

Canada Commerce

Industrial Expansion
Expansion industrielle regionale

May/June 1985

1985 2 1985



Expo 86 Takes Shape

***Canada's Aerospace Industry —
Selective Specialization***

***Special Section on the Budget
and Nielsen Report***

**Market
Development**



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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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Special Section

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Business Review

Aerospace Technology Marketing Consortium

A five-member Ontario consortium has recently been formed to market aerospace products and services internationally. The five firms, all leading suppliers to the Canadian aerospace industry, have joined in the formation of a new company called The Ontario Aerospace Consortium.

Members include: Chicopee Manufacturing Limited of Kitchener; DAF Indal Ltd. of Mississauga; Fleet Aerospace Corp. of Fort Erie; NYAB VICOM (General Signal Limited) of Kingston; and Reil Industrial Enterprises Limited of Rexdale.

For further information, contact: Jay Yule, 9th Floor, Hearst Block, 900 Bay Street, Toronto, Ontario M7A 2E3; Tel: (416) 965-1576.

New Copper Concentrator for Peru

A \$300 million copper concentrator, recently inaugurated in Peru, has been backed by Canadian financing, engineering by Canadians and stocked with some \$90 million worth of Canadian equipment. Engineering, procurement and construction were managed by The SNC Group.

The project was backed by a loan of \$100 million from the Canadian Export Development Corporation and another loan, of \$115 million, from an international consortium of banks led by the Toronto-Dominion International Bank Ltd. Other banks are the Bank of Nova Scotia, Barclays Bank International, Chase Manhattan Ltd. and Sumitomo Trust and Banking Co. Ltd.

For further information, contact Jacques E. Lefebvre, Vice-President, Public Affairs, The SNC Group, Tel: (514) 282-9551.

Port of Prescott

Known since 1930 as the Prescott Elevator, the newly named Port of Prescott on the St. Lawrence Seaway is expanding its activities to attract a much larger variety of products to its facilities.

This year marks the 150th anniversary of the Town of Prescott as well as the 25th anniversary of the St. Lawrence Seaway. To celebrate both these events, the port has changed its name and initiated a program of development designed to create an environment that will encourage a wide array of industry to become established and grow.

For further information, contact Prescott, River Road East, Prescott, Ontario K0E 1T0; Tel: (613) 925-4228

New Policy Opens Doors to China

China — the world's most populated country — is opening its doors for global business. And for Canadian exporters that could spell unparalleled opportunity, according to Canadian trade officials. The marketing potential, they feel, will come from a wholesale agricultural renewal program in China.

For further information, contact External Affairs East Asia Development Division (PET), Tel: (613) 995-8244.

Export Sales Climb

Canadian exporters sold more than \$9.6 billion worth of goods in world markets in January, reversing a three-month slide in global sales. The value of exported goods, according to Statistics Canada, rose 2.6 per cent — or \$245 million — during the month, posting a \$1.5-billion trade surplus in the process.

Best sellers were automotive products, industrial goods and materials, agricultural goods and fish products.

New JETRO Publication on Trade Shows in Japan

The Japan External Trade Organization (JETRO), host of a number of trade shows and missions in Japan, has recently published a brochure, *How to Succeed in Trade Shows and Exhibitions in Japan*. The brochure offers sound advice and essential pointers to businesses considering exporting to Japan.

The brochure is published in English and is available free of charge through the Japan External Trade Organization, 7th Floor, 151 Bloor Street West, Toronto, Ontario M5S 1T7. For further information, contact Robert Ulmer, project manager, Tel: (416) 962-5050.

Canada's Livestock Population

Canada's cattle population is changing. Statistics Canada national livestock survey reveals that the number of cattle on Canadian farms has dropped to its lowest level in 23 years. As of January 1985, it is estimated that there were just under 11 million head of Cattle in Canada, a 3.4 per cent decline from a year ago.

One of the reasons for the decline might be that Canadians are eating less beef. In 1983, the per capita consumption of beef was down to 40 kilograms (88.4 pounds) compared with more than 51 kilograms (113 pounds) in 1976.

The Tin Can Industry

When and where the first tin cans were invented is lost in the mists of time but today in Canada, stamping and pressing tin cans for preserving foods is an industry in its own right.

Statistics Canada reports that in 1982 Canadian manufacturers shipped more than \$200 million worth of cans destined for fruit and vegetable packing plants and \$50 million worth of metal containers for evaporated milk. Fruit and vegetable juice cans accounted for more than \$40 million while cans for all other foods, including meat products, were valued at nearly \$90 million.

SR Telecom Signs Multi-Million Dollar Contracts

SR Telecom of Canada, based in Saint-Laurent, Québec, has recently signed a second set of contracts for its SR microwave radio telephone systems, valued at more than \$9 million. The contracts were signed with Turkey, Zimbabwe and the Yemen Arab Republic.

These second-time orders confirm the success of the company in bringing this sort of service to remote, dispersed communities in approximately 30 different countries in areas as varied as the Middle East, Africa and China.

The contract with Turkey is reported worth \$4.9 million; with Zimbabwe, \$3.2 million; and with Yemen more than \$1 million.

For further information, contact Lou Bugeaud, SR Telecom, 8150 Trans-Canada Highway, Saint-Laurent, Québec H4X 1M5; Tel: (514) 335-1210.



Mine Hoists to Mexico

John T. Hepburn, Limited, of Toronto has recently shipped two mine hoists to major mining companies in Mexico. One, a 254 cm (100 in.) by 91 cm (36 in.) double drum production hoist (illustrated) powered by a 500-h.p. motor, was shipped to Cia. de Real del Monte y Pachuca, S.A. The other, a 228 cm (90 in.) diameter, four-rope friction hoist powered by 1 000-h.p. DC motor, went to Industrial Minera Mexico, S.A., along with an ore pocket weighing system.

For further information, contact John T. Hepburn, Limited, 914 Dupont Street, Toronto, Ontario M6H 1Z2; Tel: (416) 671-2200.

Conference Roundup

Trade Fairs in Latin America and Caribbean

The Latin American and Caribbean Programs Division of External Affairs is sponsoring Canadian participation in a number of trade fairs and missions to and from Latin America and the Caribbean in July and August.

Fairs include: IX World Forestry Congress Exhibition, Mexico City, July 1 to 7. Missions include: Mission from Mexico, Peru, Colombia, Chile, Guatemala, Ecuador and Costa Rica to Canada-Latin American Remote Sensing Symposium, July 15 to 19; Oil and Gas Equipment and Services Mission to Argentina in July; Seed Potato Mission from Uruguay, August 10 to 11.

For further information, contact Latin America and Caribbean Programs Division, Tel: (613) 996-7408.

Automotive Aftermarket

An Automotive Aftermarket Conference will be held in the High Sierra Hotel and Casino, Lake Tahoe, Nevada, July 29 to 30.

For further information, contact Eleanor Bernet, Frost & Sullivan, Inc., 106 Fulton Street, New York, NY 10038, U.S.A.; Tel: (212) 233-1080.

Satellite Symposium

Satellite Symposium '85, a gathering of the Canadian Television Receive-Only (TVRO) industry, will be held in Toronto's Skyline Hotel, July 1 to 3. Presented by *SIGNAL* magazine, the event is divided into three sections — symposium, trade seminars and exhibition.

Focusses of the symposium are technology, marketing and industry issues. The trade seminar and exhibition offers dealers and installers nuts and bolts sessions on diagnosis, quality antenna installations, marketing and consumer education.

For further information, contact *SIGNAL*, P.O. Box 238, Station D, Scarborough, Ontario M1R 5B7; Tel: (416) 759-6639.



Northern Telecom Expands Fibre Optics Operation

Northern Telecom Canada Limited is expanding its worldwide Saskatoon headquarters for fibre optics to meet the growing demand for fibre optics technology in the global telecommunications market.

The 4 680 square metre (50 400 square foot) addition to the existing facility, to be built at a cost of \$1.6 million, will give the division more than 13 560 square metres (146 000 square feet) of office, warehouse and manufacturing space. The original 8 910 square metre (96 000 square foot) plant was opened in 1981 at a cost of \$14 million.

For further information, contact Ruth Ann Yardley, Northern Telecom Canada Limited, 255 Albert Street, Suite 700, Ottawa, Ontario K1P 6A9; Tel: (613) 563-0336.

International Fancy Food & Confection Show

The 31st Annual International Fancy Food & Confection Show is scheduled for the Georgia World Congress, Atlanta, Georgia, July 14 to 17, and is expected to be 40 per cent larger than the 1984 event.

For further information on the show, contact Pat Dolson, Manager, International Fancy Food & Confection Show, P.O. Box 3833, Stamford, Connecticut 06905, U.S.A.; Tel: (203) 964-0000.

Trade Fairs in the U.S.

The U.S.A. Trade and Investment Development Bureau, U.S.A. Marketing Division of External Affairs is sponsoring Canadian participation in a number of trade fairs in the United States in August.

Fairs include: the Western National Restaurant Convention and Exposition in Los Angeles, August 10 to 13; Pennsylvania Agricultural Progress Days, State College, Pennsylvania, August 20 to 22; APAA — the Automotive Parts and Accessories Association Show, Chicago, August 26 to 28.

For further information, contact United States Trade and Investment Development Bureau, United States Marketing Division, Tel: (613) 993-5911.

Leaders Are Teachers

Executives must be good listeners if they are serious about creating a healthy corporate culture.

Corporate culture is instilled from the top. It is a product of leadership. This means that Northern Telecom's corporate culture is in the hands of its top executives. This is not a casual generalization; it is based on a systematic study of how leadership has developed.

The predominant style of leadership has gone through three stages. In the first stage, which goes back quite a long way, the leader was a man on a horse leading the troops. This gave way to the view of the leader as a leader of leaders. We are now passing into still a third stage in which the top people in an organization have to be the teachers of the leaders under them. The leader as teacher is a concept that has many significant implications.

It is still true that the chief executive officer sets the tone and establishes the standards that characterize the company and determine its culture. But the one-man show doesn't work anymore. The imparting of corporate values — setting the example — has to be carried on throughout the organization by the leaders of the various segments of the business.

To be effective, power has to be shared, and this goes deeper than delegation. Leaders must have the intelligence and courage to release and encourage others to outperform themselves — and people will do this if given the chance. All executives, therefore, have an important role to play in developing, expanding, and reinforcing the corporate culture of their organization.

Corporate culture is to a company what character and personality are to a man or woman. A corporation's character is displayed in the values it holds to be important and in its success in ensuring that these values are upheld. Quality of product, caliber of service and trustworthiness are some of the values which one immediately thinks of.

At a deeper level, corporate character is determined by the employees' feelings about the company. How do they think they are treated? What is

their motivation to work, to carry forward the company's objectives? How good an understanding do they have of these objectives? What are relationships like in the company? How open are communications? In short, what is the picture of the company its people carry in their minds and hearts?

The outside image a company conveys is also an important component of its culture. A corporation is seen in different ways by customers, suppliers and government agencies; by the financial community and investors; and by the neighborhoods where it has plants, laboratories, and offices. Is it regarded with respect? Is it thought of with friendliness? Are the expectations of its conduct as a business organization high, medium or low?

It is instructive to see how corporate culture looks when you start from scratch and are faced with the problem of building an entirely new organization. This is not to suggest that Northern Telecom or a similar corporation with long-established traditions and methods of operating can proceed in the fashion that I am about to describe. Nevertheless, something useful can be learned by holding up a clean slate and seeing what you would write there if you had the opportunity.

For some time, I have been involved as a consultant to a new regional airline. A lot of planning and preparation had been done by the time I joined, but still there were fewer than a dozen employees in the organization. The possibilities were wide open.

Early on, I was asked whether there should be a conventional personnel department with a great deal of authority, or whether the personnel function should be decentralized, with the authority resting on the heads of the various departments. Clearly the question was much more significant than drawing boxes on an organizational chart. The underlying question was the nature of the company's organizational philosophy regarding its people. What was this going to be? In coming to grips

with that, I had to focus completely on what this new company should be like on the inside. In other words, I was trying to spell out a corporate culture.

In attempting to accomplish this challenging task, I came up with four aims — none easy to attain.

First, the organization needed to be one in which the employees have pride. That's the key word: pride. They should understand and respect the company's objectives and policies. Next to their families, this organization should be the most important thing in their lives. That means, of course, that the company must not only achieve success but also operate according to high standards so that it's considered a mark of distinction to be a member of it.

The company's second aim, therefore, should be to address the issue of fairness. This obviously applies to compensation and benefits. It applies also to being treated equitably as an individual. If an employee has a problem, he or she should be confident that the company's personnel policies will treat them fairly and that the managers who are implementing the policies will deal with them with consideration and empathy. People must have trust in the organization.

The third aim should be opportunity. Recognition should be extended to those who earn and deserve it, not only in terms of getting ahead in the company, but in terms of growing as a person — becoming a more mature and complete individual.

Training and development programs are key here, and this means training and development programs for people at all levels. Jobs and roles in the company must be well designed so that people can contribute at the top of their ability. I'm talking about job enrichment. There is no doubt that this is one of the most misused and misunderstood terms in industry, but as a concept it is singularly important and it ought to be carried out effectively.



The fourth aim chalked up on the empty slate was communication. So much has been said about communication that I'm afraid sometimes we just pass over it. Nevertheless, a company must give systematic, continuing, careful and thoughtful attention to communication. Never skip it. Keep people informed so they really feel they are on the team. Solicit their ideas. Encourage them to come forth with their thoughts about what will make the company more successful. Inspire a favorable climate of communication so the people feel free to speak up.

This concept is so important that it is being given precedence over other goals at the new airline. For instance, one concept was to start measuring performance. The idea was to use much the same kind of indexes that are used in the Bell system to measure the performance of individuals and units. It was finally decided that it was too early for this; it might turn people off and make them unnecessarily and detrimentally nervous in their new jobs with a new company.

Instead, our first step will be to encourage employees to articulate their ideas about how the company can improve its operations and conduct its various practices and policies more

effectively. Being right there on the job with a new company, they are the ones who will have the best ideas on how to do this. This is consistent with the notion that we want to start off making them partners, rather than employees in the conventional sense. This calls for a sharing of ideas. And sharing ideas calls for some unique skills that aren't always highly valued in the hierarchy of conventional management talents.

We are really talking about the art of listening — the most important of all the management skills today. Listening is essential if executives are to develop into teachers of leaders. Good teachers are first of all good listeners and, fortunately, listening is an art that can be taught.

A significant illustration of this comes from AT&T, and it goes back a number of years. At one time the Bell system had a cafeteria of courses for middle management; each of the associated companies would pick about three and send everybody in middle management for a two-week program. One of these programs was called *Talking With People*, but a better title for it would have been *How To Listen To People*.

Of all the programs that we evaluated, this was the one that consistently and uniformly was picked as the most effective. Those who attended received training in how to listen; they would tell us, "I now see how it is possible to be a better manager," or "I know how to go about dealing with my people more effectively." Some would even go on to say such things as, "It's made a better family man out of me. Around the table now, I don't just lay down the law about how everybody is supposed to act, but I listen, and I learn a lot about how to be a better parent."

My point is that all truly great organizations, whether they realize it, have developed and valued the ability to talk or listen to people. This is not to suggest a culture in which every manager's office comes equipped with a psychiatrist's couch. It does suggest a recognition that the organization itself, the people who comprise it, can make things work better if their managers pay close attention to their ideas, their working experiences.

In this increasingly complex world, it will be important for all executives to develop the skill of listening as a means of staying tuned into the organization's morale climate. I think this will do more for any executive than a host of surveys. Becoming a better listener and observer should be an important part of one's approach to management. It is basic to understanding a corporation's culture and is one of the strongest skills any manager can develop.

Now, let us conclude with the core point regarding corporate culture. Put simply, this is that the one-man show doesn't work any more. The imparting of corporate values, setting the example, has to continue down and throughout the organization by the leaders of the various units. All managers have an important role to play in developing and reinforcing the company's corporate culture. □

— by Douglas Williams
of Douglas Williams Associates,
Carefree, Arizona, specialist
in attitude surveys.

This article appeared in The Princeton Papers and has been reprinted in Canada Commerce with the permission of Northern Telecom Ltd.

DSMA — Leader in Test Facilities

One of Canada's foremost producers of test facilities, Dilworth, Secord, Meagher and Associates (DSMA) Ltd., Consulting Engineers, is now more than 30 years old and has participated in more than 60 test facility projects in 15 countries.

Established in 1952 to "serve clients having advanced technology requirements", DSMA has been active in the engineering of research, development and test facilities including aeronautical wind tunnels, automotive and petroleum test facilities, space simulators and building research facilities.

The NAE (Canada) vertical/short takeoff and landing (V/STOL) wind tunnel, designed by DSMA and commissioned in 1968, was the first large, low-speed wind tunnel to address the aerodynamic problems of V/STOL aircraft.

DSMA also supplied both the engineering and construction supervision services for the most advanced low-speed wind tunnel in the world, the DNW (German/Dutch) wind tunnel. Commissioned in 1980, this facility is noted for its excellent flow quality and the multiplicity of large, interchangeable test sections. The DNW tunnel also features a large, moving-belt ground plan subsystem for optional implementation during tests.

Currently, DSMA is involved in two European low-speed wind tunnel projects for automotive aerodynamic investigations. In both cases the designs employ a cost-effective, slotted-wall test section developed by DSMA's own, in-house R&D program.

In the mid-1960s, DSMA began to apply its accumulated experience in wind tunnel design to the specialty market of environmental (or climatic) test facilities for the automotive and petroleum industries. Its first such project was the multi-purpose wind tunnel for the Chrysler Corporation which came on line in 1971 and has remained in continuous use ever since.

To date, DSMA has provided nine environmental test facilities worldwide, usually on a turnkey, design-and-supply basis.

Also during the 1960s, the original company's organization became more diversified in order to expand the range of services offered.

The engineering design aspects were assigned to DSMA International Inc. of Toronto while a construction-management company was added in the form of Champlain Power Products Ltd., also of Toronto.

In the 1960s, DSMA's organiza- tion became more diversified to expand its range of services.

This organization remains essentially the same today with DSMA International Inc. and Champlain Power Products Ltd. forming the core of a seven-company group. All of the companies in the DSMA Group are subsidiaries of a common parent, Dilworth, Secord, Meagher and Associates Ltd. based in Toronto.

To serve the United States market, DSMA Engineering Corporation and Champlain Constructors Inc., both of Orlando, Florida, offer complete engineering design and construction management services from an American base.

In a similar fashion, DSMA International Inc. is represented by a Zurich-based office in Europe while Champlain Power Products AG in Zug, Switzerland, provides a European base for construction management services.

In a more general sense, the long-standing involvement of DSMA and Champlain in the specialized field of product testing has developed a well-refined methodology for listening to clients, focussing on their needs and requirements and integrating them into the most cost-effective solution.


The broad experience base of previous projects from which DSMA is able to draw represents an additional bonus in avoiding pitfalls and blind alleys during the planning and design phases.

DSMA has also developed a wide range of experience and expertise in areas other than in test facilities, including extensive involvement with the design and manufacture of such diverse items as:

- large, heavy rotating machinery such as chassis dynamometers, large fans and drive motors, moving-belt ground plane assemblies;
- high-precision metrology equipment such as traversing gear assemblies, large aerodynamic platform balances;
- and sophisticated simulator systems including solar light banks, humidity control systems, anechoic designs.

The DSMA total systems approach offers in-house engineering expertise in structural, mechanical, aerodynamics, thermodynamics, heating/cooling/refrigeration systems, air handling, electrical, controls, instrumentation, data acquisition and management, test facility automation design, acoustics and aero-acoustics, safety and security systems, fuels handling systems.

