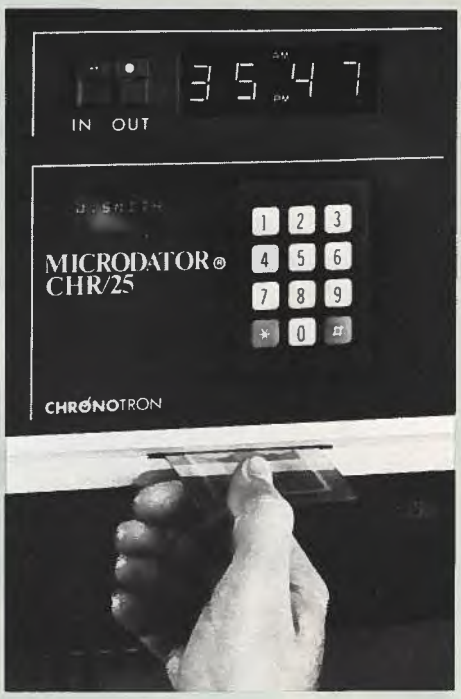


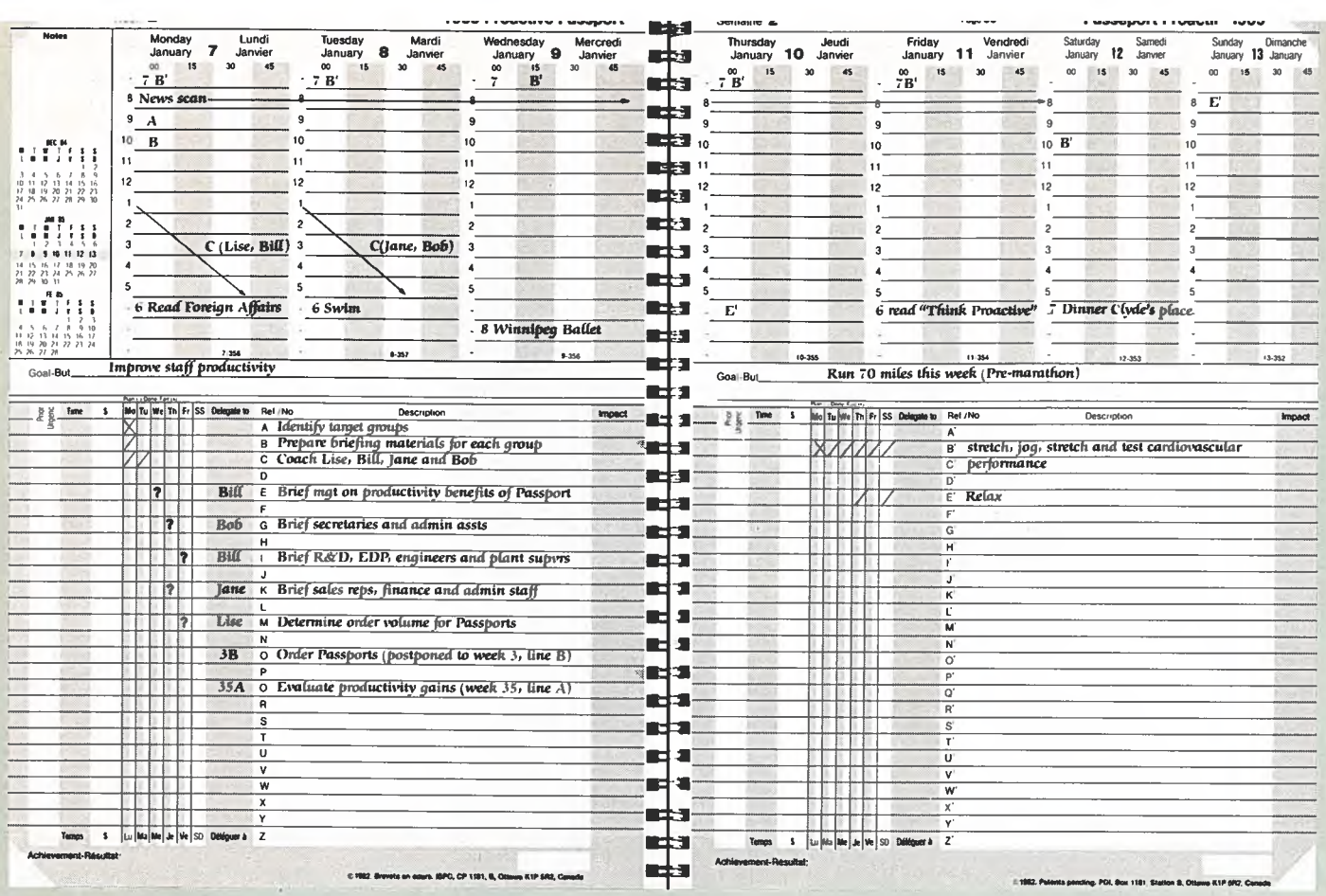
New Computer Access Device
A controlled access device for computers that protects a data base from unauthorized entry but allows immediate dial-up access for legitimate remote terminal users is available from 3M Canada Inc., Integrated Office Systems, of London, Ontario.

The SYKEY dial-up access control device screens calls from all remote locations, blocking the ring to prevent the modem from "answering" and making a connection only when a valid code is entered. The unit operates in conjunction with either touch tone or rotary disc telephones from any location, and does not require a dedicated terminal. Authorized users may enter codes by touch tone or by voice and may access information immediately without waiting for a call back.

The controlled access device initially answers by voice, eliminating the modem tone that allows a "hacker's" computer to recognize a data line during a random dialling sequence. A standard busy signal is given if the protected modem happens to be in operation. Should unauthorized contact be made, the security device can be set to accept from one to nine invalid attempts before an alarm is activated. On even nine attempts, the laws of chance make it virtually impossible for data thieves to discover the correct code by running an algorithm.

Microdator Keeps Tabs of Costs
Chronotron Inc. of Lachine, Quebec, has introduced its updated Microdator CHR/25A designed to simplify production time recording on the shop floor. The time worked per employee on each job is calculated and printed by the Microdator. Each employee can enter a quantity code at the completion of a job, to record the overall cost and employee contribution to a particular function. The Microdator compiles and prints the daily and weekly totals of each employee, and even calculates the number of hours worked in overtime.





Diary Aids in Time Control

The Proactive Passport, from The Professional Development Institute of Ottawa, is a complete time management instrument in a diary format. Its practical design will help users set and implement clear objectives and evaluate performance on an ongoing basis. **It offers:**

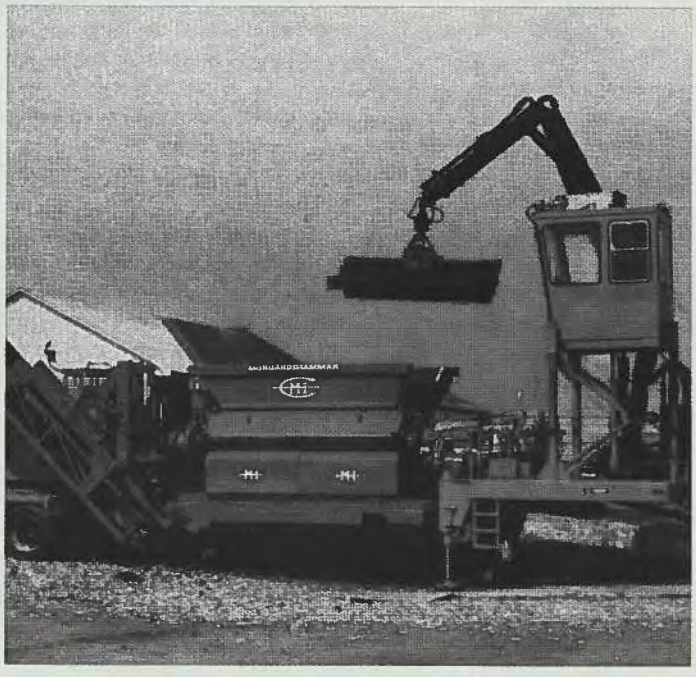
- Co-ordination of long-term and short-term objectives (annual, monthly and weekly);
- Organization of operations: priority, delegation, time, cost (planned and actual);
- Scheduling: week at a glance, day divided into 15-minute cells, easy rescheduling;
- Control: budget, cheque book, unique activity references for follow-up and space to record impact and achievement for every week of the whole year to facilitate review of past accomplishments.

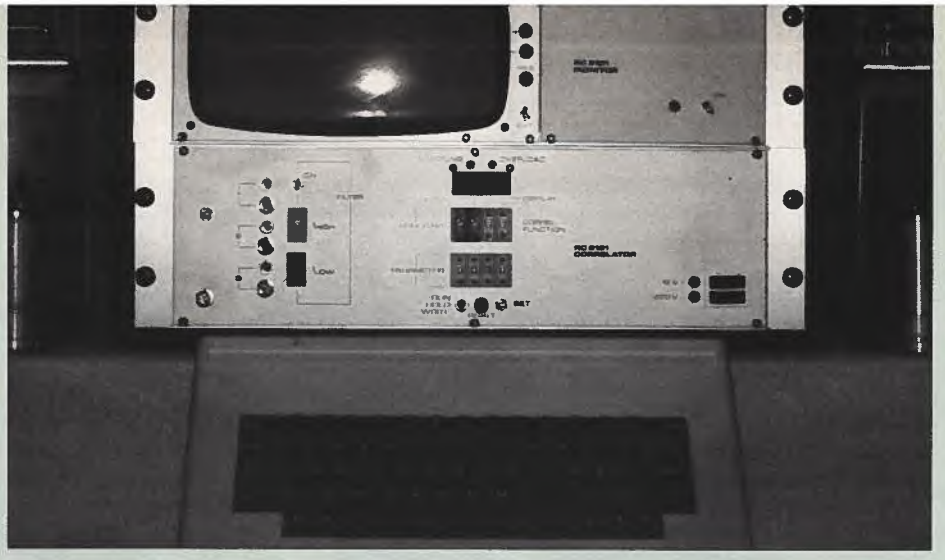
This unique product (Canadian, U.S. and other foreign patents pending) is designed to help people improve their performance and make organizations more effective.