In addition, DSMA offers a flexible and versatile range of engineering services including feasibility studies, preliminary engineering studies, detail design services, hardware/software specifications, equipment sourcing, scheduling services, test and commissioning programs, site engineering services, staff training and operator/maintenance manuals.

As the construction arm of the DSMA Group, Champlain offers a turnkey design and supply service which includes: planning, scheduling, coordinating and control of design, supply, site assembly and test and commissioning; technical specifications; tendering; bid review; supplier contract negotiations; quality and cost control; and much more. 

**For further information, contact:
Dilworth, Secord, Meagher and
Associates Limited**

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Telex: 06-967880

Canada-Israel Institute for Industrial Research and Development

As the rate of progress in technology and communication expands, the world gets smaller and borders disappear in the quest for knowledge and science.

Because of the proliferation of new ideas and the desire to make these ideas useful, a number of problems arise:

- How is this knowledge to be passed on to the experimenter, to the entrepreneur and, finally, to the user?
- How can groups be brought together who are working on similar or complementary subjects?

The Canada-Israel Institute for Industrial Research and Development has been formed to bring together the innovative capabilities of Canada and Israel for the purpose of creating new ventures which will benefit the two countries.

In particular, the institute seeks out technology under development which could benefit from joint activities by Canadian and Israeli firms. It will advise on incentives and tax benefits, assist in working out licensing agreements as well as obtaining venture capital. It will also work closely with Israeli and Canadian authorities to obtain their full cooperation and later facilitate smooth operation of the venture.

Although it has only been functioning since November 1984, the institute has already been involved in a number of proposals, one of which is the use of aeroponics for growing fruit and vegetables under controlled conditions for the Canadian winter.

Aeroponics, in contrast to hydroponics, is a system in which nutrients, air (oxygen) and water are supplied directly to the bare root system in a highly controlled environment.

Another proposal is the application of advanced security systems to the supply and manufacture of entrances to restricted areas. Software for educational training and a number of medical devices are also being investigated for joint research and development.

More than any other, the medical field lends itself to co-operative joint effort between the two countries as both are well advanced in medicine.

Because of its isolation and as a result of its exposure to armed conflict, Israel has developed an industry in medical devices which is extensive for the size of the country. Canada, on the other hand, has licensed its inventions to other countries, especially the United States.



There is potentially a large domestic and export market for Canadian-made medical equipment based on joint Canadian and Israeli know-how.

Many other countries lend themselves to mutual collaboration for the benefit of the two countries. For instance, Canada's communications industry is highly developed with worldwide marketing capability. Israel has concentrated on defence-related communications and, in general, has been able to use its extensive knowledge gained from defence R&D for numerous civilian applications.

Through its connections with private, institutional and government sources of capital, the Canada-Israel

Institute for Industrial Research and Development can assist in obtaining financing if the venture is demonstrated to be commercially viable. All this is carried out under conditions of strict confidentiality.

The institute is a non-profit organization, supported by the Canadian and Israeli governments. It is expected that the institute will become self-sustaining in time by earning royalties and fees and, in some cases, taking shares in the new companies.

The following are a few examples of projects under development by various organizations and firms in Israel:

- production of ethanol by fermentation;
- modular microcomputer-based industrial control systems for a large variety of applications;
- equipment for automatic manufacture of aluminum pipes, roll forming and fused welding;
- compound for the treatment of muscular diseases;
- production of human interferon and lymphokines;
- production of chemicals from microalgae involving solar radiation, used for sewage purification;
- long-term vaccination for cattle and poultry allowing single injection for longer periods of time;
- pulsating air tomato pollinator, tractor mounted for field-grown tomatoes and a back-pack for greenhouse use, to increase yield;
- portable medical instrument for clinical application of bone healing;
- reliable, simple and cheap radiation dose monitoring devices for use in homes and offices;
- X-ray detection system for security and custom checks.

From time to time, select examples of offers and requests for technology transfers from and to Israel will appear in the appropriate section of the *Innovation Supplement of Canada Commerce*. □

**For further information, contact:
The Canada-Israel Institute for
Industrial Research and
Development**

76 St. Clair Avenue West, Suite 600
Toronto, Ontario
M4V 1N2
Tel: (416) 961-7407

Canada Place — Graceful, Elegant and Exciting

The Sydney, Australia, *Sunday Times* called it “a striking marine design, reminiscent in many ways of the Sydney Opera House”. Toronto’s *Heavy Construction News* dubbed it “the crown jewel of Expo 86” and the *Vancouver Sun* enthused it “will soon be the talk of the town”.

“It” in each instance is Canada Place, our graceful, elegant and exciting national pavilion at the 1986 World Exposition in Vancouver.

Rising from what was left of the former Pier B-C (named, not for the province, but for its location between Pier A and Pier D), it thrusts some 335 metres (1 100 feet) into the waters of Burrard Inlet, looking for all the world like a five-masted schooner under full sail.

When completed, Canada Place will include a 505-room hotel-office complex, one of the world’s finest cruise ship terminals and the Canadian Expo pavilion, which will be converted to a trade and convention centre at the close of the fair.

While the gleaming white, 12.2-metre (40-foot) high fibreglass sails of its roof will forever dominate the harbour skyline, Canada Place’s greatest legacy to Vancouverites may be its acres of tree-lined promenades and plazas that will provide strollers with magnificent views across the harbour to North Vancouver and the Coast Mountains.

In the words of Vancouver Port Corporation’s Don Buggie, it will be “a people place”, linked directly to the city’s Granville Square, to the sea-bus terminal joining Vancouver and North Vancouver, and to the Waterfront Station of the new rapid transit system.

Nursemaiding the mammoth \$340-million project through its development and construction stage is Canada Harbour Place Corp. (CHPC), a federal Crown corporation established in 1982 to turn the Pier B-C ugly duckling into a stunning swan.

Originally opened in 1927 to serve the CPR’s famed “Empress” ocean liners and other trans-Pacific passenger vessels, Pier B-C had become an all-but-abandoned derelict by the 1970s as Far East travellers took to the skies in droves.

Prodded by the City of Vancouver, the B.C. government in the late 1970s announced plans for a convention centre on the site and began tearing down existing buildings and removing mooring and cargo facilities.

This project came to a shuddering halt in 1980 when a recession-plagued government cancelled the development. For two years, the pier lay deserted until, in 1982, the federal government took it over as a site for its Expo 86 pavilion.

But selection of a harbour site clear across town from the main Expo location on False Creek (see accompanying story) was more than just a planner’s whim, according to CHPC president Kenneth Bream.

“It is,” he says, “the first major project opening up the inner harbour of Vancouver to the public. We expect it will lead to a series of developments over the next decade that will further enhance public access to the harbour and provide many other cultural, recreational and shopping facilities.”

After announcing it would spend \$145 million for its pavilion-cum-convention centre, the federal government invited bids for the hotel site on the southern third of the pier at the foot of Burrard Street.

The winning bid for the 99-year-lease was one for \$30.1 million from the Tokyo-based conglomerate, Tokyu Corporation, whose wholly-owned subsidiary, Tokyu Hotels International, already operated 15 hotels around the Pacific Rim.

(Tokyu, the fourth largest firm in Japan, consists of 264 companies with assets of \$750 million, revenues of \$12 billion and 82 000 employees.)



Within months, Tokyu announced plans for the 19-storey, \$140-million Hotel Pan Pacific with four floors set aside for a World Trade Centre whose first tenants would include the Vancouver Board of Trade and the Asia Pacific Foundation of Canada.

The other major player in the development of Canada Place is the Vancouver Port Corporation, which is spending \$25 million for a terminal to berth the more than 200 cruise ships that are expected to visit the city each year.

Skirted along three sides by a 9.1-metre (30-foot) wide dock-apron, the terminal will provide a waiting room, baggage rooms and customs and immigration services and will be able to handle up to five ships at a time. Passengers also will have direct access to the hotel, ships, restaurants and entertainment facilities of Canada Place.

To Andy Shaw, manager of terminal operations for the port corporation, the new facility should prove well-nigh irresistible to cruise ship operators.

“It has the view and location,” he says. “We’ll almost be docking our ships on the downtown Granville Street promenade and it will have a first-class restaurant and hotel. I can’t think of any cruise-ship facility in the world that even approaches it.”



Canada Place photo, TM copyright Canada Place Corporation 1985

The terminal will be directly below the sail-roofed, 9 301-square-metre (100 080-square-foot) exhibition hall which from May 2 to Oct. 13, 1986, will house the dazzling exhibits of the Canada Pavilion, Expo's largest and most complex.

Pavilion planners aren't tipping their hand as to any details of the displays but are quietly confident that, when the doors are opened to the public next year, the host Canadian Pavilion will be one of the big hits of Expo 86.

"Canadians and international visitors will be delighted by what they see," says Norman Hay, the pavilion's creative director and former design chief for Montreal's Expo 67.

"We'll be presenting Canada in dimensions no one has ever conceived of before — in the three oceans, in space, on the earth and below it."

Expo 86's twin themes — communications and transportation — seem tailor-made for Canadian achievements and, fittingly, the pavilion will include two spectacular film theatres, each dedicated to one of the themes.

Teleglobe Canada's \$3.8-million, 800-square-metre (8 611-square-foot) theatre will concentrate on Canada's

contributions to the world of communications. Looking for a show-stopping production, Teleglobe called in Emil Radok, artistic director of Toronto's Applause Communications and the man who created the much-praised mixture of live actors and film images of *Laterna Magika* in the Czech Pavilion at Expo 67.

For his latest spectacular, Radok is using the Scenography system which utilizes automated controls to operate a multi-channel sound system and 10 35mm movie projectors trained on nine rectangular screens and a single, spinning sphere.

Radok's assistant, Jean-Pierre Begin, says the production "won't be a history, but much more the symbolic aspects of communications . . . At the end there will be a beautiful choreography performed by three dancers and one dancer will dissolve into a spinning satellite . . . The vision of Emil Radok is a very global one, of symbols, all linked together."

At the bow-end of the ship-shaped Canada Place structure will be the semi-circular \$5-million CN Imax theatre featuring, naturally enough, a transportation spectacular.

Produced by the National Film Board's Colin Low, the film will be

based on the theme *Carrying Things* and will use two 70mm projectors to throw a 3-D image (yes, it's back to the two-tone glasses) onto a huge, 21.5-metre (70-foot) high screen.

During Expo, the theatre will accommodate 580 people in a bench-seating arrangement. After the fair, it will be converted to conventional theatre-type seating for 480 and will become, along with the nearby 1 000-seat open-air amphitheatre and the two-storey, picture-windowed restaurant, a legacy to the people of Vancouver.

At the hotel end of the building, one floor above the Canadian Pavilion, will be the World Business Showcase which offers a total of 799 square metres (8 600 square feet) of exhibit areas for individual Canadian corporations which want to tell their stories at Expo without the enormous expertise of constructing individual pavilions.

Linked to the hotel lobby one floor up and the pavilion below by a waterfall-dominated atrium, the Showcase will offer 34 leases for floor spaces ranging from 2.5 to 93 square metres (27 to 678 square feet). Leases can be arranged for periods from two weeks to the entire 5½ months of Expo.

Exhibitors will also have the use of meeting rooms and a full range of specialized services as well as a lounge for entertaining prospective clients. Adjoining the Showcase will be the federal government's Business Opportunity Centre (see separate story) staffed by trade and industrial development experts.

"It will be a gathering place for business people around the world during Expo," says Richard Gaul, Canada Place director of rights and properties and corporate sponsorship.

Because Expo regulations ban pure commercialism in the theme pavilions ("You just can't go in there with neon signs and pizzazz," says Gaul), the Showcase will offer Canadian firms their only chance to market their products and services aggressively.

"The World Business Showcase," he says, "actually will be a little, high-tech trade show tacked on to the Canadian Pavilion — a place for Canadians to do business during Expo under normal market conditions."

And Canadian businesses were quick to spot the unique opportunity offered by the Showcase, snapping up a quarter of the available leases in the first week they were available.

Special Feature

"It's more than just a place to lease display space," says Gaul. "It's a place to provide a whole range of hospitality services that corporations need — ancillary benefits such as administrative back-up and hosting services for VIPs and clients.

"This will be *the* place to be for Canadian firms wanting to make contact with foreign companies to do licensing or exchange agreements or to enhance their export opportunities."

At the close of Expo, the Showcase space will be redeveloped into offices and become part of the four-floor World Trade Centre Complex. It is described as a one-stop shopping centre for international traders and is intended to bring together such services as shippers, customs agents, carriers, banks, insurance companies and government trade and industrial development offices.

The first tenants to sign up for space in the complex were the Asia Pacific Foundation of Canada and the Vancouver Board of Trade, owner of the World Trade Centre Franchise.

The foundation, described by *Macleans* columnist and author Peter C. Newman as "Canada's most important think tank", is a project funded jointly by the federal and provincial govern-



Model of B.C. pavilion with B.C. Stadium in background

ments and private enterprises aimed at promoting better understanding of the cultures of Pacific Rim nations.

Says Canada Harbour Place Corp. president Ken Bream:

"Having the Asia Pacific Foundation of Canada locate in this building, looking west to the Pacific, will be symbolic of the growing Canadian interest in, and commitment to, strengthening the cultural and economic ties with our many neighbours of the Rim."

From its prestigious, first-floor offices, the Board of Trade will offer World Trade Centre members a vast array of services and facilities. (Board of Trade president Bruce Pepper esti-

mates board membership will rise to 5 000 by June 1986, up from the present 3 100.)

Included will be educational and information services and club, association and exhibit facilities, plus consumer and business support services such as restaurants, hotel accommodations, office space, secretarial services, libraries, economic research, presentations and publications.

Pepper is particularly excited by the communications facilities that will put World Trade Centre (WTC) members in touch with the world by tapping into more than 1 000 data bases through either a WTC or an inquirer's computer.

Canada Business Opportunity Centre

Business visitors to Canada Place — and officials estimate there will be at least 20 000 of them during Expo 86 — are in for a pampering at the hands of Jim Murray.

Murray, manager of Expo 86 special events in the Vancouver office of the Department of Regional Industrial Expansion (DRIE), is the man in charge of organizing the federal government's Canada Business Opportunity Centre in the Canadian Pavillion.

From its location alongside the World Business Showcase, Murray will head up a team of government specialists drawn from DRIE, External Affairs, Immigration Canada and the Canadian Patents and Development Corp. who will be able to give personal attention to the needs of foreign and domestic visitors.

Drawing on the experience of the Business Development Bureau operated by the federal government and Canadian Bankers Association at Expo 67, Murray and his team are gearing up to provide visitors with introductions to Canadian businessmen, arrange tours or meetings, discuss export and import opportunities and even supply conference rooms and temporary office space.

"Essentially," says Murray, "we'll be bringing the services of DRIE, External Affairs and the others front and centre for the business visitor."

External Affairs' trade commissioners around the world have been contacted in an effort to alert potential visitors to the Business Opportunity Centre services.

Also, the Canadian Manufacturers Association, Boards of Trade, Chambers of Commerce and the Canadian Export Association have all been asked to spread the word among their members.

In addition to receiving briefings from experts on the overall Canadian economy or specific industry sectors, visitors will be able to use state-of-the-art "user-friendly" electronic data processing equipment to access such data banks as BOSS (DRIE's listing of more than 20 000 sources of Canadian goods and services) and Cantel's listing of government services and programs.

And, for the visitor who just wants to take a break from work, the centre can even arrange a guest membership at the Vancouver Board of Trade's World Traders Club.



Canada Place Vital Statistics

Convention Centre

Total exhibit space	15 733 m ² (169 305 sq. ft.)
a) main exhibit hall	9 301 m ² (100 080 sq. ft.)
b) ballroom	1 578 m ² (16 980 sq. ft.)
c) cruise terminal	4 854 m ² (52 245 sq. ft.)
Main hall seating capacity	5 000 and over
Main hall dining capacity	2 000 to 5 000
Ceiling heights	
a) exhibit hall	8.22 m (27 ft.)
b) centre section	12.2 m (40 ft.)
c) ballroom	5.49 m (18 ft.)
d) cruise ship level	4.75 m (15 ft.)
Capacity of largest meeting rooms	700 persons
Capacity of other meeting rooms	63-375 persons
Number of nearby hotel rooms	6 000
On-site parking spaces	770 automobiles

Public amenities

Main entry plaza	1 451 m ² (15 620 sq. ft.) [The main level promenade is 7.6 m (25 ft.) wide and has five boutiques along its length]
Promenade area	2 753 m ² (29 640 sq. ft.)
Amphitheatre and plaza capacity	1 000 persons
Amphitheatre and plaza area	3 249 m ² (34 975 sq. ft.)
Upper level view promenade	7.6 m (25 ft.) wide
Upper level promenade area	4 070 m ² (43 815 sq. ft.)
Total public open space	12 446 m ² (133 975 sq. ft.)
Open space as percentage of site	34.8%

By the time it opens later this year, the WTC also will be part of an electronic mail system, *Network*, linking it with members in 100 other WTCs in 50 nations.

"We believe it will be the fastest, most secure and least expensive form of communication in the world," Pepper told *B.C. Business* magazine. "All you need is a computer, a modem and a telephone line and you're in business." Users will pay about 75 cents to transmit a single-spaced, typewritten page, regardless of its destination.

While the WTC will provide immediate benefits to the west coast's business community, probably the greatest effect on the area's long-term economy will come from the conversion of the Canadian Pavilion into the Vancouver Trade and Convention Centre (VTCC).

Scheduled for a July 1987, opening, the VTCC will be Canada's second largest such facility with a seating and dining capacity of 5 000 and a total exhibit space of 10 879 square metres (117 060 square feet). During the off-season, use of the cruise ship terminal will increase the exhibit space by 4 854 square metres (52 245 square feet).

In addition to its main exhibits hall, ballroom and 23 meeting rooms of various sizes, the centre will offer such facilities as an elegant entrance lobby, multi-lingual translation services, food services and vehicle loading and unloading bays.

"It is," says CHPC spokesman Jim Patterson, "the largest facility of its kind west of Toronto. It is a building that is unique in design and conforms beautifully to its marine environment.

We have a lot more to sell than just size of the place."

Although it has not yet been decided who will operate the convention centre, marketing of it began in 1982 and officials say there are already more than 250 tentative bookings for the facility.

But for the next year and a half, international attention will be focused on Canada Place's role as our host national pavilion at Expo.

"In the eyes of other nations," says Patterson, "Canada has an enviable reputation as a host country as a result of such high-profile international events as Expo 67, the Montreal Olympics and Edmonton's Commonwealth Games.

"To the international community, Expo 86 is being held in Canada rather than in British Columbia or Vancouver."

To ensure this image remains untarnished, the federal government has committed nearly \$6 million to sponsor performing and visual arts shows at the pavillion (plus another \$1.5 million to assist Canadian artists participating in Expo's World Festival for the Performing Arts) and will provide enhanced border crossing, airport and Coast Guard services for visitors. In addition, the RCMP Band and Musical Ride will perform daily at the main Expo site on False Creek.

It will be Vancouver's show, but Canada Place will play a starring role.

Says Patterson:

"We want people to feel they haven't experienced Expo 86 until they've visited Canada Place." □

— by Ron Johnson
Canada Commerce



Workmen Swarm to Make Expo 86 "For Real"

Skeptics and doubters, beware. Vancouver's Expo 86 is for real.

Along the north shore of False Creek and across town at Canada Place, swarms of workmen are rushing to erect the buildings that will house the pavilions of the more than 80 nations, provinces, states and corporations who'll be coming to the fair.

In their downtown Scotia Tower offices overlooking the glittering geodesic dome of The Expo Centre, staff of The 1986 World Exposition are down to one year and counting.

"There's one thing that's not negotiable," says Expo spokesman Brad Philly. "That's the opening date — May 2, 1986."

Before it closes on Oct. 13, Expo officials expect 14 to 18 million people will have made their way to the site, spending more than \$400 million to tour the pavilions, ride the aerial gondolas, watch tall ships sail by, attend the World Festival of the Performing Arts or take in the magnificent Ramses II and His Times exhibit from the Cairo Museum.

It will be a lush, lavish spectacle that will in no way suffer from the inevitable comparisons with Montreal's Expo 67.

And, despite the experiences of Expo 67 and the more recent international fairs in Knoxville and New Orleans, Expo chairman Jim Pattison insists the corporation will not have to go to the taxpayers of B.C. for a bail-out.

While admitting "there are absolutely no guarantees in this business — we have no control over the weather, the economy and the value of the Canadian dollar", Pattison said the corporation's expected \$310 million budget shortfall will more than be covered by the \$250 million it will receive from B.C.'s share of Lotto 6/49 revenues and the \$126 million the B.C. government will receive from Expo-generated tax revenues.

Calling Expo 86 "the biggest single public event that will occur in Canada from now to the end of the century", Pattison says more than \$1.5 billion will be spent preparing and operating the fair — \$802 million by the Expo 86 Corporation and the balance by its national, international and corporate partners.

Expo officials concede that the corporation's revenues won't likely exceed \$500 million but hasten to point out that independent studies show the fair will generate nearly \$4 billion in extra eco-

nomic activity across Canada, three quarters of it in B.C., and will provide 53 000 person-years of employment spread over the three years 1984-86.

And, when the dust has settled and the pavilions and displays have been carted away, Vancouverites will be left with an \$84 million legacy in the restored CPR Roundhouse Pavilion, the B.C. Pavilion and The Expo Centre. Plus, of course, Canada Place's \$340 million hotel, convention centre and cruise ship terminal (see separate story).

The 52-hectare (130-acre) Expo site on the north side of False Creek (so named because early explorers mistakenly thought it might be a source of fresh water) is part of a 91-hectare (227-acre) package of rundown industrial land which the provincial government purchased from the CPR for development of a major downtown commercial-residential complex.

Today, it looks like something created from a gigantic Meccano set as workmen bolt together the external skeletons of the modular pavilion units which Expo 86 will lease to participating governments and corporations.

(One architectural critic has complained the modules remind him of "square oil tanks — Sarnia-by-the-Sea".)

Using state-of-the-art graphics and electronic wizardry, the sponsors will compete to sell their achievements in the areas of the fair's two official themes — transportation and communication.

Fairgoers will be visibly reminded of Expo's "World in Motion. . . World in Touch" slogan by the overhead gondolas and the \$10.5 million monorail system.

Many of the visitors will be whistled right up to the main entrance gate by Vancouver's spanking-new Automated Light Rapid Transit (ALRT) system or will take a four-minute, no-cost ride on the dedicated ALRT service linking the False Creek area with Canada Place, two kilometres (1.2 miles) away on the south shore of Burrard Inlet.



Expo Display Centre houses huge model of site



Beneath the sails that roof Canada Place

Two of the most unusual exhibits at the fair will be the Ramses II display and the archaeologically-linked Highway 86 sculpture.

Housed in a specially-built pavilion at the west end of the site, the Ramses II exhibit will consist of more than 80 objects, including the lid of the king's tomb and priceless gold necklaces. The pavilion will honor both the monarch — who reigned from 1290 to 1233 B.C. — and the ancient Egyptians who invented both ink and paper and whose chariots and sailing craft set the style for the civilized world.

Highway 86, on the other hand, is intended to provide the illusion of what

contemporary transportation might look like in some future archaeological dig.

Rising out of the waters of False Creek, it will be a 217-metre (712-foot) long four-lane highway complete with guardrails and lamp standards. Covering the sculpture will be 200 actual vehicles ranging from rickshaws to submarines to skateboards.

Says Richard Blagborne, Expo's vice-president of planning and development: "This is a work that views technology with ambivalence and a sense of humour. I think it will be one of the most highly photographed and controversial projects at the fair."

Scattered throughout the site will be the corporation's three "theme dream" plazas — one each for land, sea and air transportation.

- The land plaza will feature a whimsical, international traffic jam, complete with honking horns, braying animals and multi-lingual arguments.
- The air plaza will consist of a framework of steel towers rising 40 metres (131 feet) over the site, inside of which balloons, parachutes, space capsules and light aircraft will be suspended.
- The marine plaza will use fully-rigged, 40-metre steel masts to evoke memories of life under sail.

Thrusting out into the water will be the three-building pavilion of host province British Columbia. One of the buildings will house VIP quarters, another a 500-seat theatre, and the third will offer 1 416 square metres (50 000 square feet) of glass-enclosed exhibit space.

The B.C. Pavilion is one of only three permanent buildings on site, along with The Expo Centre (see separate story) and the restored CPR Roundhouse which will house a theme pavilion called the Retrospective of Motion.

Sponsored by Imperial Oil/Esso, the Roundhouse is destined to become a community centre after the fair. To help finance the restoration and foster a sense of community involvement, B.C. residents are being offered the chance to purchase individual bricks for the proj-

Expo 86 Vital Statistics

PARTICIPANTS

International

Australia
Canada
Colombia
Czechoslovakia
Federal Republic of Germany
France
Great Britain
Indonesia
Iraq
Italy
Ivory Coast
Japan
Kenya
Kuwait
Mexico
Organization of Eastern Caribbean States (Antigua and Barbados, Dominica,

Grenada, Montserrat, St. Kitts/Nevis, St. Lucia, St. Vincent and the Grenadines)
Pakistan
People's Republic of China
Peru
Republic of Korea
Saudi Arabia
Senegal
Spain
Switzerland
Thailand
Union of Soviet Socialist Republics
United Nations
United States of America
Yugoslavia

Provinces

Alberta
British Columbia
Manitoba
Northwest Territories
Ontario
Quebec
Saskatchewan
Yukon

States

Oregon
Washington

Corporations

Air Canada
Canadian National
CP Air
Crossroads Christian Communications Inc.

Canadian Pacific Ltd.
Dairyland
General Motors
Imperial Oil Ltd./Esso
Pacific Western Airlines
Rothmans
Royal Bank of Canada
Scott Paper Ltd.
Telecom Canada
VIA Rail
Wine Industry of B.C.





WHAT WILL IT COST?

All admission costs will rise in four stages between now and May 2, 1986. Prices shown below are for adult admissions at the low and high end of the scale, with prices for children 6-12 years and senior citizens shown in parentheses. Children under six will be admitted free.

Season tickets	\$99 (\$49.50) to \$160 (\$80)
Royal Bank 3-Day Ticket	\$29.95 (\$14.95) to \$45 (\$22.50)
1-Day ticket (all ages six and over)	\$22

ect at \$19.86 (that number again), each to be engraved with the name of its sponsor.

Corporate participants (see box) are a key element both on-site and in Expo's marketing strategy.

Air Canada and Canadian Pacific Air are each sponsoring a gondola system and Air Canada is sponsoring a separate pavilion, while CPA will be given a place of prominence in the CP Limited pavilion. In addition, CPA is joining Expo in a co-operative advertising campaign in Japan.

Pacific Western Airlines, Expo's third "official" air carrier, is backing a cross-Canada student exchange program and a contest for the best student essays on transportation and communication.

CN, in addition to sponsoring the 3-D IMAX theatre at Canada Place, will have an on-site pavilion exploring the laws of motion and its logo-painted rolling stock provides Expo 86 with billboards on wheels across Canada.

General Motors, which will supply the fair's official vehicles, has begun work on its pavilion located on an artificial island at the west end of the site. When completed, it will offer a 150-seat theatre and a major display area covering 2 000 square metres (21 500 square feet).

Telecom Canada's pavilion will feature the film *Portraits of Canada* to be shown in its Walt Disney Circle-Vision 360 theatre and Rothmans will be represented on site by its classic car collection.

WHAT DOES EXPO ADMISSION INCLUDE?

Entrance to more than 80 pavilions, all displays including Ramses II and His Times, specialized demonstrations and most on-site entertainment. Unlimited use of the monorail, cable skyways and intra-site ferries as well as transportation by ALRT between the False Creek site and Canada Place.

Not included in the admission price are amusement rides, tickets to the World Festival and other "name" entertainment concerts.

For further information, write or call:

Expo Info

P.O. Box 1800, Station A
Vancouver, British Columbia
V6C 3A2
Tel: (604) 660-3976

— R.E.J.

Crossroads Christian Communications Inc. will present three visual and music productions in its Pavilion of Promise and also will broadcast its popular television show, *100 Huntley Street*, live from the Expo site.

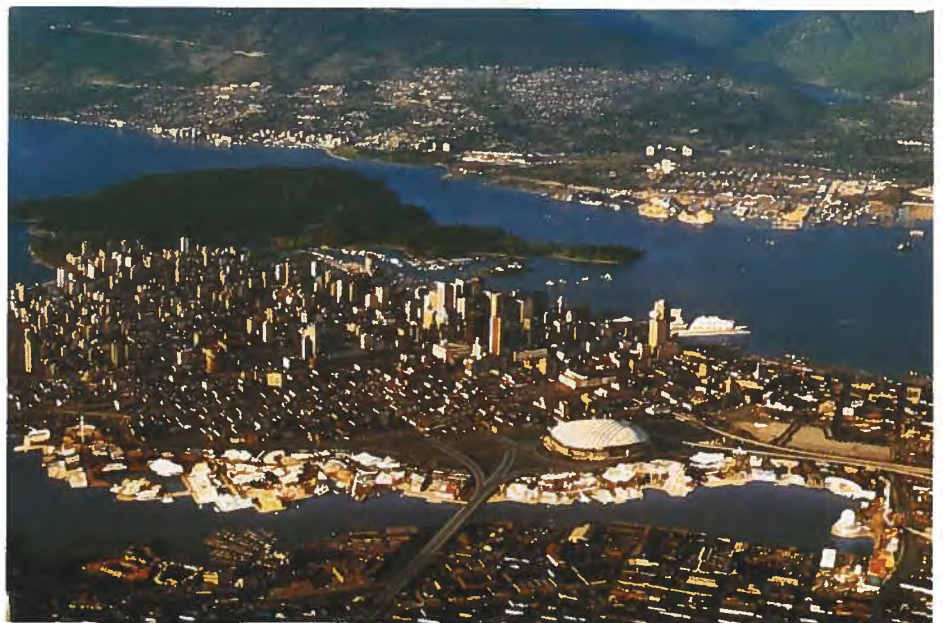
Expo's official bank, the Royal, will sponsor the World Festival of Performing Arts and provide banking services on site. Its branches are also the sole source for three-day Expo "passports" from now until the opening of the fair.

Home-grown corporations are also getting involved, with Dairylands Ltd. sponsoring Expo's elementary school promotion program and the Wine

Industry of B.C. (official supplier to the fair) vinting a special Expo 86 wine which will be available on-site.

Business visitors to the more than 80 conferences and conventions already booked for Vancouver in the summer of 1986 (including the World Conference on Transportation Research, American Automobile Association, I.B.M. General Systems Division and the American Railway Engineering Association) are being targeted for special attention.

To lure them to the fair grounds, Expo will be sponsoring 15 specialized, "theme-within-a-theme" periods lasting



Expo 86 curls around False Creek shoreline

about one week each. These will cover such topics as transportation for the elderly and disabled, underground and offshore resources and urban transit.

The list of Expo's attractions goes on and on. Individual pavilions will sponsor special days, concerts and parades. There will be a visit by Tall Ships during their race from Hawaii to San Francisco via Vancouver and Portland, Oregon. And, in conjunction with the nearby Abbotsford International Air Show there will be 60 vintage DC-3 aircraft in an "Airmada" fly-past ("the largest armada of DC-3s," notes Expo's Brad Philly, "since the Battle of the Bulge").

Almost lost in all the Expo hoopla is the fair's *raison d'être*: Vancouver's centennial and the 100th anniversary of the arrival of the railway to the west

coast. To celebrate these, there will be a city-wide, year-round program of races, regattas, rodeos and showcase events.

The product is in place — or getting into place — and Expo officials are now concentrating attention on marketing it in Canada, the U.S. and abroad.

During the past winter, Expo dipped into its \$40 million marketing budget to begin advertising its wares to travel agents and tour packagers in Japan, Europe and North America and the first 5 000 tickets were snapped up by Grey Coach bus tours.

With the opening of The Expo Centre this month (see separate story) Expo marketers launched an advertising blitz aimed at attracting Vancouver and B.C. residents into the centre for a preview of the fair itself.

"The local market," Expo's Philly stresses, "is very important because they, in turn, spread the good word as volunteer boosters." He notes that surveys in B.C. show 95 per cent of respondents are aware of Expo 86 and 90 per cent give it a high approval rating.

Late this summer (so as not to disrupt B.C.'s normal tourist patterns) an intensified campaign will be launched across Canada, in the states of Washington, California and Oregon and overseas in Britain, Japan, Hong Kong, Australia, Germany and France.

With the media blitz and a lot of plain, hard work, officials believe the growth in interest in the fair will be (forgive the pun) Exponential. ☐

— by Ron Johnson
Canada Commerce

The Expo Centre — A Glittering Gem on Vancouver's Skyline

One thing is for certain. Nobody is going to overlook the latest addition to Vancouver's skyline, The Expo Centre.

A 17-storey, stainless steel geodesic dome perched on stilts at the east end of False Creek, the Centre's mirror-like skin reflects the daylight like facets of a gem. By night, lights set within its external skeleton turn it into a glittering, twinkling ball floating above the waters of the inlet.

When it opened its doors to the public on May 2, it marked the start of the one-year count-down to the opening of Expo 86 whose wonders it overlooks.

To the public, its three exhibits are a fascinating preview of the fair, of its twin themes of transportation and communications and of the artistry and electronic wizardry that will be on view at the 1986 exposition.

To Expo officials, it's a unique marketing tool, one they hope will make enthusiastic salespersons of all its visitors and one they can proudly show off to visiting journalists, travel industry representatives, diplomats and business guests.

"One reason why we opened this year early," says Expo 86 president Michael Bartlett, "is that bricks and mortar are more concrete than words."

For their \$4.50 admission ticket (\$2.25 for kids and seniors), visitors have access to three major exhibits in the Centre's 7 685 square metres (82 725 square feet) of exhibit space.

The heart of the sphere is a 500-seat Omnimax theatre, the only one of its type in Canada and the largest in the world. Directly below is the 323-seat Futures Theatre and, on a third level, is the walk-through, hands-on Design 2000 exhibit.

From sharply-raked seats in close proximity to the 27-metre (88.5-foot) wide Omnimax screen, viewers will see a dazzling, 18-minute film, *A Freedom to Move*. Nine months in the making, it will be a collage of transportation history ranging from a slave girl walking the Appian Way in ancient Rome to the U.S. space shuttle gliding through inky space.

"Viewers," says Expo creative director Ron Woodall, "will discover what it's like to race across a lake in a high-speed boat or roar into a tunnel at the front of a speeding train."

In the interactive Futures Theatre, viewers will be given a direct chance to shape the world of tomorrow. After watching a 15-screen, 12-speaker audio-visual presentation, they will be given a series of future options and asked to vote on their choice of a possibility by means of electronic buttons in the armrests of the chair.

The vote will be computed electronically and a second audio-visual show will dramatize the choice of the majority.

Design 2000 will offer visitors a glimpse into tomorrow with displays of high-tech holography and space gear, a strap-on jet plane and "alternative technology" creations such as human-powered aircraft and a three-wheeled cycle that will hit 80 kilometres an hour on the highway.

For visitors who want to sit and ponder all they have seen, the Centre offers a restaurant and lounge whose glass walls offer a stunning view of False Creek, the city of Vancouver and the Expo site.

"The Expo Centre," predicts Expo president Michael Bartlett, "will be one of our best-selling attractions."

And, perhaps, the fair's best salesperson. ☐

Canada at the Paris International Air Show

Planning for Canadian participation in PIAS '85 (the Paris International Air Show) started before the doors of the last show closed at Le Bourget Airport in 1983.

Reflecting the buoyancy of Canada's aerospace industry, close to 40 companies will be represented at a Canadian Pavilion jointly organized and funded by the industry and the Department of External Affairs (DEA).

Building on the experience of 10 consecutive national appearances, a

Non-aerospace manufacturing companies demonstrating their wares and providing services free of charge include Mitel (telephone systems), Ferranti-Packard (automatic sign board) and Air Canada (reservations).

Continuing the successful "Trade Centre" concept of previous years, the Canadian Pavilion places emphasis on the individual company's presence. Each company has an attractive and distinctive area in which to meet and discuss business with trade visitors.

and technology attracted more than 650 000 visitors, including executives and senior government officials from all over the world — the people who make the purchasing decisions.

Companies can choose the style of participation. The economical "Non-exhibiting Participant" can simply display his literature; the "Institutional Participant" can incorporate his product in a composite display; and the "Exhibiting Participant" has a conventional display area of a size to suit his needs. All participants have full use of the common facilities together with full membership in the Canadian Hospitality Chalet.

A Home-from-Home

A home-away-from-home for the Canadians, the Chalet is run by the Aerospace Industries Association of Canada and has earned the reputation of being one of the most elegant of the many national and corporate chalets at the PIAS.

Only a six-minute walk from the Canadian Pavilion, the Chalet provides exhibitors and guests with a peaceful alternative to the bustle of the pavilion in which to continue marketing efforts. A buffet lunch is served in a style equal to that of a first-class French restaurant. Alternatively, a stand-up sandwich bar is available for those seeking speedy sustenance.

Adjacent to the Chalet, a spacious sun-deck, equipped with umbrella tables and chairs, provides an ideal location for the hosts and guests to view the daily dramatic air display.

Integrated Operation

The Canadian Pavilion and Chalet is an integrated operation directed at exhibiting Canada's aerospace products to the best possible advantage. The complex has the equipment and staff to ensure that every market opportunity is efficiently exploited.

Participation in the Paris International Air Show is the major marketing venture of the Canadian aerospace industry which has annual sales of \$3 billion, approximately 80 per cent of which is exported to more than 50 countries and 90 airlines around the world. ☐

— by Bernard Shaw
Electronics & Aerospace Branch
Department of Regional Industrial
Expansion



Aerial photograph of the 1983 Paris Air Show at Le Bourget Airport

tightly-organized operation gives Canada's aerospace industry the best possible shop window in which to demonstrate its products every two years at the world's premier aerospace exposition.

Support Functions

Support functions for participants include secretarial, marketing, public relations, hospitality and travel services. Audio-visual equipment, telex, telephones, paging systems and even electricity generation to suit North American requirements are provided as well.

Meeting and hospitality facilities are available to suit all foreseen requirements on the marketing force.

The concept of individual exhibits supported by common administrative and hospitality complex reduces the cost of participation for all the Canadian companies at the PIAS.

Entry to Export Market

The national pavilion has enabled many companies to make their first major foray into export marketing in grand style at minimum cost. At the last show in 1983, over 1 000 international exhibitors of the latest in equipment systems

SPECIAL REPORT



**CANADIAN BUSINESS
and
THE BUDGET
With Preliminary Results
of the
NIELSEN TASK FORCE**

INTRODUCTION:

Late in May, the Government of Canada released two major blueprints that will have a profound effect on the business world in Canada — the first budget of the 33rd Parliament and *New Management Initiatives: Initial Results from the Task Force on Program Review* (Nielsen Report) which was tabled with the Budget. As a service to its readers, *Canada Commerce* presents this special insert which includes those sections of both papers having the greatest impact on Canadian business.