New Waste Shredders Introduced

CENTRO-MORGARDSHAMMAR (CANADA) INC. of Rexdale, Ontario, introduces two models of waste materials shredders. The MORGARDSHAMMAR SK2800 and SK1800 feature two counter-rotating shafts which are hydraulically driven at a maximum speed of only 35 r.p.m. This slow speed minimizes risk of dust explosions and fire, as well as reducing downtime and maintenance. Metal or stones will not cause downtime or damage to the shredders. The large infeed opening with feed arms allows for the efficient processing of large bulky waste materials.

The shredders are powered by electric motors or diesel engines with horsepower requirements from 300-450 h.p. They are available as stationary installations or as mobile units. Tires, municipal refuse and industrial wood waste are shredded to produce a more homogeneous material for efficient disposal or burning as boiler fuel.





Water Leak Detector Uses Correlation Method
ARLAT Inc. of Toronto introduces the newest development in water leak detection. The location of water leaks in underground piping systems has always been a problem. It is for this reason that a new technique has been introduced to improve the present electronic leak locators.

This new method utilizes correlation of sound patterns rather than amplifying sound intensities. Therefore it can be used during the day in the presence of heavy traffic. Data transfer is done by portable "radio links" that can be used to a distance of one kilometre. The selection of programs allows the operator to choose the appropriate program for certain applications. Information displayed on a graphic monitor includes: velocity, length of pipe, measurement curve, leak location.

The system is portable and can be used under severe weather conditions. The technology is suitable for both industrial and municipal applications.

Manhole Safety and Security
Allied Manhole Relief Systems of Edmonton has effectively designed and manufactured a system whereby drainage systems not able to carry off excessive amounts of water during storms have a means of relief without creating a potential safety hazard.

By means of a special locking and positioning system, Allied has designed a device that attaches to existing manhole covers. In time of need, it safely and effectively releases water pressure up and out of the system and then returns the lid to its normal position.

For further information about the companies, products and services listed, please contact:

Acme Manufacturing Canada Limited
P.O. Box 152
399 Breithaupt Street
Kitchener, Ontario
N2G 3X9
Tel: (519) 743-1421

H. Lee & Associates
P.O. Box 276, Station G
Calgary, Alberta
T3A 2G2
Tel: (403) 273-5349

Seamless Cylinder International Inc.
1667 Trunk Road
Sault Ste. Marie, Ontario
P6A 5K9
Tel: (705) 759-0060
Telex: 067-77136

3M Canada Inc.
P.O. Box 5757
London, Ontario
N6A 4T1
Tel: (519) 451-2500

Chronotron Inc.
8 - 45 Avenue, bureau 10
Lachine (Québec)
H8T 2L7
Tel: (514) 634-9546

The Professional Development Institute
P.O. Box 1181, Station B
Ottawa, Ontario
K1P 5R2
Tel: (613) 523-3333
Telex: 053-3159

CENTRO-MORGARDSHAMMAR (CANADA) INC.
220 Humberline Drive, Unit 1
Rexdale, Ontario
M9W 5Y4
Tel: (416) 675-2662
Telex: 06 989334

Arlat Inc.
1 Vulcan Street
Toronto, Ontario
M9W 1L3
Tel: (416) 245-4167

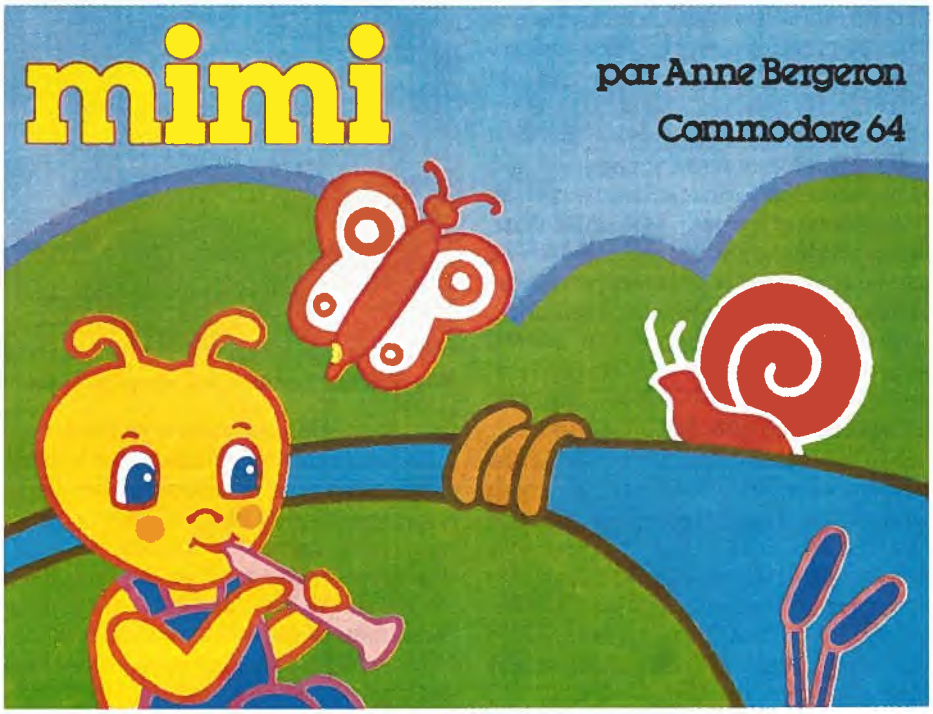
Allied Manhole Relief Systems
P.O. Box 5624, Station L
5904 - 51 Avenue
Edmonton, Alberta
T6C 4G1
Tel: (403) 469-6253

Have You Met MIMI, the Star of SIBEC[II]?

Mimi, the ant, you've never heard of her? Strange, many two-year-olds have been sharing her on-screen adventures for some time now. No, she's not a cartoon character, she's part of an interactive software package developed by Anne Bergeron. MIMI, an original Quebec creation, recently won the special jury award at the international software festival in Avignon, France. We had an opportunity to chat with Mrs. Bergeron at SIBEC[II], a show on information processing, office automation, electronics and communications, held in Montreal from October 10 to 12 at the Palais des congrès.

Using the alphabet, pictures and music, MIMI allows children to sit at the controls of the computer (Commodore 64) and participate in stories limited only by their own imaginations. Distributed by LOGIDISQUE Inc., this educational software consists of 26 pictures corresponding to the letters of the alphabet, plus 120 possible scenes, and is designed to ease toddlers gently into the world of computers. MIMI is a best seller in the software industry and its success has allowed LOGIDISQUE to sign an agreement in principle with the French firm Procep (European distributor of Commodore microcomputers) for the distribution of all its programs in France. This agreement has made it possible to reduce the price of the new MIMI software (available in French and English) from $69.95 to $34.95.

The interest which Anne Bergeron's software aroused at SIBEC[II] was not by chance. Let's be honest, computers still strike fear in the hearts of many. There is reluctance on the part of many firms to take the plunge and enter wholeheartedly into the age of the computer. A lot of the visitors to SIBEC[II] were non-professionals, people who just wanted to see what it was all about. Thus, it was quite natural that they should stop in front of LOGIDISQUE's booth since the demonstration was both reassuring and amusing. "You see, it's very simple. You just push any key and MIMI takes you on an adventure."



An "ant" — very popular among children.

In a field as recent as computers and information processing, companies and individuals are still finding their way. Possible services, client needs, system compatibility — things are constantly changing. So what can computers do for the business people of today? The SIBEC[II] show was meant to answer this question.

Participating exhibitors explained their services to visitors and gave them a sneak preview of the computer services that would be part of their daily lives in about five years' time. Today, computers are used not only for stock-taking, accounting, banking, management activities, and so on, but also for such things as word processing, translation, communications, photography and robotics.

Why has the computer proved to be more than just a passing fad? Unquestionably, the speed with which it can analyze data and carry out tasks saves time and offers unparalleled efficiency. Part of the reason not everyone has yet been sold on the concept lies in the incompatibility of the different computer systems and the lack of consensus as to their reliability. In the automobile industry, manufacturers ensure that parts for different models of the same brand are compatible. The fact that a Chevrolet gas pump cannot replace a Ford gas pump does not matter very much, since cars operate independently of one another. In the world of computers, however, it is an entirely different matter.

It was long believed, mistakenly, that each firm could design its own computers without having to worry about compatibility with its competitors' equipment. No consideration was given to the most common goal of computer users: to communicate information or exchange data from one office to another, one city to another, one country to another, but above all, from one machine to another! Thus, what is now needed in the area of information processing is a common denominator — compatibility without a complicated conversion system. This is all it would take to win over the entire business community.

The computer is no longer a mechanical "drill instructor"; it is a thinking instrument and a cultural tool. By eliminating boring, routine tasks, "it encourages owners of small and medium-sized businesses (SMBs) to examine their operations and free themselves from demanding administrative duties so that they can devote themselves to more productive work," according to Pierre Saint-Arnaud, manager of SIBEC[11].

The scepticism spread by the first users of computerized accounting systems, after bad experiences caused by programming errors, has since dissipated. Today's modules are reliable and can be used effectively for ledgers, client accounts, supplier accounts, inventory, business volume analysis and payroll activities.

The AES 7200 system will simplify your work.

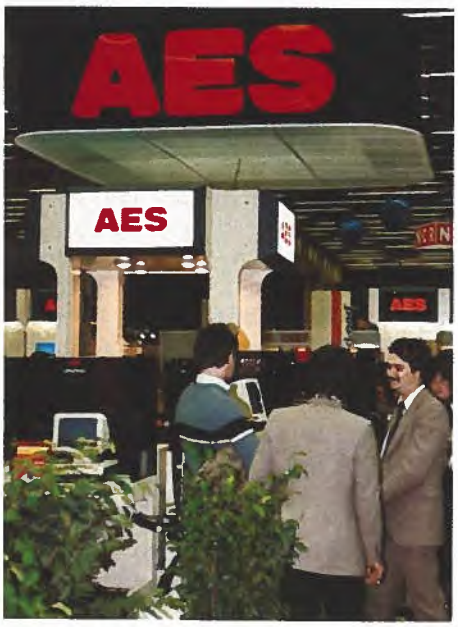
Integrated Office Automation

SIBEC[11] was a sort of microcosm of the real world of office automation, with computers, distributed office systems and, on the second floor of the Palais des congrès, state-of-the-art furniture and other accessories. Entitled *Environment*, this part of the show introduced the latest thing in office furniture and photocopiers.

The Panasonic photocopier, for example, makes it possible, using an electronic pencil, to remove information from an original without leaving a trace and obtain a clean photocopy with a new layout. There were also ultramodern filing cabinets for storing hard copy and diskettes, motorized shelves, and safes. Records management is a major burden for any firm. It is not at all unusual in an SMB to see an entire wall taken up by shelves of files. Electronic information systems have a two-fold advantage in this area: economy of space and rapid consultation.

One of the new products at the show designed to make maximum use of human resources was the AES 7300 distributed office system. In the early days of the computer, there were major system integration problems. True, the advent of word processing expedited the typing of documents, personal computers came to the rescue of professionals, better communications facilitated the work of secretaries, and managers appreciated the faster processing of information. However, there was no real team work, since all the duties were divided.

Aware of the interdependence of the four basic functions mentioned above, AES has developed a multiple-unit system grouping interactive work stations, printers and a number of personal computers. The evolutionary design of the 7300 allows it to handle a maximum of eight interactive work stations and up to 27 internal or external peripherals. An optional AESNET controller makes it possible for the AES 7300 to interconnect with other AES products in order to share resources and distribute information rapidly and effectively. Single or multiple remote AESNET ports permit interfacing between all the work stations. Each department can control its workload and its processing functions locally, and at the same time ensure the security of its information.



AES stand — conservative and efficient.

Finally, AES communications packages allow interactive communication over public networks, provide access to outside data bases and various peripheral devices such as phototypesetters, and offer the possibility of electronic mail.

A Canadian corporation established in 1974, AES was one of the first companies in the world to offer screen-based word processing. AES's R & D services in Canada are even complemented by a support group in West Germany.

Information Processing at Work

For anyone who still has doubts as to the usefulness of computers, a quick look at the services offered by OWL will quickly convince even the most sceptical. OWL offers "management products" — pump computers with an optional billing printer. OWL stands for *Organization Warehousing Logistic*. The OWL concept is based on a system of separate intelligence units that record data associated with the vehicle, then feed the data to the pump computer, which in turn periodically transfers its contents to the central computer for further processing. What does the user get out of this, you might ask?

Most companies have a vehicle fleet. A computerized fuel management system makes it possible to maintain better control over energy costs. A fuel

An NCR functional unit will adapt to your needs.

computer supplies the following information: type and quantity of fuel used when filled up; identification of pump operator; vehicle number; odometer reading; route number; quantity of lubricant and coolant; average consumption per vehicle, per driver and per route; and so on. The interpretation of this data makes it possible to detect mechanical problems, fuel leaks, poor driving habits, and instances of theft, falsification or embezzlement. Moreover, by using this data to plan loads and routes, substantial fuel savings can be achieved.

Finally, computerized vehicle management facilitates follow-up on guarantees, parts inventories and maintenance, and prevents premature wear and tear on vehicles. OWL provides an analysis of client needs free of charge, followed by an offer of service in due form, including a personalized configuration of the OWL management system. It has been shown that a firm which invests in this type of computerized system can reduce its fuel bills by 10 to 30 per cent.

If there was a common thread running through our discussions with the exhibitors at SIBEC[II], it was that corporate survival depends on computerization. The law of the marketplace forces companies to remain one step ahead of their competitors at all times. Moreover, sound management — taking into account all existing factors — is possible only when all the data is available. Computers, with their sophisticated software, guarantee this much sought-after efficiency.

Some people are convinced that improved productivity is the answer. And it is true that this is being influenced by the current revolution — the proof lies in robotics. However, true success will come to those who put computers and information processing to work at all levels of management. Heads of companies must surround themselves with people open to any new option capable of increasing profitability.

Good Corporate Citizens

The multinationals were well in evidence at SIBEC[II]. One in particular caught our attention: NCR Canada Ltd., a subsidiary of the NCR Corporation from Dayton, Ohio. The first firm in the computer industry to celebrate its centennial (this year), NCR's financial track record has been exceptional. In Canada since 1902, NCR now employs over 2 400 people in 80 dealer and service centres across Canada. Its operating philosophy makes it a good corporate citizen and it contributes substantially to the nation's economic growth. In 1983, the research budget of NCR Canada Ltd. was $16.6 million. Its plant in Waterloo, Ontario, established in 1973, buys its parts from more than 400 Canadian companies, and 30 per cent of its staff of 825 are engineers and technicians who devote all their time and energy to research and development.

The products manufactured by NCR Canada Ltd. are used mainly in banking. It was at the Waterloo plant that the NCR 7750 cheque processing system, the NCR 7720 proof/encoder, the NCR 7760 single-pocket proof system and the NCR 7770 multi-pocket proof system were developed. Among the firm's recent export successes is a $25 million contract with the Swiss Post Office & Telegraph Co. for the sale of 4 700 encoder machines to be used in Swiss post offices.

The NCR philosophy may seem a bit unusual at first — it is quite unlike that of most multinationals. The opening of the Waterloo plant, for example, was part of NCR Corporation's decentralization strategy. The plant's managers are the ones who decide on what products to develop and manufacture,

A multiple-unit computer from NCR.

An end to paper burden.

and 95 per cent of the machines produced are exported. R & D activities are carried out in co-operation with researchers at the University of Waterloo's Institute for Computer Research. NCR even has an office on campus and participates regularly in seminars and workshops. This climate of interaction encourages university graduates who are interested in working in the high tech field to remain in Waterloo.

Information Processing — the Industry of Industries

Although competition is fiercer than ever in all sectors of the business world, it is nothing compared to that likely to occur as a result of the computer revolution — a revolution sure to leave many victims in its wake, as computer whizzes become more and more instrumental in the future of increasingly large companies. Today, constant technological progress is leaving behind an entire bewildered generation.

Even the present generation may not be grasping the full magnitude of this revolutionary movement. Schools are only now beginning to launch themselves into the world of computers, at a time when the fate of thousands of workers is hanging in the balance. The full impact of office automation and robotics will not be felt for a few years. Electronic banking and shopping, work-sharing, and the consequences of a sudden, ill-defined technological revolution are just some of the factors which may give rise to uncertainty and unemployment. The instability created by this period of transition, though considered temporary, is apt to disrupt the lives of a great many people.

On the other hand, the effectiveness of computers will work in the governments' favour when taxation time rolls around. The days of hiding money under the table will be gone forever, and the sums recovered will be used to provide social services to those hardest hit by the revolution. Most of the jobs lost as a result of total automation will be recouped in the service industries. The manufacturing and processing sectors will be completely automated. Manual work will become a pastime and, who knows, artisans may have trouble matching the machine, which — with its artificial intelligence — will be capable of producing original creations beyond imagination.

Skilled workers responsible for repetitive work will become increasingly scarce and will be replaced by staff in charge of programming, management, supervision and maintenance. By force of circumstance, the qualifications of these workers will be raised. CAD/CAM is already largely responsible for the design and development of new cars. It is now possible to design and launch a new car in three and a half years, compared to five years in the past. The "zero-labour-force" plant may be a reality by the turn of the century. R & D, which also uses CAD/CAM, will undoubtedly make it possible to discover the materials of tomorrow in much shorter order. Immediate adaptation is essential if the adverse effects of an overly rapid technological revolution are to be limited.

Visitors interested by automated office equipment.

Mainframe Computers or Microcomputers?

This is the big question facing many businesses today. Can the two coexist? The mainframe computer used to be reserved to a handful of computer experts. Today, however, its offshoots are springing up in the offices of managers who are becoming increasingly aware of the advantages of technology. Microprocessing is opening up new horizons to a whole class of people who used to feel threatened by the knowledge and skills of their colleagues. Is there a danger in this sudden demystification?

The microcomputer, a sort of self-management tool, can occasionally give rise to conflicts among managers, inefficient use of resources or even an undesirable distribution of power. The creation of interconnected systems poses a communications problem, coupled with an unprecedented organizational challenge. The democratization of the realm of computers will cause many to discover the benefits of corporate life, because employees, in short order, will be able to hook up to outside data bases and other computers within the company, be they big or small. This sort of broadened access will not be without its problems. Human resources will be used mainly for creation, leaving execution to the machine. Caution will be essential and ports will have to be strictly controlled. Although computers are often viewed as sophisticated communications tools, they are much, much more, and there is no longer any doubt that they will drastically alter hierarchical relationships within companies.

Many of the exhibitors at SIBEC[II] were showing more powerful equipment, rather than new products. Company representatives all took great care to point out the increased capabilities of each of their computers. Whether or not this involves significant advantages for the vast majority of consumers remains to be seen. Most of the computers on the market last year were already powerful enough to meet the needs of the average user.

One point of interest is that IBM was not at SIBEC[II]. Nicknamed "Big Blue", IBM imposed its personal computers on an already booming market. The IBM "standard" is so strong that even the leading firms make sure their computers are compatible with IBM equipment. The technological battle is being waged no longer between small manufacturers, but rather between large firms which are trying to break away from the IBM standard. At a recent computer show in Las Vegas, which included the National Computer Convention (90 000 visitors, 3 800 booths), John Akers, vice-president of IBM, stressed in his opening remarks the need to inject some morality into a profession too often governed by the law of the jungle. We might venture to add that the overly rapid obsolescence of machines and the incompatibility of the various brands remain two of the major roadblocks to the unqualified success of computers and information processing. Finally, manufacturers must make greater efforts to convince business executives that the purchase of a computer is not an expense, it is a true investment.

The Force model 300 from Deca Interiors Ltd. for the company president who likes comfort.