In a prelude to his budget, the Honourable Michael Wilson, Minister of Finance, pointed out that the budget was designed “to unleash the full entrepreneurial dynamism of individual Canadians”.

“Maintaining the jobs we have and creating the jobs we seek,” he said, “requires a strong and healthy business sector. In particular, we need to recognize that small and medium-sized businesses across the country are the most dynamic forces for growth and employment.”

The major section on business in the Nielsen Report “Services and Subsidies to Business” was the result of a series of studies undertaken by a government-private sector task force set up to review the 172 federal programs that had grown up over the years. Each was designed to assist business — but in the process many had become obsolete, overlapping or inefficient.

The Nielsen Task Force relied heavily on the findings of the various sectoral consultation processes set up over the past few months — for example, the Consultative Initiative on Small Business launched in February by the Minister of State for Small Business, the Honourable André Bissonnette. Other inputs came from the '85 National Economic Conference held March 22 to 23 in Ottawa and the meetings of federal-provincial economic ministers held in Regina and Quebec City, chaired by the Honourable Sinclair Stevens, Minister of Regional Industrial Expansion.

The budget for Business:

Encouraging Investment in Small and Medium-Sized Business

One of the major problems faced by entrepreneurs trying to start a new business is finding the money to launch the enterprise. The budget includes measures designed to make more money available to entrepreneurs and to encourage individual Canadians to invest in small and medium-sized Canadian businesses.

Capital Gains Exemption

The small business sector is the major source of new job creation in Canada. But these jobs will not be created without productive investment. To encourage individual Canadians to invest in new or growing enterprises, the budget proposes a personal lifetime exemption for capital gains of \$500 000. The lifetime exemption limit will be phased in over five years, beginning with a \$20 000 exemption in 1985.

Phase-in of Personal Capital Gains Exemption

1985	\$20 000
1986	\$50 000
1987	\$100 000
1988	\$200 000
1989	\$300 000
1990	\$500 000

The \$500 000 lifetime exemption also assures would-be entrepreneurs that if they put their ideas on the line and work to build up a business, they will be able to reap the rewards of their achievement when they sell their business. The exemption recognizes the major investment in personal resources, time and energy that goes into a small business. It also recognizes the special difficulty entrepreneurs may have in providing for their retirement while they are building up their business.

Small Business Capital Investment by Pension Funds

The budget proposes measures to encourage pension funds to invest in equity capital of small and medium-sized businesses. These are among the biggest and fastest growing pools of capital in the country.

Registered retirement savings plans (RRSPs) and registered retirement income funds (RRIFs) will be eligible to invest in private Canadian corporations with which they deal at arm's length.

Small business will benefit from new rules which will allow pension funds to set up special Small Business Investment Corporations (SBICs) to channel their investments into small businesses. These corporations will be exempt from income tax. Investments will also be facilitated through a new vehicle called the Small Business Investment Limited Partnership (SBILP).

This measure will help redirect significant amounts of money into small and medium-sized enterprises from the large pools of capital available in pension funds.

Pension Reform

Saving for retirement has long been a concern of entrepreneurs, self-employed individuals and small business operators and proprietors who cannot belong to an employer-sponsored pension plan, but depend largely on RRSPs to build their pensions.

Pension reforms announced in the budget will end the unequal treatment accorded to the self-employed and others who save solely through RRSPs. Entrepreneurs will have the same scope to build an adequate pension as those people who contribute to employer-sponsored plans. Limits on RRSP contributions will be raised from the current \$5 500 to \$15 500 by 1990.

Business fluctuations often make it difficult for small business owners to make regular contributions to an RRSP each year. Under the proposed changes RRSP contributors will be able to carry forward unused contributions room for seven years. These and other pension reforms will help make small business a realistic career alternative for many Canadians.

Discussion Paper on the Corporate Income Tax System

A discussion paper tabled with the budget entitled **The Corporate Income Tax System: A Direction for Change** aims at making the corporate income tax system fairer and more effective in supporting economic growth.

Among its proposals, the paper suggests a significant reduction in the basic federal tax rate for small businesses, from 15 to 11 per cent. This reduction would be balanced with reductions in tax incentives. A new approach of lower rates and fairer tax incentives would promote growth by allowing businesses and investors to plan on the basis of good business sense rather than the best tax advantage.

Labour-Sponsored Venture Capital Investment

An innovative venture capital initiative undertaken by organized labour in the province of Quebec has helped maintain existing jobs and create new ones by investing in small and medium-sized Quebec businesses. The Solidarity Fund is managed by the Quebec Federation of Labour. The Quebec government has provided a tax incentive to individuals investing in the fund.

The federal government will provide a new tax credit to individuals investing in the Quebec Solidarity Fund and similar funds patterned after the Quebec model established in other provinces. To be eligible, funds must be set up under provincial legislation, be managed by labour, and invest in small and medium-sized businesses.

Small Business Bond Program

The small business bond program enables businesses in financial trouble to obtain lower cost financing by allowing financial institutions a tax exemption on the interest from these loans. Under this program small businesses can currently finance up to \$500 000 at interest rates several percentage points below the market rate. This program is scheduled to expire at the end of this year.

To help small businesses in financial difficulty, the small business bond program will be extended for a further two years to the end of 1987.

Increased Refundable Tax Credit for Small Research and Development (R&D) Firms

Small firms doing R&D can make a vital contribution to Canada's economic growth, but they have a hard time attracting investment capital. To help these smaller companies, especially start-up firms, the government will make 100 per cent of the tax credit they now earn for R&D refundable directly to them. At present, only 40 per cent of the credit is refundable.

Changes to the definition of R&D for tax purposes will also benefit research-intensive enterprises.

Unemployment Insurance Reform

Rising payroll taxes are a major obstacle to the growth of job-creating small businesses. To lighten the load, the government will freeze unemployment insurance premium rates at their current levels for 1986.

At the same time, the government will undertake a review of the unemployment insurance program. This review will look at ways to make it simpler, fairer and more effective in helping individuals and the economy adjust to rapidly changing labour market conditions at a reasonable cost.

Small Business Exemption from Corporate Surtax

The 5-per-cent temporary corporate surtax announced in the budget to help reduce the deficit will not be applied to small businesses. This exemption recognizes the importance of giving small businesses full rein to grow and create jobs.

Making Life Easier for Small Business

Running a business is enough of a challenge without having to cope with unnecessary government intrusion. The government is committed to making life easier and fairer for small businesses wherever possible by reducing red tape and easing administrative headaches. A number of measures will be taken to make the tax system fairer and improve tax administration.

For example:

- extension of the "innocent until proven guilty" concept to cases involving sales and excise taxes under the **Excise Tax Act**;
- clear controls on Revenue Canada's powers of search and seizure;
- limits on the government's authority to make retroactive income tax regulations.

Labour Market Initiatives

The government has undertaken a fundamental reform of its policies for **training and direct employment**. The new approach is based on greater private sector and local participation. This approach has received support from provincial governments, the private sector and community groups across the country. This year, \$900 million is allocated to these programs. The budget announces that an additional \$900 million will be allocated to these programs in 1986-87.

The budget also announces the government's intention to sell **Crown corporations** with a commercial value but no ongoing public policy purpose. The government has announced an agreement in principle to sell the Northern Transportation Company Limited. The sale is expected to be completed by the end of June. In the near future, the government expects to sell Teleglobe Canada, Canadian Arsenal Limited and its interest in the Canada Development Corporation. Crown corporations with no commercial value and no effective public policy purpose will be dissolved: others, where appropriate, will be absorbed within existing departments. As a first step, up to 13 corporations in these categories have been identified.

The government intends to reduce the size of the public service by 15 000 in the next six years, beginning next year. Operating and capital costs will also be restrained.

- **Transportation** subsidies will be reduced and **VIA Rail's** operations will be rationalized.
- Industrial and agricultural subsidies and expenditures on nuclear power systems research will be reduced.
- The **heavy water plants in Cape Breton** will be closed. They cost the taxpayers of the country more than \$100 million per year to produce a product for which there is no demand. Workers at these plants will be provided with generous assistance in seeking alternative employment. New measures are also proposed to attract viable and productive industrial development to Cape Breton.

Changes will be made to the federal Pension Benefits Standards Act to:

- give more workers the opportunity to join pension plans and to participate in the management of pension funds;
- provide workers with rights to their pension benefits after two years of plan membership;
- protect workers who change jobs against the loss of pension benefits;
- provide equal pensions for women and men retiring under identical circumstances;
- provide survivor benefits for spouses; and,
- provide for the splitting of pensions between spouses upon marriage breakdown.

In addition, the system of **tax assistance for contributions to private pension plans** will be reformed. These measures will restore equity between individuals who save for retirement primarily through RRSPs and those who are members of pension plans.

Controlling the National Debt

These new measures will strengthen self-reliance and significantly improve opportunities to build decent retirement incomes for the growing number of Canadians in small business, farming and the professions.

The budget also announces the government's intention to broaden the definition of **disability** for income tax purposes. Some 120 000 individuals are expected to benefit from this change.

The budget announces the establishment of a Task Force to propose initiatives to encourage the private sector to increase its support of the arts.

It also announces other changes to assist Canadian visual **artists** and **charities**.

Improving Tax Fairness

The budget includes a number of actions that will ensure greater fairness in the tax system. These include:

- a **minimum income tax** imposed on high-income Canadians, effective for the 1986 taxation year;
- amendments which prevent taxpayers from avoiding tax by splitting income through the use of loans to spouses and children; and,
- **elimination of tax shelters** involving property such as yachts, recreational vehicles and hotels.

In addition, measures are proposed to achieve **fairer tax administration** in a way that is consistent with the Canadian Charter of Rights and Freedoms.

Expenditure Reductions

In addition to significant savings in government management and programs, the government has acted to address transfer payments, the largest category of expenditures.

The government has decided to limit the indexation of family allowances and old age security payments to annual increases in the consumer price index (CPI) which exceed 3 per cent. The **guaranteed income supplement** and **payments to veterans** will continue to be fully indexed to increases in the CPI. This decision ensures protection for Canadians should inflation ever return to the levels of the late 1970s and early 1980s.

To spread the burden fairly, adjustments will also be made in transfers to provinces in coming years.

Revenue Increases

The restructuring of the government's programs and activities is substantial. But it is not sufficient to make a meaningful start on restoring a healthy fiscal balance. The budget, therefore, introduces tax increases.

The income tax changes are the following:

- beginning in 1986, the annual indexation factor applied to personal exemptions and tax brackets will reflect only those increases in the consumer price index above 3 per cent;
- the \$50 federal personal tax reduction will be eliminated starting in 1986;
- a temporary deficit reduction surtax will be imposed on higher-income individuals and large corporations;
- a two-year tax will be imposed on the capital of large chartered banks and trust companies, effective in 1986; and,
- effective May 23, 1985, contributions to a registered home ownership savings plan (RHOSP) will no longer qualify for preferential tax treatment. Individuals with RHOSPs will be able to withdraw the accumulated funds for any purpose with no tax liability.

Other revenue-raising measures include:

- the removal of the federal sales tax exemption on certain products;
- a 1-per-cent increase in the federal sales tax beginning in 1986;
- a 25-cent increase in the excise levy on a large package of cigarettes;
- a 2-per-cent increase in the federal excise levy on alcoholic beverages; and,
- a 2-cent-per-litre increase in the excise tax on gasoline and other transportation fuels, effective September 3, 1985.

FOR FURTHER INFORMATION ON THE BUDGET:

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Services and Subsidies to Business

Decisions on Services and Subsidies to Business are based on a review of 172 federal programs, costing in aggregate some \$11.2 billion per year and requiring the services of about 34 000 federal public servants.

Both program beneficiaries and administrators were consulted in the course of the review. In its consultation with the business community, the Task Force noted a number of major concerns, including: the need for freedom from imposition on that scarcest of all resources, entrepreneurial time; access to capital; an equitable tax regime; and, particularly for small business, a supportive, easily accessible infrastructure of management services and commercial intelligence. Decisions made by the government reflect and respond to these concerns.

The Task Force diagnosed that government had been "giving with both hands", a reference to the overlapping industrial incentive system that has grown up through the years between the taxation side and the spending side of government programs. Probably because the two sides are subject to different controls, rules and procedures, the Task Force concluded that the left hand no longer knows what the right hand is doing, and that the resulting system has grown opaque to all but a few experts.

The action described below contains a number of measures, including:

- reducing the undesirable stacking of direct government assistance and tax incentives for industrial development and research investments;
- removal of sales tax exemptions that have outlived their original purpose;
- development of an integrated, government-wide approach to federal research and development investments;
- updating of business framework legislation;
- strengthening and consolidation of export marketing programs;
- rationalization and increased cost-recovery from a variety of infrastructure programs.

The review process being undertaken by the ministerial Task Force is intended to make services to the Canadian public simpler, more understandable and less confusing, while at the same time seeking to ensure efficiency in the use of public resources. Thus, where the examination of a program indicated that the objectives were still valid, that overlap with other programs was not a major issue, and that program delivery was relatively effective, the program will be maintained unchanged, subject of course to normal periodic evaluation.

Industrial Incentives

The central theme of the review on Services and Subsidies to Business is that a complex *ad hoc* system of grants, tax incentives, loan guarantees and other means of subsidizing business investment has grown up over the years. This system is not well co-ordinated; a particular investment project could receive federal support from more than one departmental program, from corporate tax incentives, and from provincial governments as well. These various forms of subsidy can be stacked one upon the other. The result can be situations where a private investor need pay as little as 10 cents for every dollar the project costs.

The "Stacking" Issue

The government is concerned about the stacking of incentives one on top of the other, and will be examining this issue and consulting with provinces and industry.

In this context the budget includes a provision to address one aspect of the issue.

Review Corporate Tax Incentives

The Task Force examined several major corporate tax incentives, including the investment tax credit, accelerated depreciation under the capital cost allowance system, and the special lower tax rates applicable to small businesses and manufacturing and processing profits. The main conclusion is that these tax incentives merit further review. In this context, the Minister of Finance has tabled with the budget a discussion paper which provides information on the impact of tax incentives provided by the corporate income tax system. The paper raises an alternative approach for discussion, one which involves fewer specific tax provisions combined with a general reduction in the corporate tax rate.

Industrial and Regional Development Aid

The **Industrial and Regional Development Program (IRDP)** promotes regional industrial development by supporting private sector initiatives. Particular emphasis is placed on projects with the greatest potential for economic return, sustained growth and international competitiveness. To ensure that support takes regional economic circumstances into consideration, different types and levels of support are available across the country.

Government support of industrial innovation, to encourage development of new products and processes, is a high priority. However, the overall support package will be reviewed with the objective of avoiding duplication in assistance provided through programs such as IRDP, the **Industrial Research Assistance Program**, and the incentives provided through the taxation system.

Clarify Aims of Defence Industry Productivity Program

Over the years the **Defence Industry Productivity Program (DIPP)** has been increasingly viewed as a general economic development program even though its formal objective was aid to defence-related export industries. Other programs, such as the **Industrial and Regional Development Program (IRDP)** are specifically intended for general purpose industry devel-

opment. To reduce overlap, future DIPP funding will be re-directed to its original purpose. The government will also consider using firm-by-firm corporate memoranda of understanding detailing federal, private (and provincial) financial contributions to particular projects to be assisted through DIPP.

Rationalize Assistance to Shipbuilding Industry

Production subsidies under the **Shipbuilding Industry Assistance Program (SIAP)** are currently being phased out. However, a second component of SIAP, the **Productivity Improvement Grant** provides a subsidy of up to 50 per cent for investment in shipbuilding plant and equipment. Credits already banked will support productivity improvements for another seven years, at current rates of investment. In addition to SIAP, the shipbuilding industry benefits from a tariff (of up to 25 per cent), premiums from government procurement policy, and accelerated depreciation for purchasers of Canadian built ships, as well as provincial assistance. Given this wide range of assistance and the generous level of subsidy under the **Productivity Improvement Grant**, when compared to normal grants to other industries, credits for work commenced or contracts signed after June 30, 1985, will be terminated. The shipbuilding industry, of course, will still have recourse to other grant programs such as the **Industrial and Regional Development Program**.

Simplify Machinery Duty Remission Program

Canadian manufacturers of machinery receive protection by means of a tariff on imports. To minimize costs to users of machinery, this tariff is remitted where no Canadian production capability exists. Present practice tends to place an unnecessary drag on both the private and public sectors. Day-to-day administration of the remission program will be moved to Revenue Canada (Customs and Excise) (which is responsible for the collection of tariffs). The Department of Regional Industrial Expansion will provide advice on Canadian production capacity. Procedures will be developed to reduce paperburden and delays.

Sales Tax Exemptions

The number of manufactured goods which have been exempted from federal sales tax or which have enjoyed reduced rates of tax has increased. This, in turn, has led to an erosion of the tax base and the need to impose higher tax rates on those remaining goods which are taxable. These exemptions have also created a complex network of boundary problems and inequities. Exemptions of individual goods have led to pressures to make similar goods, or goods of like class, also exempt from tax. Exemptions have also tended, in the absence of sunset provisions, to outlive the purpose for which they were initially granted.

Based on the Task Force review, two such tax exemptions are included in the broader set of sales tax changes proposed in the budget. These are to remove the special exemptions for beauty and health aids and to require that the tax on goods competing with on-site construction be computed by reference to the sale price, as opposed to the cost of materials only.

Small Business

Small business contributes substantially to Canadian economic well-being and there is considerable potential for an even greater contribution in terms of employment and regional development. To this end, the government has engaged in a round of consultations with the small business community intended to resolve small business issues. The comments received are being used to guide ministers in the development of an effective small business policy.

The budget sets a favorable and stable economic climate in which small business can prosper. It also includes a number of specific initiatives to encourage and assist small business investment. The government has already acted to extend and improve the effectiveness of the *Small Business Loans Act*, under which the government underwrites the provision of loans to small business by private financial institutions, and the budget addresses the question of the **Small Business Development Bonds**, due to expire at the end of 1985.

The process of program review is ongoing and the government is continuing to examine other programs of assistance to small business. Observations on these programs, made by the Task Force, will be of assistance to ministers in the continuing review.

Terminate Credit Reinsurance Program

This program, established in 1979, offers reinsurance of private sector credit insurance companies which in turn insure loans made to commercial businesses. Developments in financial markets since the program was conceived, notably the entry of Schedule B Banks and the shortening of loan terms as a result of high interest rates, eliminated the need for the program. As no use has been made of it, the program is being terminated.

Merge Source Development Fund and Unsolicited Proposals

The **Source Development Fund (SDF)** aims to encourage the development of Canadian sources of supply for government procurement by providing assistance to potential suppliers for product development.

The **Unsolicited Proposals Program** has a parallel objective. As an adjunct to the government's contracting-out policy it encourages the private sector to submit proposals for scientific and technological work for products or studies which fall within the mandate of government departments or agencies. The program has been an effective means of bringing private sector expertise to bear on government tasks and productivity and provides direct benefits to both parties.

On the other hand, it appears that many of the projects funded under SDF could have been developed through normal private sector recognition of commercial opportunities. On occasion they could have been supported by more general economic development programs such as the **Industrial and Regional Development Program (IRDP)** or the **Industrial Research Assistance Program (IRAP)**. However, one important aspect of SDF is assistance to business, particularly to small business, to demonstrate new technology in an operational setting. This is a critical step in market penetration.

Consequently, the **Source Development Fund** is being allowed to lapse, but the SDF feature of assisting with demonstration in government use of innovative projects for small Canadian business will be consolidated with the **Unsolicited Proposals Program**.

Trade and Market Development

Canada is an important trading nation, and trade is important to Canadians — more than one-quarter of Canada's production of goods and services is traded internationally. The world's trading environment is likely to change greatly in the next decade, with increasing challenges to the sale of Canadian products. There will also be increased opportunities. Much depends on improving the competitiveness of Canadian industry to overcome the obstacles and to take advantage of the opportunities. At the same time it will be necessary to ensure that government trade development activities continue to be relevant and effective. To this end, the government is undertaking wide-ranging consultations seeking the views and comments of Canadians on how best to secure and enhance their access to export markets and on effective export financing support for Canadian business. It is essential that all sectors of society, governments both federal and provincial, and management and labour, make a common effort to promote Canadian exports.

The Task Force made a number of pertinent observations and suggestions in this area, particularly about overlap and duplication between federal programs and between federal and provincial activities. As a result, the government is proposing changes, designed to reduce duplication and improve the effectiveness of some existing trade development activities.

International Trade Development Activities

Next to the managements of private sector firms, the Department of External Affairs has the main responsibility for fostering the expansion of Canada's international trade and commerce. It assists Canadian exporters both domestically and through trade representatives at Canadian posts abroad. Other federal departments, such as the Department of Agriculture and the Department of Fisheries and Oceans, also maintain representatives abroad to market and promote the products of specific sectors of the economy. As well, most provinces have some international representation.

Ministers will be developing proposals, taking into account the views expressed in the current consultation exercise, to strengthen and co-ordinate the various programs and make them more effective in today's trading environment.

Programs for Export Development and Promotional Projects

There is considerable overlap between these programs. The **Program for Export Market Development (PEMD)** aims to assist the development of Canadian exports by sharing financial risks with businesses which wish to enter new export markets.

Under the **Promotional Projects Program (PPP)**, funding and planning is provided for exhibits at trade fairs, missions and visits by foreign buyers and government delegations. Consolidation of PEMD and PPP is expected to produce economies on overhead, lead to increased cost recovery and result in an allocation of public funds most likely to produce high returns in export sales.

Industrial Co-operation and Technical Assistance

Many Canadian companies are bewildered even with exporting to developed countries. In Third World countries exporting is more complex and confusing. The Canadian International Development Program Agency (CIDA) operates the **Industrial Co-operation Program** to encourage the Canadian private sector to participate in the industrial development of developing countries and, at the same time, to develop markets for Canadian exports of goods and services. The government has decided to institute an increased measure of cost recovery from successful private sector firms using the program. There is some overlap between the **Industrial Co-operation Program** and the **Cost Recoverable Technical Assistance Program** operated by the Department of External Affairs. The two programs will be amalgamated to achieve greater efficiency. Steps will also be taken to reduce overlap with other export development activities.

Business Opportunities Sourcing System

This system, known as **BOSS**, enables buyers in Canada or abroad to identify potential Canadian suppliers. It also helps suppliers to identify users of products and to expand supply opportunities. The review found that it could be more efficient and more accessible to potential users, thereby enhancing its potential for increasing sales of Canadian products. Therefore, on-line computer facilities for delivering **BOSS** information will be extended to selected Canadian trade-related posts in the United States. This will be done on a trial basis. Also, the information base of **BOSS** will be upgraded by more systematically inviting Canadian suppliers to list their products on the system.

Recover Costs of External Affairs Defence Program

This program seeks to expand markets for Canadian defence products and related high technology through direct negotiation with foreign governments for market access, and with foreign military and defence industry personnel for cooperative projects. Government-to-government negotiations are a necessary part of doing business in this highly competitive market sector. As part of a general move to allocate costs to those benefiting commercially from government services, measures will be developed to recover, where feasible, the costs of providing this service.

Competing for Communications Technology Markets

The objective is to improve the competitiveness of Canadian technology companies when bidding on international projects through contributions of up to 50 per cent of non-recurring costs in developing or modifying products for the international market. The tax system offers incentives for this kind of product development and several other programs overlap with this program. These include the **Industrial and Regional Development Program**, the **Defence Industry Productivity Program**, the Program for **Export Market Development**, and the **Technology Development for Communications Markets Program**. Action will be taken to eliminate undesirable duplication in these programs.

Aid for Collaboration on New Technology Abroad

Both the Department of External Affairs and the Department of Communications assist Canadian scientists and engineers to keep up with emerging technologies through contacts with experts in other countries. The programs are the **Catalytic Seed Fund** and the **International Collaboration Fund for Research on New Information Technology**. Again, measures will be taken to cut duplication.

Extend "Think Canadian" Program

The **Think Canadian** Program is currently scheduled to terminate in fiscal 1985-86. The rationale for this program, namely to raise consumer awareness and encourage the purchase of Canadian-made products, remains valid. The program will be extended to 1986-1987. Careful examination of the resource requirements, however, has shown that the objectives of the program can be achieved with fewer financial and personnel resources than originally estimated.

Privatize the National Design Council

The National Design Council aims to promote good design in the products of Canadian industry. However, the message regarding the importance of design is best brought to the attention of Canadian business through marketing of products in a competitive environment. If industry considers there should be a Canadian design body to reinforce this message, it should be willing to fund it. The government will invite the professional design bodies, together with industry associations, to establish a privately managed and funded organization to foster good design. Government financial involvement will be restricted to partial funding of privately sponsored design awards.

Integrate Import Review Bodies

There are similarities in the mandates of several import review bodies and much of the expertise needed to carry out their functions can be shared. The government is therefore proposing to integrate the **Canadian Import Tribunal**, the **Tariff Board** and the **Textile and Clothing Board**. The "court of easy access" facility of the present Tariff Board will be preserved. Ministers will be developing a detailed proposal to implement this decision-in-principle.

Tourism

Tourism is an industry of great importance to Canada. The government intends to develop a comprehensive strategy for the development of the Canadian tourism industry; to this end it has embarked on a round of consultations with the provinces and the private sector. The major questions and issues have been set out in the consultation paper *Tourism Tomorrow* issued by the Minister of State (Tourism).

Federal support for tourism is provided through Tourism Canada. This support takes the form of marketing campaigns promoting Canada as a tourist destination and stimulating the development of tourism "products". There is considerable overlap between the federal and provincial governments, and to some extent, with the private sector in marketing and promotion. It is important that Canada's tourism assets be marketed effectively. As part of developing a comprehensive tourism strategy, Tourism Canada will be experimenting with alternative mechanisms for international marketing, including increased contracting out to the private sector.

The federal government has signed, under the **Economic and Regional Development Agreements** with the provinces, a number of tourism subsidiary agreements; they provide federal assistance in the provision of tourism facilities. As a rule the provision of facilities should be driven by private sector investment rather than federal government decision. In all future tourism sub-agreements the government will seek to leave to the private sector and the provinces the funding of facilities, except where justified on grounds of regional disparity. This matter will be discussed with the provinces during the detailed negotiations of individual tourism sub-agreements.

Infrastructure and Public Goods

Infrastructure and public goods are often taken for granted. They become visible only when they are tinkered with, disappear, or disrupt the normal functioning of our daily lives. They include among many other things: dredging to keep our channels and harbours open, subsidies to help defray the costs of ferry services, rules to keep the marketplace and cross-border transfer of goods running smoothly and equitably, and collection of data required for business and government decisions.

In looking at these programs, the Task Force identified a number of measures which could be taken to improve efficiency, simplify demands on business, and make these services more responsive to Canadian needs.

Update and Streamline Business Framework Legislation

The Department of Consumer and Corporate Affairs is relatively small when measured by expenditures but has a pervasive effect on the lives of Canadians and the functioning of business in Canada. Administration of business framework legislation and regulations can either help or disrupt the marketplace. This legal framework is, however, becoming increasingly out of date. Canada operates with a *Patent Act* of 1935, a *Bankruptcy Act* only slightly amended since 1949, and a 1924 *Copyright Act* which could not, and did not, anticipate photocopiers, cassette tape decks, video recorders, and personal computers.

The government will bring forward legislative proposals of both a substantive and housekeeping nature which will include bankruptcy, patents, copyright, the *Canada Business Corporations Act*, the *Trade Mark Act* and the *Industrial Design Act*.

Draft Legislation for Patent Examinations

The patent Office of the Department of Consumer and Corporate Affairs is responsible for all aspects of the *Patent Act*. There is considerable international duplication in the examination of patents. This has led to a world-wide trend toward patent unions.

In Canada, about 80 per cent of applications have an American counterpart. The remaining 20 per cent are largely applications previously accepted in other jurisdictions, with fewer than 500 patents per year filed solely in Canada. Duplication and costs would, therefore, be substantially reduced if Canada were to accede to the **Patent Co-operation Treaty** and accept foreign examination results.

The government will propose legislative amendments required for Canada to accede to the treaty. Following amendment of the *Patent Act*, the government will terminate departmental patent examinations and will contract with international searching authorities for examinations of patents first filed in Canada. Patent information dissemination will be strengthened through expanded use of the established networks of the National Research Council's Canada Institute for Scientific and Technical Information (CISTI).

Increase Cost Recovery from Spectrum Management

The electromagnetic spectrum used for telecommunications is a finite resource which requires prudent management to ensure its proper allocation and use. Its use has considerable commercial value. The costs involved in managing it should be recovered from the licensed users, including provincial Crown corporations, which derive considerable revenue from the allocated frequencies. The technology and expertise developed within the federal government for controlling the electromagnetic environment in Canada has significant export market potential. Ministers will be exploring opportunities for profitable provision of spectrum management systems to other countries.

Improve Efficiency of Surveys and Mapping Program

This Energy, Mines and Resources program has as its objective to ensure availability of geodetic, topographic and selected geographic information used for such purposes as urban development, transport, defence, and public safety. The program maintains a national network of survey markers and produces a variety of maps, charts, and airphotos.

The proposed relocation of map production to Sherbrooke, Quebec has been given careful consideration. These plans, if implemented, would result in duplications of costly equipment and difficulty of access for clients. The move is estimated to cost \$82 million (1983 dollars) over the eight years it would take to complete. The government has, therefore, decided to defer relocation plans for the immediate future.

As a further efficiency measure, prices currently charged for survey and mapping products will be revised to cover at least the full variable costs of production. The role and public utility of this survey program will be the subject of further review by another Task Force study team.

Review Revenue Canada (Customs and Excise)

Revenue Canada (Customs and Excise) is responsible for raising revenue (\$17.5 billion in 1984-85) and for controlling cross-border movements of goods.

Concerns the business community has expressed about the complexity of the customs and excise legislation and the red tape it requires need to be addressed by simplifying demands on individual firms and by streamlining the operations of the department.

The Minister of National Revenue will be bringing forward proposals for a new *Customs Act*. He will also initiate a review of the operations of Revenue Canada (Customs and Excise) to reduce the administrative burden.

Increase Consultation on Statistics Canada Programs

Statistics Canada provides a broad range of statistical information to business, labour, researchers, and international organizations, with about 45 per cent of recorded enquiries coming from the business community. The program also, however, imposes on respondents an administrative burden which should be reduced and simplified.

The government will therefore establish a National Statistics Council representing a variety of interests and users, particularly representatives of respondents from small business. This Council will advise the Chief Statistician in setting priorities and rationalizing Statistics Canada programs. A further examination of the public utility of Statistics Canada information will be carried out by the study team on Major Surveys.

Surveys Division of Labour Canada

Labour Canada is currently responsible for the **Wages and Working Conditions Survey (WWCS)**, an annual survey of wage rates, standard hours of work, and working conditions. This is the only national source of wage rate statistics by occupation, industry, and location. Data are used by private industry, labour unions, and various levels of government for evaluation and decision-making purposes. There is still some question whether the survey would be more cost-effective if it were consolidated within Statistics Canada programs. A decision on a potential transfer of this survey to Statistics Canada will be taken following completion of a feasibility study currently under way.

Streamline CN Marine Coastal and Ferry Services

CN Marine provides Atlantic coastal and ferry services for which the federal government is responsible. Subsidies to CN Marine for operating its Atlantic ferry services range from 50 to 90 per cent of the costs to operate individual routes.

Studies have identified measures which could be taken to provide services more cost-effectively. However, consultation with the provinces is required given the traditional importance of these services in Atlantic Canada. The Minister of Transport will continue to pursue the economy and efficiency measures recently initiated within CN Marine and will introduce more effective capital expenditure planning and cost control mechanisms.

Rationalize Dredging and Small Craft Harbour Services

The federal government provides dredging services for channels and harbours in all regions of Canada. Operations are handled by Public Works Canada which contracts out to the private sector or uses its own dredging fleet.

The Department of Fisheries and Oceans provides and manages regional harbour systems to accommodate commercial fishing fleets and assists in the provision and management of recreational harbours. Docking charges tend to be nominal and a consistent revenue policy is not being universally applied across the country.

The government will rationalize these services and make them more cost-effective. These changes will include classifying small craft harbours, with a defined base of dredging and other services for each class; increased contracting out of harbour construction work; and development of proposals to increase cost-recovery from users wherever feasible, particularly with respect to normal commercial traffic and recreational use. In addition, a substantial portion of Public Works dredging activity will be contracted out and the federal dredge fleet reduced accordingly.

Privatize Federal Dry Docks

Public Works maintains and operates Crown-owned dry docks in Lauzon, Quebec; Selkirk, Manitoba; and Esquimalt, British Columbia. The federal dry docks program has over the years become progressively less cost-effective. With the decline in the Canadian shipbuilding industry, these dry dock facilities have become only marginally competitive, and this despite the fact that fees for the use of these facilities have not increased.

As part of a number of privatization measures, the federal government will, therefore, offer the Lauzon, Selkirk, and Esquimalt facilities for sale to their principal users or other prospective buyers.

Economic and Regional Development Agreements

The Task Force noted that the **Economic and Regional Development Agreements (ERDAs)** with the provinces, and the sub-agreements that flow from them, are among the most powerful and flexible instruments available for the co-ordinated planning and delivery of programs where the two senior levels of government share interest and responsibility. However, the individual sub-agreements do not always reach this full potential. Federal ministers will take the opportunity in ERDA discussions with their provincial counterparts to review existing sub-agreements, to ensure that the objectives remain valid and that ERDA spending is co-ordinated with other program expenditures.

Research and Development

Canadian research and development performance is one of the key factors which will determine whether we can remain internationally competitive. Seizing opportunities arising from world-wide technological advances will promote economic growth and enhance the standard of living of Canadians.

The federal government will continue to be a major promoter, supporter, and performer of research and development (R&D). There is a significant tax incentive system to stimulate industrial R&D. These incentives are supplemented by a large number of grants and subsidies programs designed to accelerate the diffusion of new technology. Federal research laboratories across the country also contribute significantly to Canada's R&D effort.

The federal government will develop in consultation with the provinces and industry an integrated, government-wide approach to R&D. It will take a rational and focused R&D investment strategy for the present maze of programs to be streamlined. These initiatives will result in better accountability and balance between tax incentives and grants, and the rationalization of non-tax programs to make them more efficient, accessible, and responsive to the needs of the client.

Rationalize Support for Research and Development

In addition to a number of specific changes outlined below, the government intends to develop broad-ranging options to rationalize support for industrial R&D. Provinces and other interested parties will be consulted on these options.

It is desirable, as much as possible, to combine the best aspects of tax incentives and granting programs, particularly the automatic self-assessment characteristics of tax provisions and the feature of granting programs, that provides funds to eligible projects whether or not the firm is in a taxpaying position. Initiatives in the budget reinforce the government's commitment to this important element of the economy.

Finally, the government will introduce changes to improve the effectiveness and client-responsiveness of its grant, research, and technology-transfer programs.

Strengthen Assistance to Industrial Research Assistance Program

The National Research Council (NRC) operates programs to enhance the research and development capabilities of Canadian industry and access to current technology. The **Industrial Research Assistance Program (IRAP)** provides contributions, technical information and field advisory services through a network of specialists from NRC, provincial, and private sector organizations which are located in various centres across Canada. The **Program for Industry/Laboratory Projects (PILP)** is designed to promote the application in industry of scientific and engineering knowledge which originates in federal laboratories.

A consolidated technology-transfer program will include the smaller innovation cases of DRIE's **Industrial and Regional Development Program (IRDP)**. Industry will also be given a stronger voice in the general management decisions relating to industrial research and development assistance programs.

Refocus Canadian Patents and Development Limited

Transfer of publicly-owned technology to the private sector is encouraged by **Canadian Patents and Development Limited**. In future, the corporation will seek to maximize its revenues from licensing intellectual property owned by the federal government and by other public institutions which contract in, while giving the Canadian private sector first right of refusal at competitive licensing rates. More aggressive marketing of patented technology paid for by taxpayers should substantially increase returns to the federal government and to those provinces and universities wishing to participate.

Scientific and Technical Information

The National Research Council's **Canada Institute for Scientific and Technical Information** maintains a national collection of printed and machine-readable data from a wide variety of Canadian and foreign sources. Data and information services are provided free or at minimal cost to researchers, universities, private firms, and various levels of government.

This valuable resource will need to be utilized to the full if Canada is to keep up with international developments and to narrow the gap between the development of a technology and its application in Canadian industry. To this end, measures will be taken to increase revenues and include hitherto inadequately exploited patent information into existing data bases.

Rationalize Technology Centres

The general objective of these programs is to support the establishment of self-sufficient centres to demonstrate and disseminate information concerning commercially relevant technology in specific areas to private industry and other interested parties. Since 1967 the number of specialized technology centres has mushroomed. There are at present over 300 centres receiving some measure of direct federal support.

In addition to expenses incurred, the excessive number of technology centres has resulted in duplication of effort and fragmentation of expertise. It has also complicated access on the part of firms to new technology. The federal government therefore intends to invite provinces and users to join in developing a plan for consolidating and rationalizing existing centres.

Cost Recovery From Certain NRC Facilities

The **National Research Council (NRC)** manages 48 engineering and scientific facilities across Canada. These facilities are used by industry and governments to test machines, systems and structures, particularly in the transportation area, as well as in support of fundamental research in physics, astrophysics, and space science. NRC also sets physical standards and provides measurement and calibration services related to those standards.

Present levels of activity could be maintained at reduced cost by increasing calibration and measurement fees to cover all appropriately allocated variable costs and contribute to capital and overhead costs. These changes should ensure rationalized use of facilities and services and could also establish a basis for privatization of some services.

Cost Recovery at the David Florida Laboratory

This Department of Communications laboratory, located near Ottawa, operates extensive facilities for the assembly and testing of spacecraft and spacecraft components as well as high technology products destined for the export market. This highly competitive sector has access to a variety of other federal assistance programs. Fee schedules will, therefore, be revised so as to achieve full cost recovery as soon as possible, while allowing for current contractual commitments.

Industrial Innovation and Development Research

National Research Council (NRC) laboratories are involved in the performance of R&D, the management of contracts aimed at the development of industrial products and processes, technology transfer to industry, and the provision of scientific and technical information and advice to Canadian industry. This program, which has made significant contributions to industrial development in the past, will be strengthened and refocused as a key component in the development of a rationalized, government-wide approach to R&D. Specifically, laboratory and contractual support will be made more client-responsive through the increased involvement of industry in general management decisions of NRC's Industrial Development Office.