Attending a show such as SIBEC[II] is a step in the right direction for anyone wanting to find out about the equipment on the market. It allows consumers to obtain, at a minimal cost, information and advice making it easier to decide which computer really meets their individual needs. Before we went to press with this article, a word processing operator commented: "Don't forget to tell business people who are out looking for computer equipment to take their support staff along when they visit a show such as SIBEC[II]. Experienced users will be able to tell a gadget from a true improvement in a new machine." ◘

The following are the addresses of the firms whose products have been described in this article:

LOGIDISQUE Inc.
C.P. 485
Succ. Place d'Armes
Montréal (Québec)
H2Y 3H3
Tel: (514) 842-5221 or 842-9551
Telex: NEP DEL 055-60494

AES Data Inc.
Bureau 600
100, boulevard Alexis-Nihon
Montréal (Québec)
H4M 2P2
Tel: (514) 744-6711
Telex: 05-826602

NCR Canada Ltd.
1675, Trans-Canada
Dorval (Québec)
H9P 1J2
Tel: (514) 684-9760 or 336-2311

Système d'ordinateur OWL du Canada ltée
523, chemin Saint-Thomas
C.P. 817
Chicoutimi (Québec)
G7H 5E8
Tel: (418) 545-9215

— by Pierre Simard
Canada Commerce

A Celebration of the North

John Todd, Northern Entrepreneur

There was a time — and, not too long ago at that — when the only millionaires in the central N.W.T. were visiting fishermen and caribou hunters. Today, some of those millionaires are home-grown.

One of these (although he won't admit it) could be John Todd, the Rankin Inlet entrepreneur who 20 years ago traded the Scottish highlands for the Keewatin barrenlands and a chance to thaw a fortune out of the permafrost.

Todd, a former Hudson's Bay store manager and territorial government employee, is chief executive officer of Evaz Holdings Ltd. The largely locally-owned consortium now includes a construction firm, hotels in Rankin Inlet and Frobisher Bay, office buildings, a travel agency, and southern holdings as diverse as a Caribbean yacht, an Ontario book store, a computer firm and a steel fabrication plant.

"Consolidate and expand" are Todd's bywords of operation, a philosophy that leads him on as new ventures bloom out of the tundra. He's most enthusiastic now about Northern Purchasing and Expediting Ltd. (NPE), a purchasing and supply firm of which Evaz is a shareholder, and Kamtik Travel, a tour and booking agency that sends Keewatin residents south for holidays while "back-hauling" tourists North.

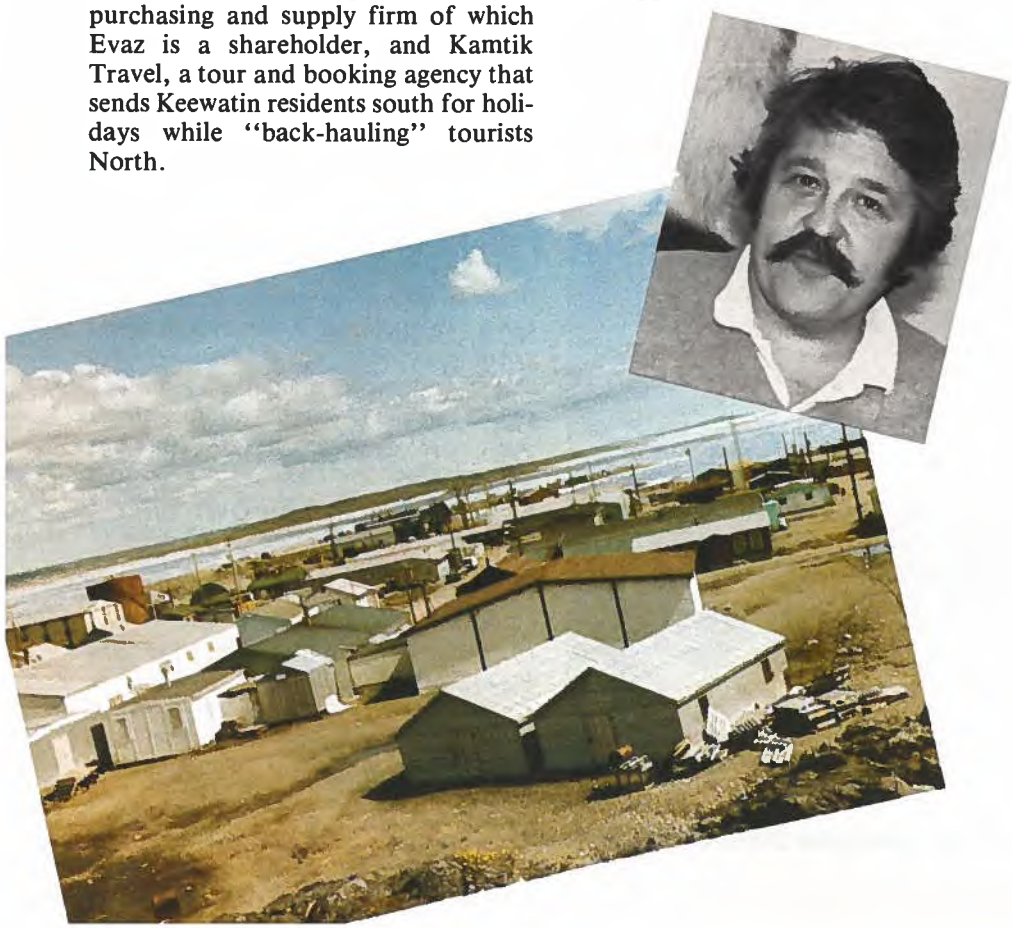
NPE's service was born on the wings of NWT Airways Ltd., the equally bouyant territorial enterprise that introduced non-stop service between Rankin Inlet, Yellowknife and Winnipeg two years ago. That service in place, NPE took off to satisfy customers and shareholders alike.

Todd's interests prosper in the unique business climate of the Central Arctic, which he says is "very young and very strong", dating in formal development only from the early 1970s.

Business growth in the Keewatin has been steady and orderly, contrasting to the splash impact of major developments in the Western Arctic and the "scavengers" Todd says are attendant to it.

"I'm the total cynic when it comes to that," says Todd. "A massive influx isn't needed here."

Big booms mean big demands for services and expertise that aren't often present locally, Todd observes. That's when the "scavengers" move in, take what they can get and go, leaving little in the way of local skills, jobs and business opportunities.



"The magnitude of these projects is such that they can't be sustained," Todd says, and that affirms his belief that the pace and benefits of development must adapt to and for the people who make the north their home.

Todd prefers the lean survivalist ethic of the central Arctic business ecology.

"There's not enough business in one sector or another to get rich overnight," he says, reflecting on his "consolidate and expand" doctrine and his desire to include and cultivate local talents and strengths.

In setting up his enterprises, Todd has frequently taken into account the need of employees to leave on the hunt occasionally.

"You have a significant Inuit business community doing well," Todd says. "Whether that means 'assimilation' is up to you. There are people here running million-dollar businesses, but they're still out hunting caribou."

For the future, Todd sees even better prospects for ordered development, not tagged on a "here today, gone tomorrow megaproject cycle", but on increasing privatization of existing government services.

"The privatization of government services," he predicts, "will bring about a strong private sector."

Todd realizes this privatization will take time, with such responsibilities as provision of oil and fuel and municipal services turned over for private sale and contracting.

But with a stronger eastern Arctic voice on the territory's Executive Council, Todd is confidently patient the changeover is coming.

"They're more sympathetic than the previous council, which isn't a criticism of the old council, just a realization of the fact that a lot of these people live here. They know."

Todd feels that as the capability to take on new business ventures grows in the central Arctic, the political will to provide new opportunities will be there.

So will John Todd.

— by Craig Yeo
DRIE, Yellowknife

A Celebration of the North

This article about a remarkable — and remarkably unknown — Klondike gold rush pioneer introduces Canada Commerce *readers to a continuing series of articles on business opportunities in the north with special emphasis on Yukon.*

Martha Black: A Legend of the North

The corner of Front and Queen Streets, heart of Dawson City in 1898. (Yukon Archives photo.)

When Martha Louise Black died in Whitehorse in 1957 at the age of 91 it's doubtful she had ever thought about equal opportunities for women. She had simply gone out and created her own.

In 1896 as a 32-year-old, soon-to-be-divorced mother of two, she had joined that incredible line of gold-struck adventurers who survived the brutal crossing of the Chilkoot Pass and the rapacious rapids of the Yukon River to reach Dawson City.

Those were the days of the Klondike gold rush and, although Martha followed the Trail of '98 on the scent of gold, her fates led her elsewhere. In 1935 she was elected to the House of Commons as its second woman member (Agnes McPhail was the first) and shared with C.D. Howe the distinction of being the first modern-day U.S.-born members of the Commons.

She had been born in 1866 to a wealthy, pre-Revolutionary family and grew up amid the social glitter of Chicago, marrying into another well-to-do family and bearing two sons.

Her comfortable, routine life ended when gold fever swept the continent following the 1896-97 strikes along the Yukon's Klondike River and Bonanza Creek. To her husband and her younger brother, George, the gold rush offered an entrepreneurial challenge. They decided to head north to establish a steamship company.

A determined Martha insisted on accompanying them. When her husband developed cold feet and opted instead to head for Hawaii, Martha bade him a permanent farewell and, with brother George, sailed from Seattle to Dyea, Alaska.

From there, she wrote, they walked "the dreaded trail of 42 miles over the Chilkoot Pass"* to Lake Bennett from where they sailed and floated down-river to Dawson City, a boisterous, bustling tent and shanty town at the junction of the Yukon and Klondike Rivers.

That winter, alone in her isolated cabin, Martha gave birth to her third son — a last reminder of her departed husband — and the following summer she reluctantly left the Klondike to take her baby back to Chicago.

But neither Chicago nor her family's sprawling Kansas ranch could satisfy her restless spirit and in the summer of 1900 Martha returned to the Klondike with her two youngest sons and enough equipment to establish both a hydraulic prospecting mill and a sawmill.

Apart from those "other" women, Martha had become the Yukon's first female entrepreneur. And promptly learned that the path to prosperity had a few potholes.