Refocus NRC Building and Construction Research

The NRC's Division on Building Research carries out research on problems which are peculiar to Canada or which have not received adequate attention elsewhere. It also provides technical and administrative support for the development of national testing methods, codes, and standards, such as the National Building and Fire Codes.

A strong case can be made for continued active involvement of federal institutions like NRC in building and construction research, given the fragmented nature of the industry and the long-term focus of much of the required research. Overall federal efforts, including those of the NRC are, however, hampered by the diffusion of programs across a broad range of federal organizations and by the lack of reliable data. Industry is also insufficiently involved in setting priorities, funding, and management of research in this area.

The government will therefore be developing proposals to clarify departmental and agency roles and priorities, to provide more reliable data, and to ensure greater non-federal involvement in the research and regional advisory services of NRC's Division of Building Research. This will be done in consultation with the provinces and other interested parties.

Basic Research

All NRC laboratories participate in the program on **National Competence in Natural Sciences and Engineering** to a varying degree. It fosters discovery of new scientific and technological knowledge and the ability to respond to requirements for scientific expertise, engineering know-how, and in-depth analysis of problems. The specific concerns of industry often point to major gaps in fundamental knowledge which will have to be dealt with if long-term practical solutions are to be found.

The National Research Council, the Natural Sciences and Engineering Research Council and other federal granting agencies will be asked to concentrate available resources more effectively on a smaller number of exceptionally able researchers, wherever they work.

Research on Problems of Economic and Social Importance

Some other research performed by various NRC laboratories is aimed at solving economic and social problems involving health, energy, transportation, environmental quality, food and forestry. NRC carries out a range of projects for which it has the expertise but which also intersect the policy responsibilities of other federal organizations, such as Health and Welfare Canada or Transport Canada.

Specific steps will be taken to rationalize and co-ordinate this program with the policies and priorities of lead departments. Measures will include the use of long-term Memoranda of Understanding and the assignment of responsibility for research definition and funding in this area to ministers and departments with overall policy responsibilities.

Redirect the Science Council of Canada

The Science Council of Canada was established in 1966-1967 to assess Canada's scientific and technological requirements, to increase public awareness of these requirements, and to advise the government on science and technology. As a science "think tank", the Council has demonstrated an ability to stimulate useful discussion of key issues by governments, universities, private industry, and to some extent, the general public. Some of its activities have, however, had little discernible impact on government policy or private sector investment.

The Council's role is, therefore, being redirected to focus it more sharply, and with significantly fewer resources, on enquiries related to the federal government's management and investment responsibilities in science and technology.



Government
of Canada

Regional Industrial
Expansion

Gouvernement
du Canada

Expansion industrielle
régionale

Canada



Man in space — Canada's contributions have been important

The Canadian Aerospace Industry — Selective Specialization —

Ranking fifth in western world aerospace sales — after the United States, France, Britain and the Federal Republic of Germany — the Canadian aerospace industry is a key contributor to the country's technological growth, employment and exports.

Organization

A three-tier structure of the industry has the four major companies at the top. Canadair in Montreal and de Havilland in Toronto are the major aircraft manufacturers; both are owned by the federal government. U.S.-owned Pratt and Whitney Canada in Montreal is a world leader in small jet engines. Spar Aerospace, headquartered in Toronto and Canadian-owned, leads the national space program. A fifth, Bell Helicopter Canada, a subsidiary of the US Textron Inc., is currently building a facility at Mirabel, near Montreal.

These companies have an integrated capability to design, develop, manufacture and market complete aircraft, engines or spacecraft. CAE Electronics falls in a special category as a world leader in the design and manufacture of aircraft flight simulators.

The second tier companies, approximately 30 in number, have expertise in fully-engineered proprietary products and sub-systems in repair and maintenance and in major component manufacture on a sub-contract basis.

The small business element on third tier consists of more than 100 companies which undertake specialized precision machining and processing operations for larger companies in Canada and around the world.

Evolution

With the impetus of two world wars, the Canadian industry achieved some remarkable successes.

- The Avroliner flew in August 1949, only one week after the British de Havilland Comet, the world's first jet-powered commercial passenger aircraft.
- Canadair built 1 815 Sabre fighters, designed the Tutor jet trainer and pioneered VTOL (Vertical Take Off and Landing) technology with the tilt-wing CL-84.
- De Havilland designed and built the Caribou and Buffalo military transports.
- Bristol Aerospace designed the Black Brant rockets.
- Canada was third in space with the Alouette satellite.
- Avro designed and built 692 CF-100 Canuck all-weather interceptors and designed the CF-105 Arrow interceptor. Orenda engines powered both fighters.

With the cancellation of the Avro Arrow fighter aircraft project in 1959, the industry experienced a radical change. The U.S. space program was

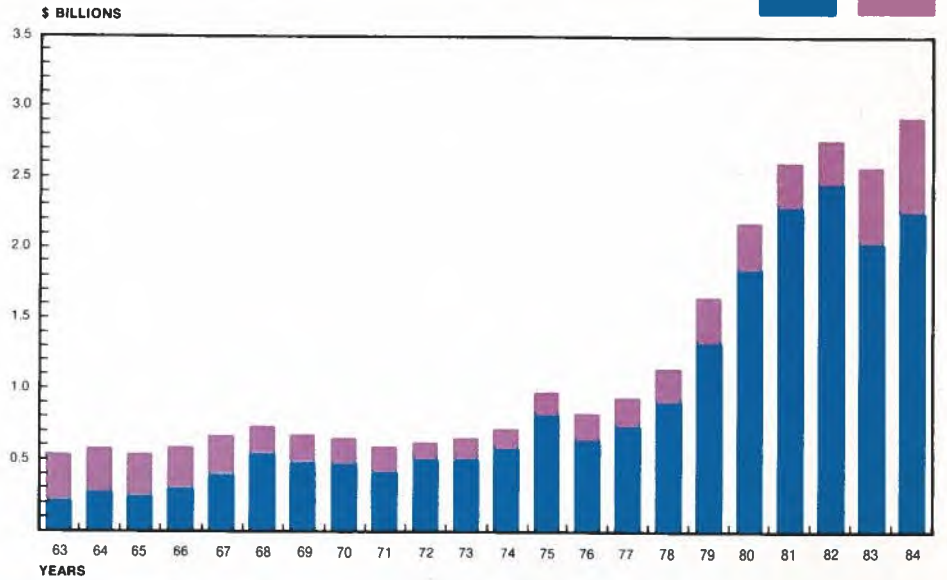
Market Development

just getting under way and it absorbed many Canadian engineers. The survivors set about rebuilding the aerospace industry.

Avro disappeared; Canadair moved through a series of diversification projects into surveillance systems and executive jets; de Havilland concentrated on commuter aircraft; and Pratt and Whitney developed its highly-successful small gas turbine engine. The rest of the aerospace industry dug in its heels, concentrating on supporting the primes, obtaining sub-contract work from the U.S. and establishing unique component and accessory product lines with a world mandate.

Recognizing the importance of the aerospace industry to Canada's defence industry base and technological growth, the government of the day instituted the

EXPORT AND DOMESTIC SALES



PW-100 aircraft engine under construction



Airborne surveillance system in flight

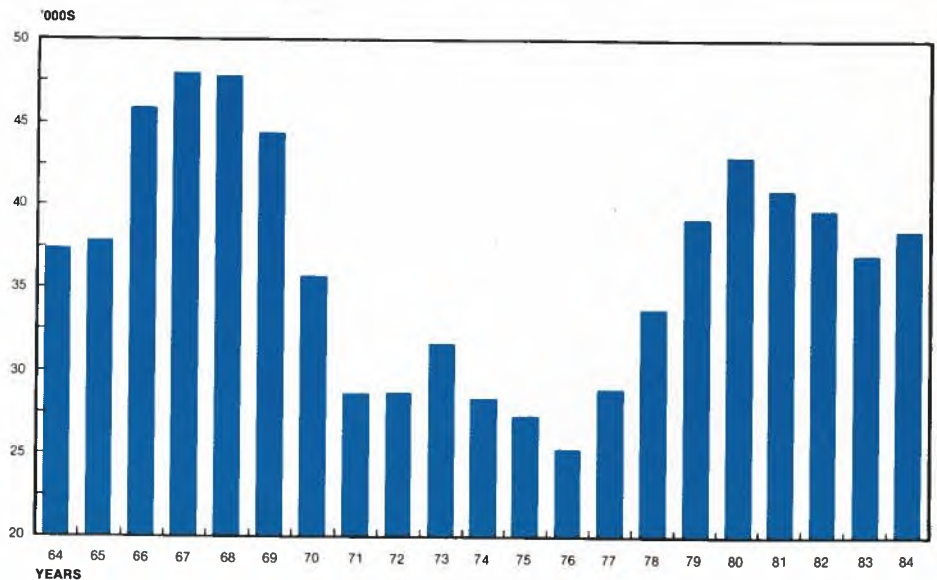
Defence Industry Productivity (DIP) Program. The cost of developing a product for the defence export market and purchasing new machinery was shared through the DIP Program with the company. The result is mutually-supportive, efficient companies which work closely with federal government departments.

Competition

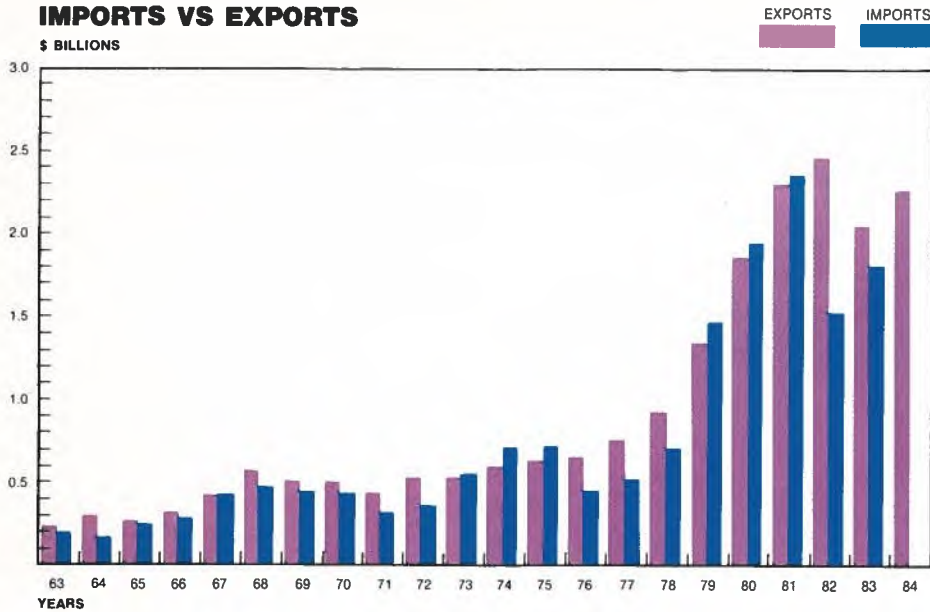
The diverse civil market in Canada, while impressive in total, cannot support any one product line. Canada, therefore, has to compete on the world market, often in the face of nationally-owned industries, political preferences and soft financing terms.

The need to compete on a global scale restricts the number of things that Canada can do.

DIRECT EMPLOYMENT



IMPORTS VS EXPORTS



A mix of astute market forecasts, established competence and opportunism has placed Canada in the forefront of world aerospace trade in areas of specialization.

Included are commuter and executive aircraft, fire fighting aircraft, airborne surveillance systems, jet engines, research and military rockets, flight simulators, navigation instruments, exotic castings, gears and transmissions, anti-submarine warfare systems, helicopter haul-down systems, hydraulic components, spacecraft and subsystems, environmental systems, parachutes, jet engine blades, aircraft interiors and modification, kit aircraft, precision manufacture and the repair and overhaul of aircraft and engines.

Space activities are playing an increasingly significant role in the activities of the sector. Milestones have been the active role of Spar's Canadarm in the NASA Space Shuttle program, astronaut Marc Garneau's flight into space and the sale of a communications satellite to Brazil.

Although the Canadian aerospace manufacturing sector covers a wide range of products, the principle of selected specialization and a degree of government direction avoids problems of domestic duplication.

Canada is the western world's second-largest user of commercial helicopters. Recognition of this fact recently attracted two of the world's largest helicopter manufacturers, Bell Helicopter and Messerschmitt Bolkow Blohm, to Canada. This will lead to a new area of national specialization in helicopter design and manufacture.

The aerospace industry has developed in and near to the major population centres. Quebec and Ontario share 91 per cent of the sector jobs with 7 per cent in Manitoba and approximately 1 per cent in each of British Columbia and Nova Scotia.

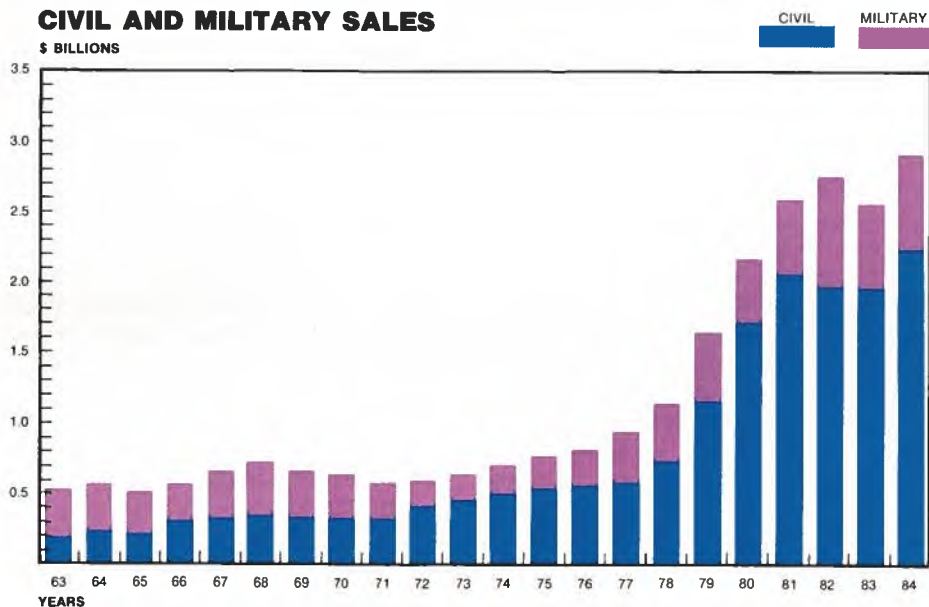
In support of the industry the National Research Council operates wind tunnels and other research and test facilities for engines and aircraft at its laboratories near Ottawa.

The Aerospace Industries Association of Canada (AIAC) provides an important co-ordination role between industry and government. The AIAC also organizes national representation at such major events as the Paris, Farnborough and Singapore Air Shows and expects to participate in EXPO '86.



Canadian flight simulators are used by many of the world's airlines

CIVIL AND MILITARY SALES

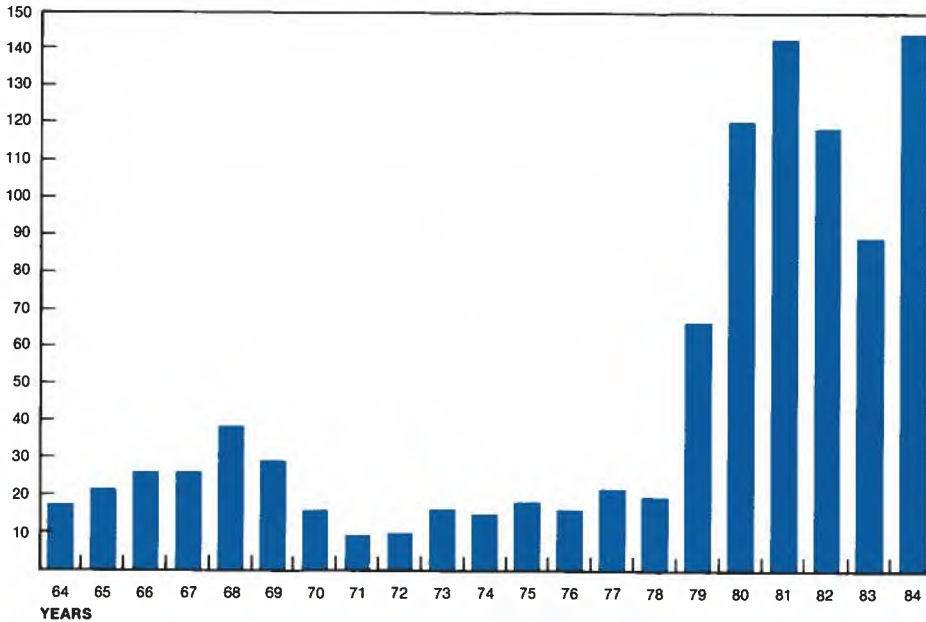




Canadian-designed and manufactured helicopter haul-down system in use at sea

NEW CAPITAL EXPENDITURES

\$ MILLIONS



Until the 1970s, the Canadian aerospace industry was largely inwardly directed. Companies were, in general, either pre-occupied specifically with satisfying the domestic defence requirements or with selling and servicing the products of foreign parents. Now, however, the sector is outwardly directed. It has become predominantly concerned with the export of a variety of unique civil products which it designs, develops, manufactures and markets.

Performance

Over the past 20 years, sales have increased from approximately \$0.5 billion to \$3 billion (current dollars). Average employment, however, has remained fairly constant at approximately 40 000, reflecting improvements in productivity dictated by the industry's move into the highly competitive international market place.

During the same period the mix of sales has changed from 60 per cent domestic to 77 per cent export. Similarly, the military and civil sales have changed from 66 per cent military to 7 per cent civil.

Capital expenditures have followed the marketing fortunes of the sector, dropping to a low of \$10 million in 1972, the nadir of a turn-down in sales during the early 1970s. In 1984 capital expenditures totalled almost \$150 million, demonstrating both the need to invest in new technology and the confidence of the industry in its future.

Aviation has solved many of Canada's transportation problems stemming from long distances between major population centres, a hostile climate and difficult geography. Aircraft made a major contribution to the development of Canada and remain vital to the nation's transportation system.

While Canada is a major customer of the world's aircraft manufacturers, its aerospace exports more than offset its imports.

Canada is a major customer for many of the world's aircraft manufacturers. Annual aircraft imports run close to \$2 billion per year. It is to the credit of the manufacturing industry that exports of relatively small aircraft, sub-systems and manufactured goods more than offset the import of large commercial aircraft such as the Boeing 747 and 767.

The western world market is dominated by the U.S. industry which commands about two-thirds of sales totalling approximately \$100 billion per year. Of that \$100 billion, approximately 50 per cent is captive because of domestic, military, political and economic considerations.

While Canada's \$3 billion is only 3 per cent of total world sales, it is 6 per cent of available sales. These results are achieved on the open market with the best product for the job in the face of aggressive competition.

Selective specialization works. ☑

Additional information on Canada's aerospace industry can be obtained from the Department of Regional Industrial Expansion in Ottawa and its regional offices in other major cities across Canada or from the Canadian Trade Commissioners stationed throughout the world.

— by Bernard Shaw and John Barker
**Electronics & Aerospace Branch
 Department of Regional Industrial Expansion**

Market Development — Phase II Import Profiles

Whether you are a manufacturer looking for a new product line to make use of excess manufacturing capacity, an entrepreneur searching for a market niche or an industrial developer, *Import Profiles* may provide some of the answers.

Import Profiles is the second phase of the Market Opportunity Development component of the *Think Canadian Program* launched in mid-1984 by the Department of Regional Industrial Expansion (DRIE). It is designed to enhance the business community's awareness of the large potential that exists in the Canadian marketplace for domestic production.

The first phase of this component was the *Canadian Market Opportunities Catalogue*. This general information directory included more than 4 000 products or product groups covering approximately 86 per cent of all imports into Canada in 1983.

Although the catalogue included quantitative values, growth trends and the major foreign country of export, it was beyond the scope of the publication to provide in-depth information and analysis.

It was this lack of specifics and the requirements of industry that prompted DRIE's Market Development Branch to undertake the preparation of *Import Profiles*.

The *Import Profiles* provide data and information in an organized form suitable for decision makers to start their own in-depth market research and commercial feasibility analysis.

In some cases, the specific profile will reinforce or aid decisions already in progress. In others, the profiles will assist companies in finding compatible lines of products which can be manufactured using excess plant capacity, and open up an entirely new avenue of study for entrepreneurs looking for market opportunities in manufacturing.

But in the final analysis, profiles can only be considered as one of the information steps which must be undertaken in the decision process that may lead to decisions to invest, expand pro-



duction, diversify marketing efforts or enter new markets.

Over the years, there have been a number of programs developed by both federal and provincial governments designed to make Canadians aware of the vast potential of import replacement as a major source of employment and entrepreneurial opportunity. This has included the original *Shop Canadian* as well as the current *Think Canadian* programs.

It has also been the aegis of the highly successful "Reverse Trade Shows" sponsored by the federal and provincial governments and supported by industry and their associations. In the "Reverse Trade Show", companies break down their products to show the foreign components they purchase, indicating current source of supply, approximate cost and quantities required. These shows have had a great deal of success in finding new suppliers from Canadian sources.

In many ways, *Import Profiles* provide similar opportunities on a national scale, giving potential suppliers a wide

range of information on which to base their commercial studies and business decisions.

By undertaking a detailed examination of documents covering imports of the specified product dealt within the individual profile, the investigators from DRIE's Market Development Branch are able to provide specifics not obtainable through the *Market Opportunities Catalogue*. These specifics include a more detailed breakdown of the particular product into categories such as sizes, numbers imported, types of importers, countries of origin and listings of the major exporting countries, as well as total value by product breakdown and aggregate.

The region of entry is also provided to assist potential producers assess their total shipping costs, and the necessity of setting up warehousing off-plant.

While, as noted above, the *Canadian Market Opportunities Catalogue* included over 4 000 products or product groups covering approximately 86 per cent of all imports into Canada, the objectives of the *Import Profiles* is to provide greater in-depth information on those products having better than average potential for domestic market expansion and import replacement.

It is expected that these profiles will encourage:

- a further awareness in Canada of specific opportunities within the \$75-\$80 billion current annual import market for manufactured products;
- Canadian businesses to conduct their own in-depth market research and commercial analyses based on the *Import Profiles*;
- existing manufacturers in Canada to expand their domestic and export markets;
- Canadian entrepreneurs and small businesses to develop new or improved products;
- new business investment from foreign or domestic sources or combinations of both;
- licensing of technology for development in Canada;

An objective of the program is to provide in-depth information on products with domestic market potential.

- industrial developers and governments to promote private sector action in productive expansion and investment; and
- economic analysis of industrial development prospects by governments and business associations.

In the development of this program, the Market Development Branch conducted a series of surveys and interviews with business associations, manufacturers, DRIE sector branch and regional officers and other government departments.

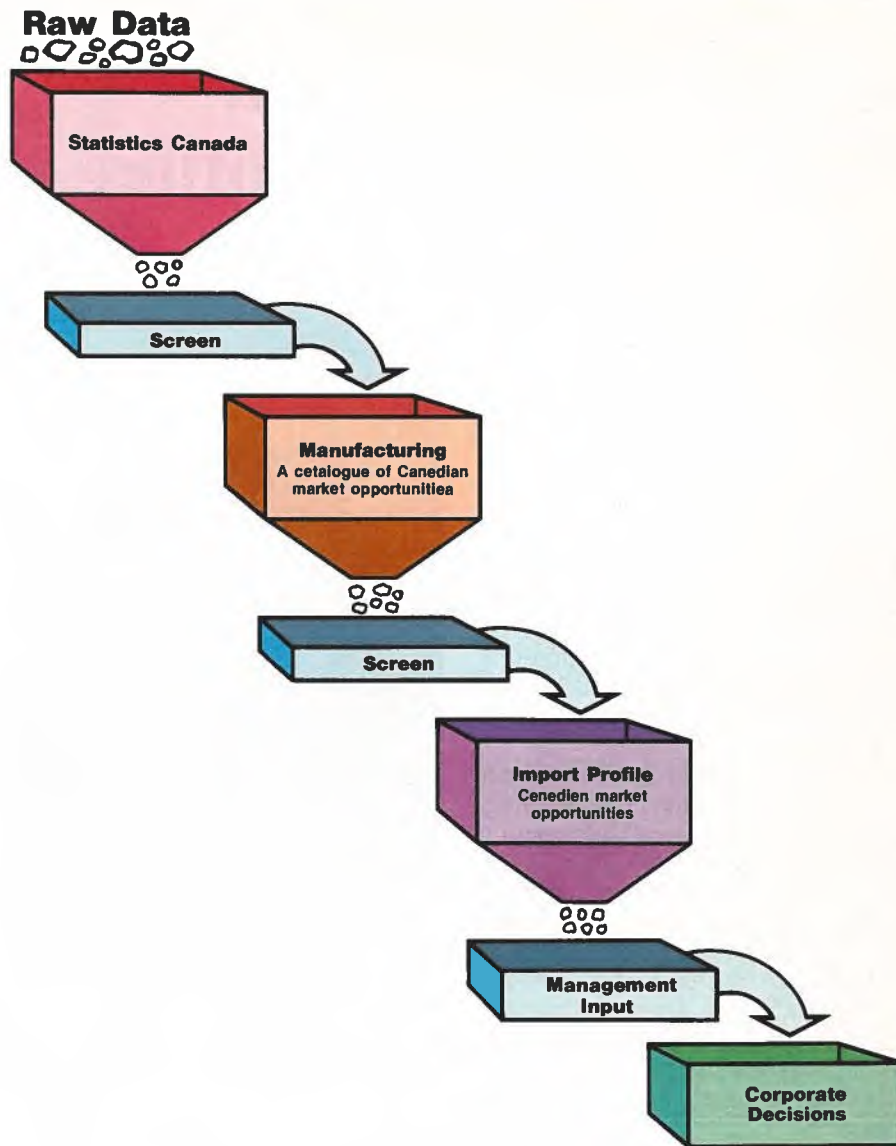
Its objectives were: first to determine the information not contained in the *Market Opportunities Catalogue*; second to ascertain the scope of information required; and finally to establish a list of suitable product categories which could or should be examined in the *Import Profiles* series.

These initial surveys identified the need for more information not generally available to the public; outlined of the type of information that would be useful and subsequently incorporated in the profile; and a provided shopping list of some several hundred product categories which could be considered.

This shopping list was then broken down to slightly over 50 categories, from which the first 10 for openers were selected and published.

These are:

- Skis, downhill
- Motors, Electric, DC 1/3 HP and under
- Motors, Electric, DC over 1/3 HP to 1 HP
- Motors, Electric, AC, over 1 to 20 HP
- Mirrors, for Motor Vehicles
- Metal Parts for Looseleaf Binders
- Soft Drink Concentrates and Syrups
- Disc Drives, Magnetic, Computer



- Disc Files, Computer
- Generator Sets, Gas Engine, AC, 5 kW and under

It is expected that as reactions to the program are assessed and more information is gathered, greater selectiv-

ity of sectors will be attained and new areas open up.

Subsequent titles of profiles will be published in "Business Briefs" in *Canada Commerce* as they become available over the next year.

To obtain your copy of a specific profile contact Publications Distribution Centre Department of Regional Industrial Expansion
 1st Floor
 235 Queen Street
 Ottawa, Ontario
 K1A 0H5
 Tel: (613) 995-5771

For further information on *Import Profiles* contact the nearest DRIE regional office or: Market Information and Analysis Division Market Development Branch Department of Regional Industrial Expansion
 235 Queen Street
 Ottawa, Ontario
 K1A 0H5

— by Bob McDonell
Canada Commerce

Industry Associations Lend Support to "Import Profiles"

The "Import Profiles" concept has been enthusiastically endorsed by the Canadian Manufacturers Association (CMA).

"It provides information that is difficult to obtain through other channels," Douglas M. Montgomery, vice-president of government relations, told *Canada Commerce*. He said the program would be pushed through the association's newsletter and at CMA meetings as part of its support for the "Think Canadian" campaign.

"It was," Mr. Montgomery said, "an excellent example of how business and government should co-operate in promoting increased Canadian manufacture of both original and replacement components for the domestic and foreign markets."

"In today's rapidly changing marketplace," he continued, "all manufacturers must keep an open mind and thoughtful eye on new product potential and on new markets. Too often, firms that fail to do so are caught up by the increasingly competitive forces in their traditional product lines. As a result, they must either cut back or be forced out of business.

"Programs such as 'Import Profiles' help these firms explore new product possibilities to maintain the productive capacity of their plant."

According to Doug Wilson, president of the Automotive Industries Association of Canada, many of his association's member firms manufacture products outside their automotive lines, and could benefit by the "Import Profiles" program.


For this reason, the association is supportive of the program and will continue to publicize it among its members.

However, he notes that those member companies involved in the automotive lines may not find "Import Profiles" as valuable as other phases of the "Think Canadian" program.

While he feels it would be of some use to the 1 000 plus distributors and manufacturers his trade association represents, changes in the automotive industry for both the original and the \$5.5 billion dollar aftermarket are such that the "Profiles" may apply more in other manufacturing sectors.

Today, the automotive parts manufacturers are involved in the design and testing of new products as well as manufacturing and with "just-in-time" ordering are in close contact with the major automotive manufacturers.

To gain access to markets, they must use existing industry channels. In addition, there are the "reverse trade shows", such as the Ontario Contact Opportunities Shows, where industry and government exhibit thousands of products, parts and components which they currently import but would like to source domestically.

The Canadian Chamber of Commerce is also an enthusiastic supporter of the "Profiles" program and intends to back it through its member Chambers of Commerce and Boards of Trade from coast to coast in Canada. 

— R.J. McD.



Canada Takes a Leading Position in Precision Cutting Tool Manufacture

In 1963, Alfonso (Al) Minicozzi cashed in all his savings, installed a lathe in his Montreal garage and formed a one-man company, International Machine Works Ltd. This company, now named International Cutting Tools Inc., has grown to 200 employees and in November 1984 expanded the Montreal facility with a new, \$6.5 million high-precision cutting tool manufacturing plant at Rock Island, Quebec.

International concentrated on the manufacture of cutting tools — drills, end mills, hobs and broaches.

As heat treatment is a vital aspect of cutting tool manufacture and since the company was experiencing problems with sub-contractors, International established National Tool Hardening Ltd. so that tools could be heat-treated under the Minicozzis' own control to their own exacting standards.

in the big league. Aggressive and competent competition was well established on its home ground, the U.S., which the Minicozzis saw as the major market.

Quality was vital for success so federal government support under the Defence Industry Productivity (DIP) Program was sought to acquire modern, numerically-controlled machines and test equipment. The new equipment kept costs down and assured control of quality but the Minicozzis sought that elusive quality which would clearly demonstrate International's cutting tools to be better than those of the competition.

The thought had been in Al Minicozzi's mind for many years that the geometry of an end mill could be improved; it had been virtually unchanged for 50 years. Practical experimentation with a generous measure of inspiration backed by experience resulted in a new end mill design — the Minicut.

Exhaustive tests and refinement under the guidance of International's vice-president, engineering, B. S. Krishnamurthy, established the merits of the Minicut.

- Now patented in most industrialized nations, the Minicut reduces inherent deficiencies in conventional milling cutters.

- The special configuration of the cutting teeth facilitates waste removal by producing non-continuous chips which are automatically ejected from the work area.

To ensure the quality vital for success, the company sought DIP support to acquire modern, numerically-controlled equipment.



Alfonso Minicozzi (left), president and founder of International Cutting Tools Inc., and his brother Augusto, executive vice-president and marketing director, check some of the company's high-precision cutting tools destined for use by the world's leading aerospace firms

Al Minicozzi stood at that lathe for two years, 16 hours a day, usually for seven days each week. In his spare time he handled sales, accounts, deliveries and collections. By 1968 employment had grown to 25 and the founder was able to relax on the occasional weekend. The company had acquired additional machinery and was establishing a specialty in turning and grinding operations.

The year 1969 saw reinforcements arrive in the shape of Al's younger brother Augusto (Gus) who had acquired a joint Majors in Commerce and Business Administration from Sir George Williams University, strengthened by 18 months' marketing experience with Procter and Gamble Inc. Recognizing a need for specialization,

Hard hit by the industrial slump in the mid-1970s, the company was forced into a radical departure from the traditional method of selling to customers through a distributor. Sample end mills were sent direct to major users and the Minicozzi brothers went knocking on doors.

Christmas 1976 was a dark time with virtually no work in the plant and consideration was given to closing their own doors. Perseverance paid off, however, in January with a life-saving \$1 million order from The Boeing Company, the largest aircraft manufacturer in the United States.

Having made a dramatic entry into the exotic, tight-tolerance aerospace machining world, the Minicozzis knew they had to expand in order to survive


Manufacture of the Minicut has begun in the firm's European operation and is expected to make an impact on that market in the near future.

Gus Minicozzi emphasizes that International's expansion would have been impossible without the help of the DIP Program.

"Offsets" related to major government procurements have not been of any real help to International. Gus Minicozzi has found that the offset philosophy does not filter down to the individual buyer of cutting tools. "There is no alternative to having a better product and keeping a foot in the door," he notes.

Ownership of the new Rock Island Division is split between the parent company and the employees who own 40 per cent through a unique shareholders' agreement. This team approach establishes confidence in International's forecast of doubling annual sales and employment by 1988 to \$20 million and 400 machinists, engineers and support staff.

A launching pad for International's entry into Europe has just been established with the acquisition of a cutting tool manufacturing company in Paris where, although International has majority control, the workers also have an equity interest. Manufacture of the Minicut has commenced and will soon make an impact on the European market.

Asia is next. 

For additional information contact Al or Gus Minicozzi, International Cutting Tools Inc., 10833 Place Moisan, Montreal, Quebec H1G 4N6. Telephone: (514) 324-3720; Telex: 05-828658

— by **Bernard Shaw**
Electronics & Aerospace Branch
Department of Regional Industrial
Expansion



High-precision cutting tool from International Cutting Tools Inc.

- Irregular spacing of the cutting edges reduces cyclical vibrations during the cutting operation compared with the uniformly-spaced teeth of conventional end mills.
- Surface finishes are improved with reduced machining time and lower tool costs.
- In working with numerically-controlled machines, the Minicut has demonstrated a requirement for lower power loading than other tools under identical conditions.

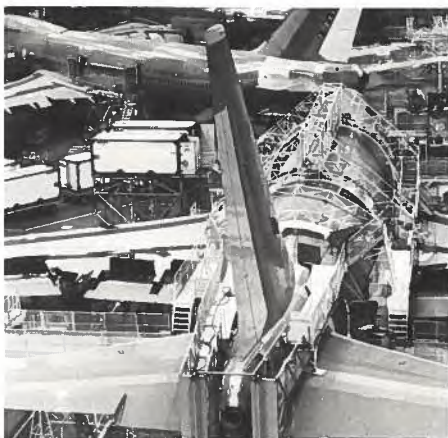
It all adds up to a superior cutting tool.

Canadian Machinery and Metalworking magazine undertook a survey of International's major clients, obtaining glowing endorsements from The Boeing Company in Seattle, Wichita and Portland; Menasco in Oakville, Ontario; McDonnell Douglas in Toronto; ROHR Industries and Lockheed Corp. in California; Canadair in Montreal; and Northrop Corp. of California which buys 96 per cent of its end mills from International.

Other satisfied clients of International include Rockwell International in California and Ohio; Grumman Aircraft in Long Island; and Gulfstream in Savannah, Georgia.

Always generous to give credit to others, Al Minicozzi pays tribute to the staff of International. "We think of them as being part of our team rather than our employees," he says. "Our business rests on their skills and conscientiousness."

Credit is also given for International's success to buyers who had confidence in the company's product and to U.D.T. Industries' president, André Lebrun "for his support and collaboration in testing our Minicut end mill during the development stages".



Interest and Money, Capital and Growth: An Historical Perspective

The nature of interest rates has been a source of mystery and controversy for thousands of years. In this article, the first of three, the subject is studied in the context of people's changing perceptions of economic activities in the course of history.

A few years ago, in the hectic summer of 1981 when the cost of borrowing rose like a roller coaster to dizzying heights, small groups of protestors would, from time to time, pound the pavement on Ottawa's Sparks Street Mall near the central bank. One frustrated citizen carried a poster demanding: "Abolish Interest Rates". The other side added insult to injury: "Bankers Are Crooks".

This may be an odd start for a piece in a business magazine, but hold on. All through recorded history, people in different parts of the world have been mystified by the nature of interest rates and at times aroused, with or without justification, by perceived practices of "money lenders". This is still true today, although now usually — not always — at a higher level of sophistication.

Back to the man on the Mall. If he had been a classics professor, familiar with ancient history, he might have quoted Aristotle and written "Money is Barren" on his placard.

Aristotle believed that an artifice like money, in contrast to natural products like cattle or seed corn, could neither satisfy human needs directly nor produce more of its own kind in the hands of a borrower. Accordingly, the lender of money would be entitled to the return of his principal but not to a gain in the form of interest. The latter would have been "contrary to nature".

Aristotle, the pupil of Plato and the tutor of Alexander the Great, lived around 350 BC but his or similar ideas about interest rates and capital remained the conventional wisdom (although not always a universally accepted practice) for more than two thousand years. For each epoch only the tip of some icebergs can be shown. Professor Barry Gordon's recent article in the *Canadian Banker* magazine on Aristotle's and biblical views on lending and interest reveal how much more lies underneath.

In the Middle Ages, Thomas Aquinas made a distinction between lending consumer goods (destroyed by use, hence no interest allowed) and lending or leasing productive capital goods such as a house or a farm, which justified an income to the lessor in the form of rent.

As the Church in the Middle Ages was the principal recipient of large sums of money at a time when feudal lords and kings were still mainly paid in kind, the prohibition of interest (although not rent) applied first of all to the clergy itself. Their money was mostly lent for consumption purposes to people in need; interest charges thus were more readily seen as unjustified.

Canonical strictures on interest rates increasingly hampered, however, an essential commercial function in the name of a conception of brotherhood that might have been valid for isolate, closely-knit local communities, but became utopian when commerce expanded and transactions became impersonal.

Joint Ventures

To get around the prohibitions on lending at interest without engaging in this then less than reputable activity, people started to use the services of non-Christians — the Jews in the Diaspora. Unable to acquire land and living in ghettos, the Jews had made a virtue of necessity and specialized in commerce, trade and finance.

Scattered over three continents and three civilizations, they had international contacts and knowledge useful for trade and even elements of international law in the Talmud, which regulated business conduct between Jews, between Jews and Gentiles, between Jews and the State (Max I. Dimont, a Jewish author, in *Jews, God and History*).

Money-lending by Christians was then considered a sin ("covetousness"); hence, those who did it nevertheless, tended to be less scrupulous and inclined to charge excessive rates. Jewish lenders, on the other hand, were licensed to engage in this activity by the medieval Establishment, to the benefit not least of these protectors who needed funds to build castles or cathedrals, or fight wars.