Klondike sourdoughs saw themselves as macho individualists and her first mill crew, led by an anti-feminist who declared he "wasn't

*This and other quotations are from **My Seventy Years** by Martha Black, edited and updated by Whitehorse author/newspaperwoman Flo Whyard as **My Ninety Years**; reprinted with permission of publishers Alaska Northwest Publishing Co.

going to be run by no skirt", walked off the job, leaving Martha and her nine-year-old son, George, to keep the business going.

But, almost if it had been scripted, the Mounties came to her rescue, riding the foreman out of town and helping her recruit a new, presumably more respectful, work force.

In 1904, now a well-established businesswoman, Martha married George Black, her New-Brunswick-born lawyer and, as soon as possible, took out her Canadian citizenship.

George became deeply involved in Dawson City's Conservative back-room politics and in 1912, a year after the Conservatives' national election win, was named the seventh Commissioner of the Yukon Territory.

Lower left: Coffee break time for the boys at Rupert's Claim on Cheekacho Hill, just across Upper Bonanza Creek from Discovery Claim where gold was first discovered on Aug. 17, 1896, triggering the Klondike Gold Rush. Below right: With a pick, a shovel and a gold pan, a man could make a million — or watch his dreams wash away with the sand. (Yukon Archives photos.)

Martha, as the Yukon's first lady, was no mere helpmate. She opened government house to prospectors and royalty alike and began a lifetime of social and cultural involvement that was to bring her the Order of the British Empire (OBE) in 1949.

When Capt. George Black raised the Yukon Infantry Company and took them overseas in the winter of 1917, Martha managed to talk the army into letting her sail on the troopship with them.

A reluctant official reminded her she would be the only woman among 2 000 men. Snapped Martha: "General Bigger, I walked over the Chilkoot Pass with thousands of men and not one wanted to elope with me."

Following the war years in London, the couple lived briefly in Vancouver. But the call of politics was too strong and they returned to Dawson City where George was elected to the House of Commons in 1921. He repeated his wins in the 1925, 1926 and 1930 general elections and in 1930 also was appointed Speaker.

When he resigned his seat in 1935 because of illness, Yukon Conservatives nominated Martha, leading her to note that "there seem to be only two parties in the Yukon — the Liberals and the Blacks".

The 70-year-old Martha hit the campaign on foot, by boat, plane and behind a two-horse team, determined to speak to each of the Yukon's 1 805 registered voters. Her efforts paid off and while the Liberals swept the rest of Canada, Martha Black won the Yukon seat with ease.

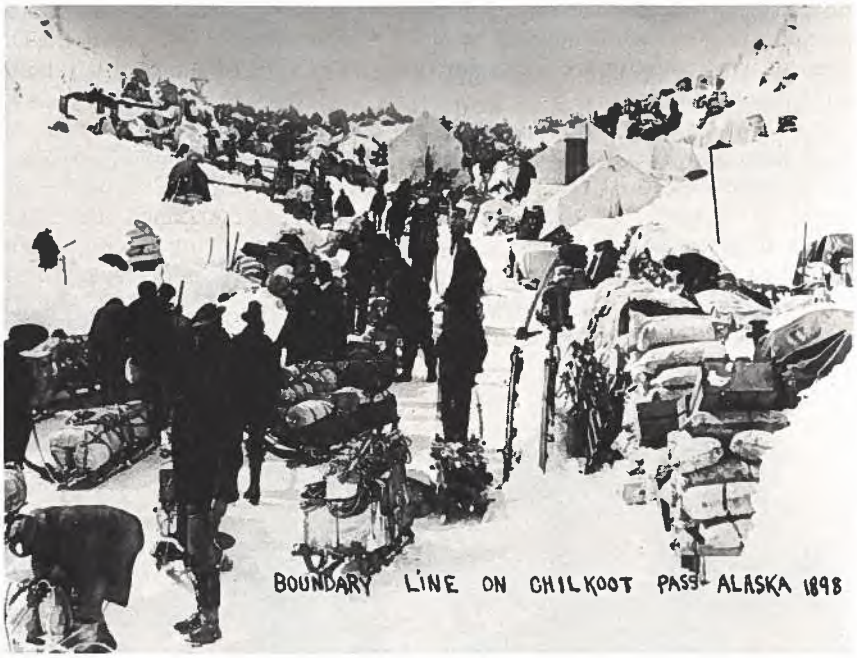
(Forty nine years later, speaking at the installation of Governor General Jeanne Sauvé, Prime Minister Trudeau named a long list of women who had challenged political taboos. Tory Martha Black was ignored.)

Trip after trip, gold seekers struggled up the dreaded Chilkoot Pass (above), moving their gear to the summit where waiting Mounties checked to ensure the gold-seekers were adequately outfitted for the long trek down to Lake Bennett and along the Yukon River to Dawson City. Today, the Trail of '98 still provides a challenge to hikers equipped with lightweights tents and freeze-dried foods. (Yukon Archives photo.)

Below: Huge mounds of supplies pile up along the summit of the Chilkoot Pass awaiting a check by customs officers as the Dawson City-bound hopefuls cross the international boundary between the Alaska panhandle and Yukon. (Bottom) By 1901, the era of first-class travel had arrived and the stern-wheeler White Horse has a full load of passengers aboard as she leaves Dawson City for Carcross and Lake Bennett. (Yukon Archives photos.)

She always maintained she was merely "keeping the seat warm for George", and by 1939 he had recovered sufficiently to reclaim it — and held it until his retirement in 1949.

By now Dawson City (which at one time had a population of 30 000) had become a tiny hamlet and the Blacks had moved to the new territorial capital of Whitehorse where they lived until her death in 1957. (George was to remarry and move to Vancouver where he died in 1965, aged 92.)



She had requested that flags of both her nations appear at her funeral. Thus, six scarlet-clad RCMP officers bore her coffin draped in the Union Jack and the Stars and Stripes — the latter, fittingly, brought from Skagway to Whitehorse by the White Pass and Yukon Railway over the Trail of '98.

A national news story of her death led off with the words: "All Canada looked to the Yukon with a bow when Martha Black died."

But, it was left to her old Dawson City neighbor and friend, poet Robert Service, to provide the most fitting epitaph. In a letter to a mutual Yukon friend from his home in France, he wrote:

"In the old days she was like a marquise, with a note of finish and distinction."

— by Ron Johnson
Canada Commerce

Winter Safety Product Promotes Caring Image

Every winter, thousands of motorists take to the highways, unaware of the treacherous blizzard conditions which may lie ahead. Most of these travellers reach their destinations — others do not. They become stranded in deep snowbanks as whiteouts blur their vision of safety.

Fear and frostbite begin to set in while a heavy blanket rests helplessly out of reach in the frozen trunk. Most motorists do not have the basic knowledge nor the necessary equipment to survive this winter nightmare with relative comfort and safety.

But what can be done to reduce these risks of winter travel and, thereby, increase a motorist's chance of survival? The answer — equip the vehicle with a Blizzard Survival Kit!

The Great Canadian Blizzard Survival Kit is a product which has come to be respected across the country by those executives of firms familiar with its concept. The kit was designed several years ago by a group of specialists including army survival experts, physicians and food specialists.

The four main concerns considered in designing the kit were:

- keeping the motorist awake and alert;
- keeping the individual in his or her vehicle;
- avoiding the dangers of hypothermia;
- educating the traveller in the DOs and DON'Ts of blizzard survival.

While the kit was designed with the driver in mind, its components can comfort two snowbound persons for a lengthy stay, depending on the rate food supplies are consumed and whether the storm is hindering rescue attempts.

Produced by the Blizzard Survival Kit Co. Ltd. of London, Ontario, the Great Canadian Blizzard Survival Kit fits conveniently under the front seat of most vehicles and comes with a *Blizzard Survival Handbook* that contains helpful hints for safe winter travel.

Used as instructed, the kit increases the motorist's chance of survival in a stranded motor vehicle by keeping him or her warmer, safer and more relaxed while waiting to be rescued.

Packaged in a weatherproof plastic casing, the kit consists of four separate, functional packs.

The "Body Heat/Visibility Pak" contains additional clothing for the motorist who is caught unprepared for the excess temperature. For cold feet, a pair of thermal socks and plastic boots provide warmth and ensure dryness. An aluminized emergency blanket, which reflects back 80 to 90 per cent of the covered person's body heat, serves as a highly visible, warm poncho.

Used as instructed, a Blizzard Survival Kit increases a motorist's chances of survival in a stranded vehicle.

The "Beverage Prep/Heat Pak" contains a 24-hour, candle-powered stove with matching stainless cup for making warm beverages. A box of waterproof matches, a pocket knife and a plastic snow bag complete the pack.

To keep the driver alert and free from thirst, the "Energy Candy Pak" contains 40 hard sugar candies and the "Stay Awake/Beverage Pak" has teabags, instant coffee and whitener. A "First Aid Pak" is an optional component which may be included in the kit on custom orders.

Although motorists could create their own survival kit, few could match the compactness and completeness of the Great Canadian Blizzard Survival Kit.

Founded in 1978 with the expressed intention of manufacturing practical winter safety products, the Blizzard Survival Co. Ltd. has enjoyed considerable success with its unique winter safety kit.

However, until this year, no sales efforts have been made to market the product nationally. Instead, operations have been restricted to simply fulfilling the unsolicited orders from the numerous and interested industrial and retail corporations.

That policy has changed with the introduction to the front-line management ranks of the company of two senior students in Honours Business Administration at the University of Western Ontario who brought a combination of enthusiasm and business instinct.

With career interests in finance and systems management, Jeff Brown, 23, accepted the managerial position as the ideal no-risk test of his entrepreneurial spirit.

"There is no better time to discover your management capabilities than before graduation," Brown contends. "If you are successful then your future looks promising."

The career interests of Ron Simone, 21, lie in marketing and advertising. Like Brown, Simone accepted the managerial role for two reasons — challenge and potential. "It's not simply promoting a product nationally," he says. "It's offering a service that could save a life."

Having grown up in rural areas of southwestern Ontario, Brown and Simone easily recognized the need for a winter safety product. "Believing in the product is essential for maximum effectiveness in our sales presentations," Simone claims, "and, for the most part, our key prospects recognize the practicality of this kit."

The challenge, however, is rooted in the seasonality of the product. "Selling a winter survival kit in the summer heat was difficult," both admit, "but not impossible. Most people realize that the time to plan for a winter emergency is before the first blizzard, not after. Also, most corporations plan their winter promotions from six months to one year in advance."

A potential for the product lies in its goodwill nature as a gift item. "Much the way smoke alarms became a thoughtful gift, the Blizzard Survival Kit could do the same."

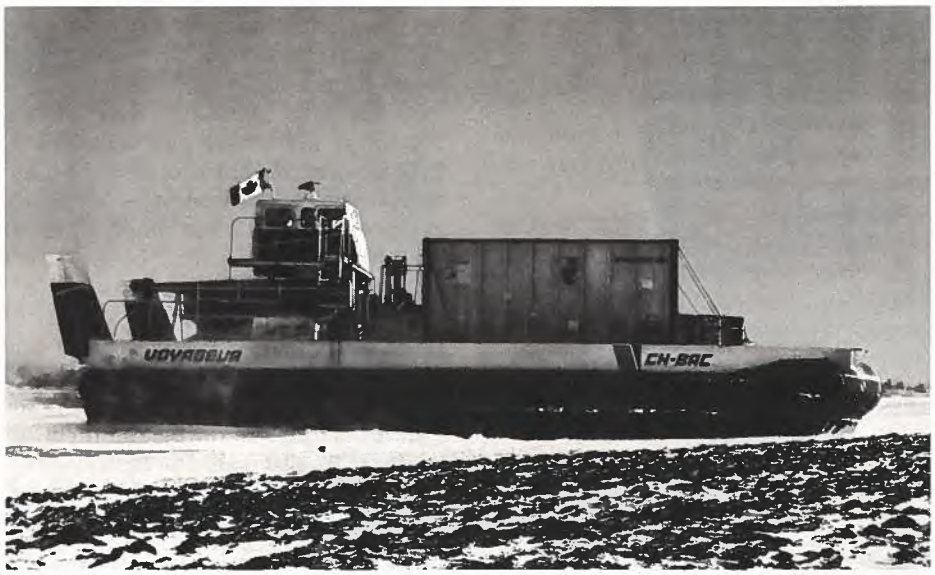
In the 1979 Canadian Gift Show, the kit won First Prize as the best new gift. It carried the strong, emotional message of "I Care About You".

Several national corporations have expressed a serious intent to use the kit to develop this "caring" image.

The Blizzard Survival Kit Co. Ltd. is already accepting orders for exclusive contracts for the winter of 1985. The company also provides the convenient service of storing the product at no additional cost until delivery.

For further information, contact:
The Blizzard Survival Kit Co. Ltd.
Head Office
211 King Street
London, Ontario
N6A 1C9
Tel: (519) 434-2276

Air Cushion Vehicle Offers New Concept



Equally at home on land or sea.

Many ports, especially in nations having a growing industrial capability, are inadequate for the role demanded. Long delays in loading and unloading push up costs and hamper development.

Bell Aerospace Canada Textron offers a unique and proven means of increasing efficiency of such facilities.

The Voyageur LA-30 Air Cushion Vehicle (ACV) is the heart of a lighterage system that not only offers high productivity for unloading and loading both container and general cargo ships but can also carry the cargo outside the congested immediate vicinity of the port. Cargo can be transferred direct from the ship to the established transportation infrastructure.

Versatile Craft

Capable of speeds up to 65 km/hr. (40 mph), the AL-30 is a flat-bed vehicle able to operate with equal ease over deep water, shallow water, tidal flats, sandbars and marshland. It is particularly well suited to the speedy transportation of containers or large cargo such as trucks and automobiles but is versatile and can carry virtually any type of cargo.

Bell and the federal government cooperated in the development of the AL-30, early versions of which are in service with the United States Army (designated LACV-30) and the Canadian Coast Guard.

Operational for Five Years

Bell's AL-30 air cushion vehicles have been in operational use over the past five years in all types of climatic conditions from the frozen Arctic tundra to the hot humid swamps of the southern United States.

In the U.S. Army lighterage trials from ocean-going ships to inland depots, the LACV-30 proved to be the most continually effective and economic vehicle in competition with helicopters, amphibious wheeled vehicles, self-propelled barges and floating docks.

The Voyageur AL-30 is rugged and simple in construction and is built from proven hardware in recognition of the demanding conditions in which it must operate. It can be transported in an operationally-ready condition as ship deck cargo or, being of modular construction, can be readily disassembled for deployment by air, truck and rail.

Largest Air Cushion Freighter

It is the largest production air cushion vehicle freighter in the Western World and its versatility is enhanced by modules which permit rapid conversion to passenger service.

Bell studies demonstrate that a fleet of 10 Voyageur AL-30s operating in a typical 12-hour period could off-load and deliver approximately 400 of the standard 20-foot containers. This is the total capacity of a typical container ship and would release one berth per day for use by other ships in general or bulk cargo.

Economic Advantage

An added economic advantage is the ability to return three or four empty containers from the depot to the ship each trip, thereby completing the container cycle.

Container weight, distance travelled and other local conditions will affect the cost of operation but Bell calculations in 1975 indicated that a container could be delivered 5.6 kilometres (3.5 miles) for less than $100.

Conceptual designs of an AL-30 depot and operational system have been developed by Bell. Provision is made for technology transfer, offering the opportunity for a developing nation to enhance its manufacturing capability while solving transportation problems.

"Turn-Key" Systems

Bell is also considering the provision of "turn-key" systems where a complete system can be made available for short-term users who wish to avoid year-round ownership inventory and staffing considerations.

The AL-30 offers significant advantages to most transportation system owners in under-developed regions. However, the most dramatic economies are possible in Third World ports faced with impractically high expenditures for shore facilities and continuous expenses for dredging waterways.

Also, harbour expansions take many disruptive years to complete whereas the AL-30 can solve problems promptly, is mobile and can adapt to changing traffic.

For further information, contact:
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Grand Bend, Ontario
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— by S.B. Shaw
Electronics and Aerospace Branch
DRIE

Arts and Culture — A Profitable Enterprise!

In 1912 a promise was made to build a home for Canada's growing and valuable collection of art and artifacts. Today, more than 70 years later, that promise is finally being realized.

With the construction of the National Gallery of Canada, the National Museum of Man and the National Aviation Museum, the federal government has used one measure to achieve three purposes — the preservation of the Canadian cultural heritage; the creation of jobs on a short and long-term basis; and the overall stimulation of the Canadian economy.

The fulfillment of this promise will provide a source of national pride which will grow and be passed on to our children and grandchildren. It will also provide close to 900 permanent jobs and, during construction, another approximately 900 workers will be employed.

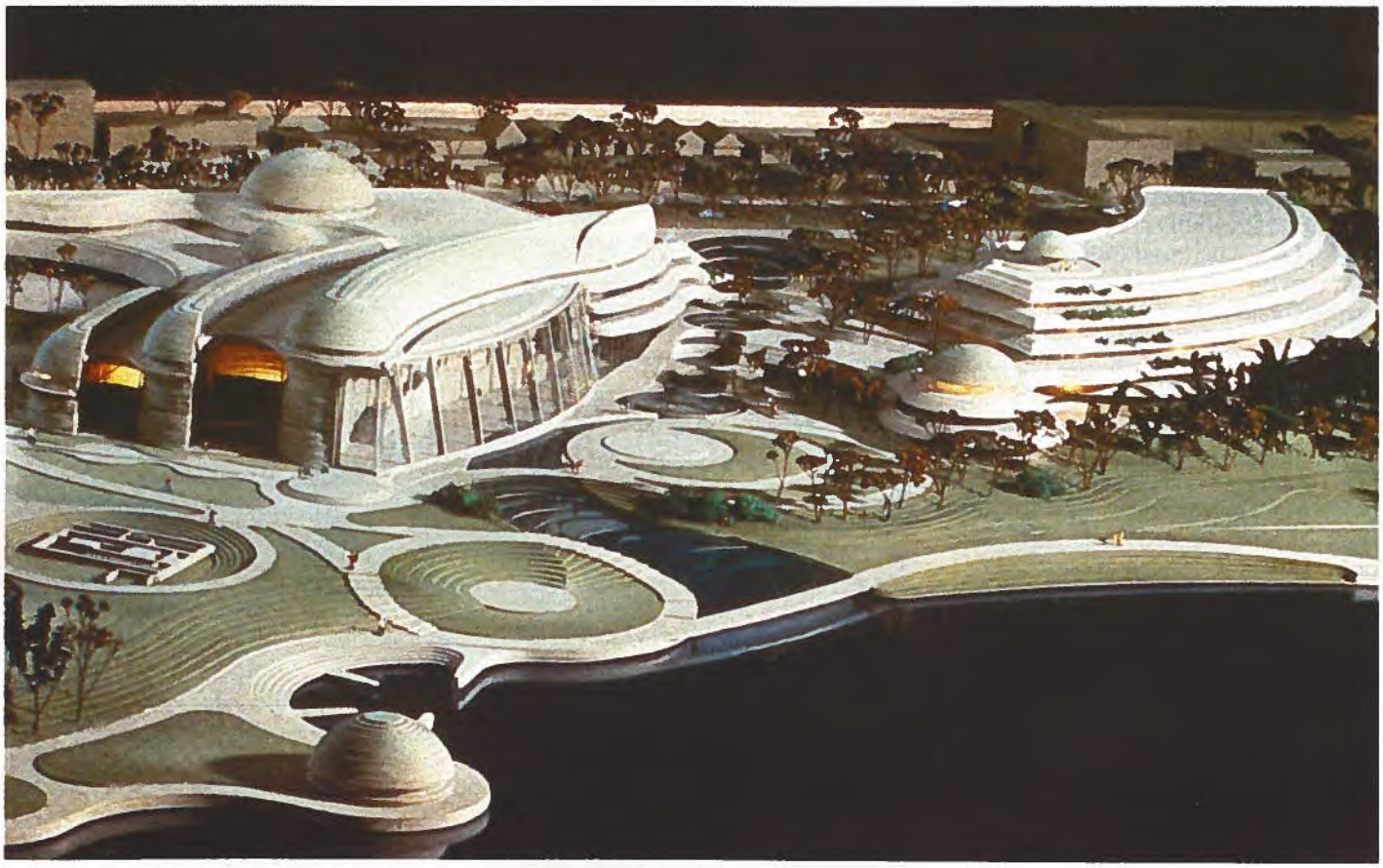
For a number of years, the National Museums of Canada has worked to develop an awareness of Canada's heritage and of the value of protecting it and enhancing its presentation. However, because of inadequate facilities, not only has it been difficult to do full justice to the collections but their very preservation has at times been endangered. By building the three new museums, a big step forward has been taken.

Completion of this project will bring about undeniable economic benefits — jobs for artists, craftsmen and restorers, guides, curators and security staff as well as architects, designers and construction workers; opportunities for the construction and manufacturing industries; and a stimulation of the Canadian tourism industry.

The idea of promoting the nation's art and culture has always been there but trying to bring it about has been a long and difficult task. A quick glance at the newspapers over the last few years will show the problems of realizing even the first steps of this dream.

Job creation and federal assistance programs have a high political profile but, as indicated by the first Annual Report of the Canada Museums Construction Corporation, Inc. 1982-83, art and culture are not as saleable and, consequently, have historically been low on the list of political priorities.

Thus it was after much hesitation and deliberation that in 1982 the federal government made public its intention to build the three new and modern museums in the national capital region. But, in reality, it was a decision that could no longer be postponed. Immediate action was required to safeguard the collections.



National Museum of Man... curvilinear structure blends in well with surroundings.

Background

National Gallery of Canada and the National Museum of Man

On November 11, 1980, the director of the National Gallery, Dr. Hsio Yen Shih, resigned in protest over the government's failure to honour its commitment to build a new home for the national collection — a commitment made in 1912 to the first director of the Gallery when it moved into the Victoria Memorial Building.

Until recently, as the *Ottawa Citizen* has put it, the gallery has been "like an indigent lodger . . . shunted, for nearly a century, from one temporary home to another".

In 1960, the National Gallery moved to the Lorne Building, a commercial structure of little attraction, and remains there to this day. In order to obtain the maximum exhibition space for the collection, many of the works of art and several services and divisions are located at other sites.

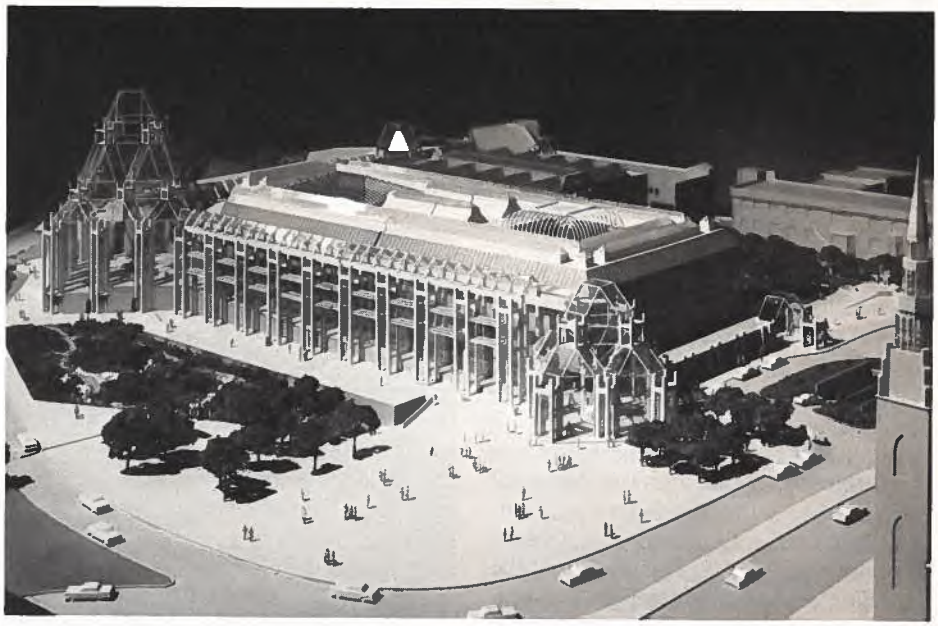
The nucleus of the present collection of the National Museum of Man has existed since 1841 and encompasses a broad spectrum of archeology, ethnology, folk art and history. It was only with the creation of the National Museums of Canada in 1968 that it achieved a separate identity and its present name.

From 1910 until now, aside from space in the War Museum devoted solely to military history and exhibits, the only public space this museum has had for its comprehensive collections has been in the Victoria Memorial Building home it shares with the National Museum of Natural Sciences.

Poor environmental control and lack of space in both the National Gallery and the Museum of Man have, in fact, actually endangered the priceless and growing collections. In addition, artifacts and services have had to be located in a number of locations, some of which proved inadequate to the point of being condemned.

National Aviation Museum

Canada's collection of aircraft, considered one of the world's best and whose history pre-dates the First World War, was formed in 1964 as the National Aeronautical Collection from three separate federal collections: those of the Canadian War Museum, the Royal Canadian Air Force and the first National Aviation Museum.



National Gallery. . . classic, elegant lines in keeping with nearby buildings.

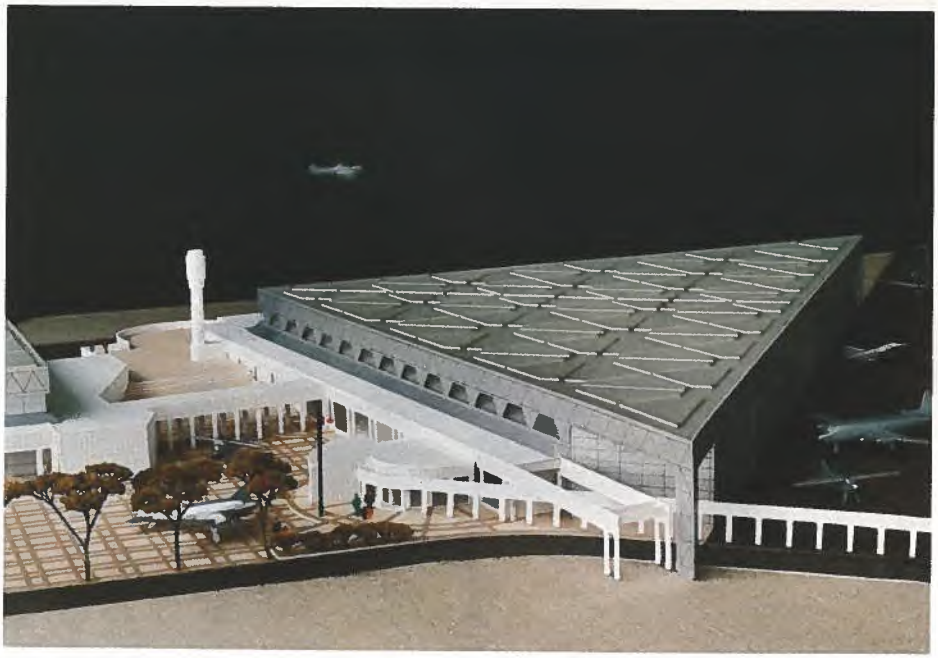
In 1967, the collection was integrated with that of the National Museum of Science and Technology as its Aviation and Space Division. Since 1983 this division, with 109 aircraft, has been called the National Aviation Museum.

The major part of the collection, 65 of the world's most famous aircraft — Spads, Nieuports, Sopwiths, Fokkers, Spitfires, Mustangs, Messerschmitts, Lancasters, Thunderbirds and many more — is housed in several temporary hangars dating back to the Second World War and built to last for only 10 years!

Until the first phase of the new National Aviation Museum complex is completed, these historical aircraft are condemned to quarters that should have been demolished 30 years ago and, because of Canada's climate, are barely able to protect the collection.

A Dream Becomes Reality

On February 18, 1982, the dream that was promised in 1912 finally became a reality! The Canada Museums Construction Corporation was to be established to design and build the new National Gallery of Canada and the National Museum of Man.



National Aviation Museum. . . space-age shape relates to the past.

At the same time, the government announced its intention to appoint Jean Sutherland Boggs, former director of the National Gallery, as chairperson of the new corporation. The establishment of the corporation and the appointment of Miss Boggs formally came into effect in June 1982.

Later the same year the government announced it would also build a new National Aviation Museum.

It had long been recognized that conditions in the existing buildings warranted immediate action and that the Canadian cultural heritage was in danger. Now, at last, something was being done about it before it was too late.

Construction of the Three Museums

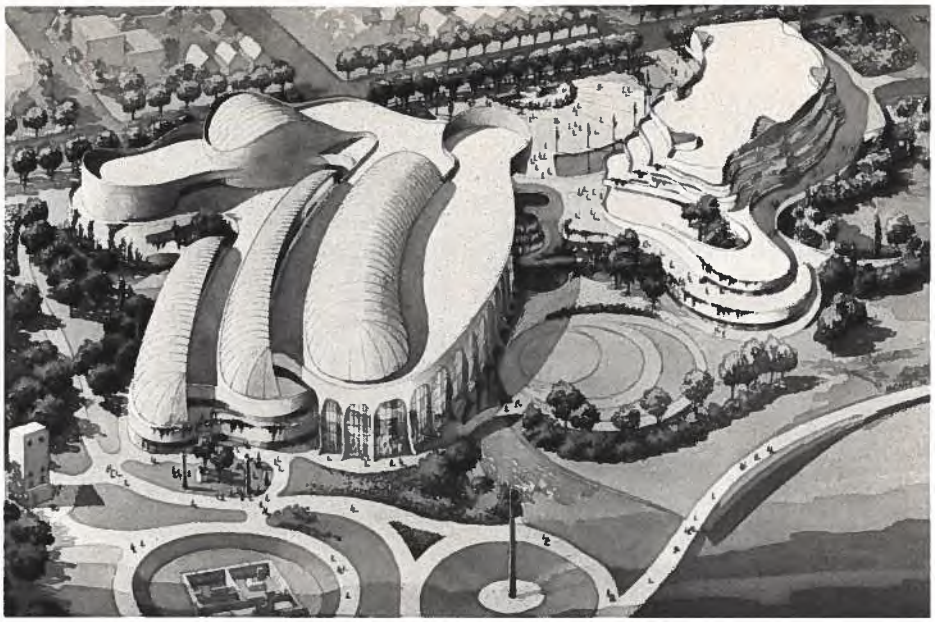
Construction got underway in 1983 with a budget of $186.6 million split equally between the National Gallery and the Museum of Man. It was estimated that the two museums would open by 1988.

The National Aviation Museum project will be completed in three phases. A total of $18.4 million has been allocated to the Phase I and funds for the other two are to be approved by Cabinet. Work started in March of 1984 and it is predicted that the official opening of Phase I will take place early in 1986.

The most modern environmental controls will help protect and preserve the collections in all three museums.

The Montreal-based architect firm of Moshe Safdie and Associates and The Parkin Partnership of Toronto were selected for the National Gallery. The Museum of Man architect, Douglas Cardinal of Edmonton, is working in tandem with the Montreal firm, Tétreault, Parent, Languedoc et Associés. Peter Zoubek, Public Works architect, has been assigned to the Aviation Museum.

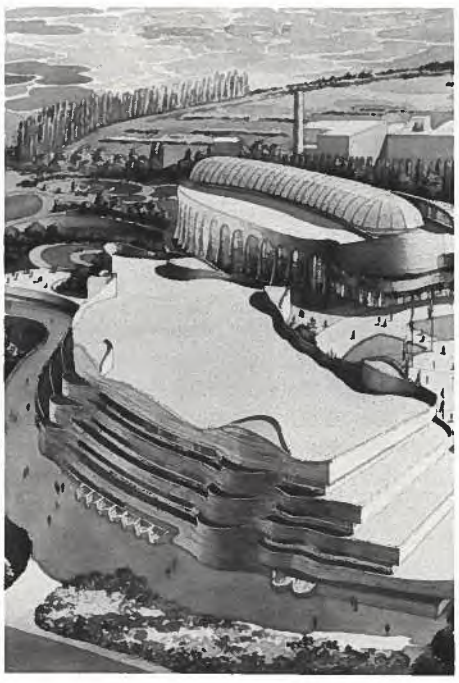
The model prepared by Douglas Cardinal for the Museum of Man, because of its fluid organic forms, echoes the structure of the site, bringing together the surrounding panorama and the urban phenomenon of Ottawa/Hull. The curvilinear structure of the building, divided into two by an area of space in the shape of half-moon, flows down a gentle slope towards the Ottawa river and gives the visitor a spectacular view across the river of the Parliament Buildings and the new National Gallery on the opposite bank.



Museum of Man as seen from Parliament Hill.

With an area of 44 000 m^2, the Museum of Man will have four times the exhibition space it currently has in the Victoria Memorial Museum Building. The new building will bring together artifact storage, workrooms, laboratories, offices and public space within the same complex. This concentration of staff and activities will contribute to staff efficiency and better service to the public.

The model for the National Gallery is rectilinear, respecting the grid of Ottawa. Located off Sussex Drive at St. Patrick Street, the building will be in a central, historic area.



Flanked by the War Museum, LaSalle Academy, Notre-Dame Basilica and the Byward Market, it will overlook the Parliament Buildings, Victoria Island, the Ottawa River and the new Museum of Man. The architects have designed the buildings to be functional, spacious and capable of meeting the requirements of visitors and staff as well as the collections, both permanent and visiting.

A delta shaped building, designed by architect Peter Zoubek, the Aviation Museum reflects the triangular system of runways common to the British Commonwealth Air Training Plan airfields which were an important part of Canada's contribution to the Second World War.

Once the three phases of the air museum project are complete, the gigantic proportions of the building will provide enough space to house almost all of the 109 aircraft of the collection, When Phase I is finished, the museum will be able to display 46 aircraft and accommodate even Canada's largest aircraft, the Canadair Argus with its 43 metre wingspan.

Introductory displays, a mezzanine walkway overviewing the collection, a special area devoted to the Royal Canadian Air Force Memorial, security offices and storage and restoration facilities will also be completed in Phase I. Phase II will provide an auditorium, a cafeteria and an operational control tower which will be open to the public as part of the overall aeronautical exhibition of the museum.

Economic Repercussions
Tourism
According to a 1979 survey done by the Canada's Capital Visitors and Convention Bureau, 82.9 per cent of the people who come into the capital region visit tourist attractions, explore the area and attend either cultural or sporting events. They are for the most part professionals, managers or business people interested in sightseeing and, to a significant degree, in art and culture. This is a market ready to be developed.

This is dramatically pointed out by the fact that more people visited the national museums in 1983 than the Parliament Buildings — 661 000 visitors to the Parliament Buildings compared with 1 679 000 to the national museums (Science and Technology: 539 000; Museum of Man and Museum of National Science: 442 000; National Gallery: 295 000; War Museum: 242 000; Aviation Museum: 161 000).

The fulfillment of the 1912 dream of museums will have a positive effect on the hotel and food industry and related services in the area and reflect on Canada's image as a whole:

- if we enhance our national collections by placing them in facilities that represent works of art in themselves;
- if the expansion of the museums allows the presentation of exhibitions and shows of international renown (for example, the Tutankhamun exhibition or major air shows);
- if the publicity surrounding the realization of these projects increases;
- and if, as a result of these first three conditions, the number of visitors to the region increases.

Many other countries have recognized the importance of art and culture in attracting and interesting tourists. Countries or cities capable of offering a quality "cultural product" are frequently the most successful tourist destinations.

Employment
The new museums will also mean jobs. When completed they are expected to provide close to 900 permanent jobs and another 900 during construction.

At the moment, the Museum of Man has 187 permanent employees and approximately 60 security guards. By the year 2000, staff will increase to 453.

The National Gallery has 138 permanent employees and 65 security guards and by the end of this century the total will have increased to 367.

By the completion of Phase I, expected in 1986, the Aviation Museum expects to more than double its personnel from the present 14 to 32. Security staff, at present numbering 19 (over the three locations), is expected to increase to 22 on the centralized site.

In 1984, the construction of the Museum of Man employed up to 150 people; in 1985, there will be approximately 200 workers; from 1986 on the number will vary between 250 and 300.

West exposure of the National Gallery.

In July 1984 the construction site of the National Gallery had 75 workers, 125 more were expected to be added later in the year. When construction work is at its peak the number of workers will vary between 300 and 350.

With construction underway on the Aviation Museum's Phase I, some 30 workers are currently employed with more to be added as the work progresses.

Additional Benefits
While the museums projects will mean immediate benefits to the National Capital Region, there will be obvious spin-offs that will have their effect on the rest of the country. Prefabricated units, materials, equipment and supplies must be purchased with bids accepted from suppliers from coast to coast.

For example, 60 per cent of the money for the National Gallery is expected to be spent on the purchase of construction materials from other Canadian cities and two-thirds of that will benefit the manufacturing industries for equipment and supplies.

Last but by no means least, the three museums in their magnificent new quarters will draw scientists, artists, craftsmen, historians, restoration experts, museum authorities, not only from across Canada but from all over the world. They will study, experiment, observe and record and, in doing so, enhance this country's reputation.

Conclusion
Thus the completion of Canada's national museums project will bring many and lasting benefits.

Not only will our "memory attics" become tourist attractions and cultural playgrounds of which Canadians can be proud but they will also, according to Dr. George MacDonald director of the Museum of Man, in an article published in 1983 by *Le Droit*, "increase the links between the different museums of Canada, increase the exhibition exchanges and make the national collections available to a much larger audience through modern systems of communications".

By 1988, the doors will open on a world of art and culture of exceptional beauty and interest that will benefit many generations to come.

— by Ginette La Roche
Canada Commerce

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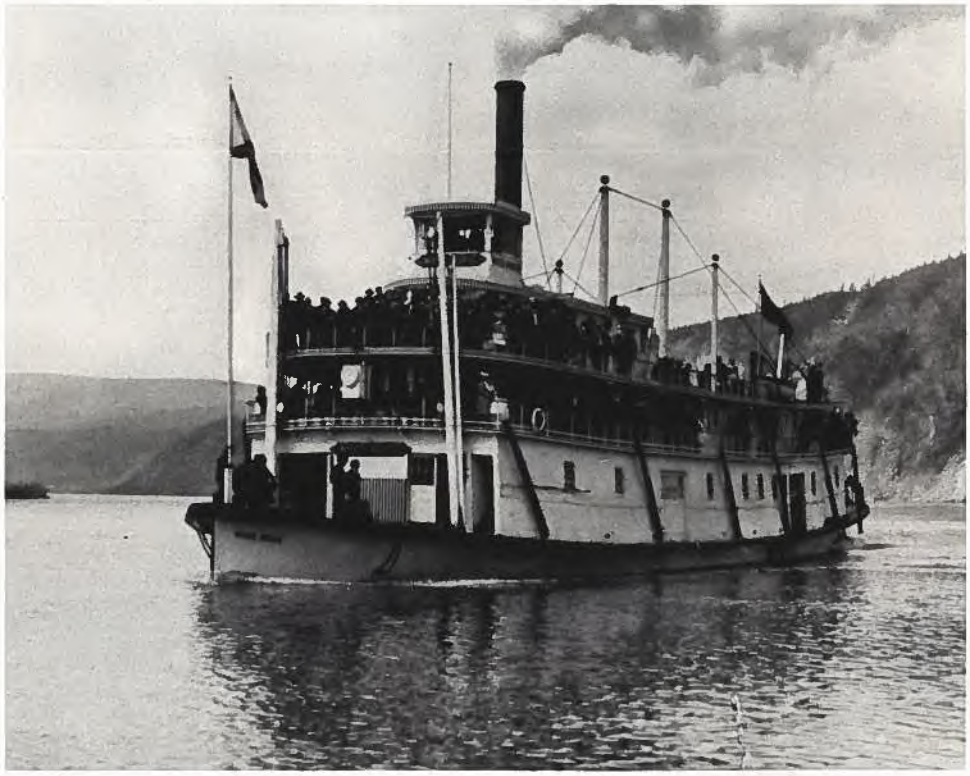

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