As the Jews had strict rules of conduct about what was allowed and not allowed in commerce, such money-lending at interest, under supervision of the Establishment, could be practised by honourable men, according to Dr. James Parkes, the Christian author of *A History of the Jewish People*.

Another way to circumvent the prohibition of interest was through joint ventures or partnerships, enabling capital owners to share gains with merchants in return for sharing risks. This was acceptable within the prevailing religious ethic which also made allowances for the merchant to be rewarded for his labour, skill and risk.

By treating the merchant's income as a particular case of wages for a useful activity, rather than as a "lust for gain", his occupation became tolerable, a point made by the noted English economic historian R.H. Tawney in his work on *Religion and the Rise of Capitalism*, 1937.

Part of the confusion and controversy about interest rates arose from the fact that people in those days did not make

a clear distinction between what we now would call *personal* income and *functional* income. Personal income considers how various types of income are distributed among the members of the community. Functional income traces the distribution of income over the four factors of production, each with a function of its own in delivering the output.

Risk and Profit

The factor *labour*, for instance, earns wages, salaries or fees. *Land* and other resources in more or less fixed supply earn an economic rent or quasi-rent (i.e. a price mainly determined by demand).

Capital lent to solid borrowers under stable conditions is compensated by pure interest.

Finally, innovative, risk-taking *entrepreneurs* in competitive markets, who try out new ways of putting it all together and succeed in lowering costs or satisfying new demands, may earn handsome profits (beyond the sum of rewards to all the other factors involved) — if they do not fail in their endeavour.

The latter possibility is part of the game. Risk, uncertainty and profit often go together, as the American economist Frank Knight demonstrated several decades ago.

Although the theoretical distinctions between functional incomes are better understood at present, it is often difficult, even today, to segregate them in practice. Our gross national product (GNP) statistics, for instance, do not try to segregate farm income (which may be a mixture of the farmer's income obtained through the work he does) from the capital he has invested, from the land he owns, and from profits gained through special skills or good fortune at times of prosperity.

In the Middle Ages, people were not even aware of these conceptual distinctions between various types of functional income. The reasons why were explained by Robert Heilbroner, who has vividly described these pre-industrial societies in *The Worldly Philosophers*.

He attributes the confused notions about functional income to the fact that its originators, "Land, Labour and Capital — the basic agents of production which the market system allocates — did not exist". A bold statement, but Heilbroner makes it plausible.

Land was the core of social life. It might occasionally be gained by conquest, but it was rarely for sale. Feudal lords regulated the life of earthbound peasants, while guilds jealous of their privileges determined the working conditions of tradesmen and apprentices. There was no more a market for labour than a market for land.

Private wealth, when not used for magnificent structures, existed for the purpose of being maintained, rather than to be put at risk. Besides, if charging interest was forbidden, what commercial incentive was there for lending? Hence the market for capital was restricted, too. And with three virtually immobile factors of production, the economy did not move much either during this era of world history.

However, industry and commerce started to expand in the later Middle Ages and this required capital. Legal limits on interest (maximum rates) were introduced as a compromise between the traditional views and the new realities. Paradoxically, a maximum price (in the legal sense) on any service or commodity is normally a *low* rate in an eco-

nomical context. A maximum price is low compared to the price that would have prevailed under free market conditions. It is an attempt to *prevent* prices (which include interest rates) from rising.

In this situation, some lenders may withdraw as suppliers of money from the market and, on the demand side, some merchants or other borrowers seeking funds will not get them or pay more in alternative, unregulated markets. Other equilibrating forces will emerge — "first come, first served", rationing of supplies, or preferential treatment by lenders for some borrowers.

While we are on this subject, the reverse principle applies to administered *minimum* interest rates. They are relatively *high* in the light of market conditions. Our overview of ancient times did not spot an example but, in our own century, the prime rate of U.S. commercial banks in the Great Depression of the 1930s was an agreed-upon minimum rate, to avoid cut-rate competition and more bank failures. This minimum rate was *relatively* high — at 1½ per cent. It stayed there from 1934 to late 1947. Incidentally, Canada did not suffer a single bank failure during the 1930s nor has there been one since 1923.

The Waning of the Middle Ages

The Middle Ages ended sometime during the 15th Century. Clearly, the medieval mind was not able to cope with new horizons opening up. As the Dutch historian Johan Huizinga put it, when philosophers of that particular era wanted to understand the nature of a phenomenon — whether political, social, moral or physical — they would "neither look into it to analyze its structure, nor behind it to inquire into its origin".

Instead, they would reduce any issue, from the most trivial to the highly complex, to the universal principle of which it was supposed to form part. A dictum like "the root of all evil is covetousness", for instance, could thus be used to condemn a variety of income-earning pursuits, whether industrial, commercial or financial.

It would take three centuries before another professor of moral philosophy, Adam Smith of the University of Glasgow, in *The Wealth of Nations* (1776) would assert that the pursuit of self-interest might lead an individual, albeit unintentionally, to the promotion of socially desirable ends, under the guidance of "an invisible hand".

Among the new vistas opening up in the Renaissance were the invention of the printing press (Gutenberg, about 1450), the discoveries of the West Indies and America by Christopher Columbus (late 15th century) and the Reformation (16th century). All three profoundly affected Western society and had an impact on economic thought and development.



The printing press aided the explorers through the distribution of geographic maps and of the travel journals of their predecessors. The Reformers in various countries used Bibles and pamphlets in the vernacular, rather than Latin, to gain adherents, often among the rising middle classes — with effects on trade and industry. And in economics, the printed word became the voice of authors who were laymen. All medieval authorities on economics had been clergymen, but the 16th century saw lawyers and government officials enter the field, often with a new perspective.

One of the prominent laymen who expressed views on economic matters was Sir Thomas Gresham, an English financier and adviser to Queen Elizabeth I.

Although he was not the first to observe it, he noted that when full-bodied gold or silver coins circulated side by side with debased coins of the same face value, people would increasingly hoard the first and pass on the coins with lowered metal content for payments. Popularized as “bad money drives out good money”, it has become known as Gresham’s Law.



By the way, debasement is not the only possible cause of this phenomenon. Assume an official relationship between the face value of a gold and silver coin, corresponding to the market value of the respective precious metal contents. Then a more abundant supply of silver would make silver coins less valuable in terms of their golden cousins, without any official tampering. This happened when Europe received large supplies from American silver mines in the 16th and 17th centuries.

Expressed in terms of the traditional functions of money, one might say that Gresham’s “bad money” acts as a medium of exchange for purchases or settling accounts, while “good money” performs the money function of “store of value” for savings. A contemporary example can nowadays be observed in different form, when people in several parts of the world prefer to hold assets in U.S. dollars or gold rather than in their own national currencies.

The Reformation

The Reformers held a mixture of old and new ideas about economics. The very fact that the proponents of Reform felt obliged to comment on economic and social issues followed an established tradition.

In fact, the German Reformer Martin Luther (1483-1546) was even more severe on “usury” than orthodox medieval teaching, for he insisted that all lending should be free of interest, without allowing compensation for losses by the lender or charges in form of rent.

The French Reformer John Calvin (1509-64) belonged to a somewhat later period and made Geneva, Switzerland, the spiritual capital of Calvinism. The city was also a financial centre of some importance, as were Antwerp, London and Amsterdam, other North European centres in which Calvinism gained many adherents. Its divines were thus most familiar — if not always in accordance — with the realities and needs of trade and commerce.

Not that Calvin was easy on the lenders as regards charging interest. Tawney quotes an English divine of the time as stating that “Calvin deals with usury as the apothecarie doth with poyson”. There were reasons for his caution. Learned arguments against interest rates had been turned into catchy slogans: “Usury is the brat of heresy”. Carefully, the Reformer declared interest lawful, but up to an official maximum only; loans had to be made gratis to the poor and the borrower had to benefit as much as the lender.

All this was still restrictive from a lender’s point of view. Nevertheless, the new doctrine was significant because credit against interest was thereby accepted as a normal feature of the economic life of society. Before, interest was forbidden in principle, with some special exceptions. Through Calvin it became lawful in principle but hedged by restrictions which could be gradually relaxed by his successors.

The Protestant work ethic formed a basis of capitalism.

Calvinist doctrines, and the discipline expected of the faithful, are believed to have fostered the development of England, Scotland and the Netherlands as mercantile nations of the first order in the 17th Century, and the expansion of North America later on.

It was the German sociologist Max Weber, in a seminal paper that still evokes comments, who first suggested this causal link between *The Protestant Ethic and the Spirit of Capitalism* (1904-1905). It has implications for attitudes towards money, credit, capital formation.

Race of Iron

Weber believed that the severe Calvinist doctrine of a double predestination (of some to eternal happiness, of others to damnation) inspired its followers to combine a spiritual calling (strict obedience to God) with a temporal calling (hard work, discipline, reliability and a sober lifestyle), in order to be worthy of salvation. Compared to the self-indulgent, quarrelsome feudal lords, as Tawney later said, the rising middle classes to whom Calvinism appealed were “a race of iron” and a potent force in the development of early modern capitalist society.

Just as Weber focused on a particular form of Protestantism, the Puritan Calvinists, so he defined the capitalist spirit in a special way. In the 16th and 17th Centuries, with which Weber was concerned, the alternative to capitalism was not socialism but feudalism. Capitalism differed from the feudal system in its extensive use of (at least legally) free contract between employers and hired labour.



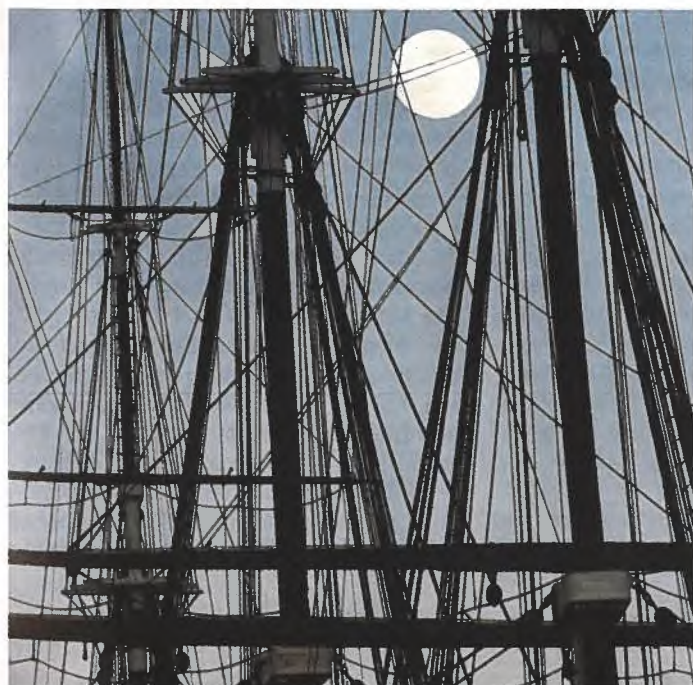
The nobility, because of their status, had been able to command peasants to work for them without wages, even when their own crops needed attention (serfdom). The emerging bourgeoisie of western merchants of that period were not in that position and had to pay their workers.

This meant, in Weber's view, that capitalism imposed a more rational, less careless use of human resources. From this perspective, early capitalism — essentially, the private ownership of the factors of production — was progress over feudalism. If services or resources are received free of cost, as labour in the Middle Ages by noble lords, recipients may not see the need for careful husbandry quite so clearly.

Franklin's Advice

Weber wanted to identify the spirit of capitalism as it existed "free from all direct relationship to religion", in order to make a valid comparison with the Protestant ethic. He found it, as he said, "in almost classical purity" in the *Advice to a Young Tradesman*, published in 1748 by Benjamin Franklin, the American statesman and man of letters, who started out as a printer's apprentice himself. Here are some highlights of his admonitions:

"Remember that *time* is money. Remember that *credit* is money. *Money* can beget money, and its offspring can beget more, and so on. The sound of your hammer at five in the morning or nine at night, heard by a creditor, makes him easy six months longer. The way to wealth, if you desire it, is as plain as the way to market. It depends chiefly on two words: industry and frugality."



Clearly these guidelines are the very opposite of those of Aristotle and the medieval divines. The willingness to lend at interest has turned from a vice into a virtue; the ability to borrow on those conditions has changed from hardship into an advantage carefully to be preserved.

How does this spirit of capitalism compare with the Protestant ethic? In *motivation*, it is clearly different. To a devout Puritan, the sound of a hammer at five in the morning might have been, in the words of the Psalmist, a joyful noise in praise of the Lord. In Franklin's secular version, it became like music in the ears of a creditor.

In *attitude*, there appears to be considerable affinity between Protestant ethic and the spirit of capitalism. In this case, the link is clear: hard work, frugality, reliability and ascetic life style. It has been said of Benjamin Franklin, who was a man of Calvinist stock, that he "escaped the theology of Puritanism but not its psychology".

Nature Dwarfed Man

Franklin's recommendations clearly reflect the hardships of life in colonial America when both labour and capital were in short supply and nature dwarfed Man. His admonitions may seem old fashioned in the light of an affluent society. Yet they are perhaps not entirely irrelevant today.

Conceivably, Canadian bank managers of different religious backgrounds might be united in their belief that a young entrepreneur with some of the allegedly Puritan virtues — hard work, reliability, sober living — would deserve encouragement if he came up with a marketable project.

However, they are unlikely to agree with Franklin's confident assurance that the way to riches is "as plain as the way to market". In a world of rapid change, even promising ventures may occasionally fail. Furthermore, industry and frugality alone might not be adequate to obtain substantial prosperity from small beginnings.

It is surprising that Franklin, who experimented with electricity and invented the lightning rod and the Franklin stove, did not mention the invention, development and marketing of new products, processes and services as a possible royal road to riches, as one would undoubtedly do today.

But Franklin did not see it this way. The Franklin stove was manufactured by a friend and the inventor wrote a pamphlet to promote sales but refused a patent on the grounds that, since we enjoy the benefits of inventions of others, we ought to be generous with our own. In this respect, Franklin was not the typical capitalist Weber took him for.

Weber was a pioneer in this field and his views have been modified by later sociologists and historians.

Tawney, for instance, while acknowledging the effect of Puritanism as one significant factor in early 16th and 17th Century capitalism, has stressed in addition the importance of the strategic location of the Protestant seafaring countries around the North Sea, which greatly contributed to their economic prosperity in the Age of Discoveries.

This leads us into Age of Mercantilism. ☒

This is the first of three articles adapted by permission from the magazine Canadian Banker.

— by Herbert C. Byleveld
Economic Analysis and Strategic Planning
DRIE

Nova Scotia

Two Small Companies Make Their Contribution



Sonia and Gordon Jones with one of their Peninsula Farms 18-wheel trucks

Two young, successful Nova Scotian enterprises are prime examples of the contribution economic growth small businesses can and do make, especially in the creation of jobs.

According to recent statistics, particularly those firms with fewer than 20 employees created virtually all the new jobs in Canada between 1978 and 1982.

Most of the businesses in Nova Scotia are small when measured by the customary yardstick. But the entrepreneurs who run such small businesses sign the pay cheques of 75 000 Nova Scotians. The value of that is large by any measurement.

There is no "typical" small business and firms that fit the definition often have little in common except that they lack the formalized procedures of big business as well as their elaborate management structures. The result is a flexibility and an ability to adapt rapidly to meet consumer needs. Often a smaller business can make better use of human and capital resources than corporate giants.

A mental list of the businesses on the main street of any small town in Nova Scotia will show just how different from one another small businesses can be. If anything is typical, it is that small businesses reflect the personalities of the entrepreneurs who started them.

What does it take to make an entrepreneur? Ian Shaw, who started Eastern Meat Purveyors with his wife Joan, calls it drive. Sonia Jones, who started Peninsula Farms with her husband Gordon, calls it being a doer and a risk taker.

Ted Withers, a senior development officer in the Halifax office of the Department of Regional Industrial Expansion (DRIE), sees quite a large number of entrepreneurs.

"They're go-getters who often work 60 to 80 hours a week; who pursue their goals through all obstacles," he says. "They frequently find themselves on the edge of failure but compensate for it with courage, tenacity and brassness.

"They're a force for progress and we need them."

Neither the Jones nor the Shaws set out to be a "force for progress", they were simply following their entrepreneurial instincts.

The Jones started out making yogurt in their Lunenburg County home eight years ago. In those days, it was a way to use up the surplus milk generously donated by the family cow whose principal responsibility was to keep the grass respectably short.

Sonia and Gordon had planned to content themselves with the pursuits which drew them to Nova Scotia — chairing the Spanish Department at Dalhousie University and retirement, respectively. What happened was the classic story of entrepreneur meets business opportunity and Peninsula Farms was born.

With financial assistance from the former Department of Regional Economic Expansion (DREE), the business took shape. Annual sales of yogurt have doubled every year; where there were once only two employees, now there are 12; and the plant has expanded.

The Jones's first piece of yogurt-making machinery now stands in the corner, eclipsed by the relative giants that today churn out production. Their first ¾-ton truck has been relegated to the backyard while shiny new 18 wheelers display the company's logo throughout the Atlantic provinces.

Growth has been good both for the Jones and the province. It has given them a living and an outlet for their creativity. Peninsular Farms provides jobs for 12, all of whom are 25 and under — an age group plagued with an acute jobless rate.

Others have benefitted indirectly. The firm used 20 per cent of the maple syrup produced in Nova Scotia in 1984, purchased at least 34 000 kilograms (75 000 pounds) of good Nova Scotian strawberries and consumed vast quantities of locally-produced milk.

Not to be overlooked, Peninsula Farms produces a high-quality yogurt for its customers.

None of this would have happened if the Jones were not, by their own admission, naïve. Both maintain that starting a new business is not for the cynical.

"If you aren't fundamentally idealistic, you start paying too much attention to doomsayers," says Sonia.

"Before you know it, another good idea is put on the shelf."

Ian Shaw would agree. He has even gone so far as to say that entrepreneurs should have tunnel vision because that's what it takes to get past those prophets of doom.

Like many businessmen, Shaw felt compelled to become an entrepreneur but it took a crisis to force him to actually do it.

Studies of small business operators often reveal that a rude kick — the loss of a job or promotion, a transfer to an undesirable location or even family problems such as divorce — is the simplest route to launching an entrepreneur.

Ian Shaw's misfortune/good luck was to have come out on the losing end of a dispute with his employer, the owner of a large meat purveying firm in Ontario.

Thus began Shaw's new company, Eastern Meat Purveyors, which today sells beef, veal, lamb and pork to restaurants, hotels and other food service outlets. The company is now 11 years old and financially successful beyond all Ian and Joan Shaw's expectations.

The early days were the stuff ulcers are made of. Shaw was surprised to find that the moment he presented his idea



Ian Shaw and the plant of Eastern Meat Purveyors

to his bank manager, he and his family were propelled into a whirlwind of risks and financial commitments that few would contemplate, much less plan.

In one fell swoop, he acquired an expensive accountant, an equally costly lawyer, and was knocking at the federal government's door promising to create jobs and be an overall asset to the economy of the province.

As fate would have it, the year was marked by trade strikes and declining

markets for meat. Still, the firm managed to keep its first year losses to \$24 000.

Three years later, Eastern Meat Purveyors showed its first profit, \$9 359, and the Shaws have never looked back since. The size of the facility has doubled to 1 300 square metres (14 000 square feet) and its workforce has expanded from six to 22. The Shaws are more than happy with the financial rewards the business has brought them.

Is there room for new small businesses in Nova Scotia? Ian Shaw says he can think of 10 items that could be made there.

"Go to the supermarket, for instance, and look at what food items are being shipped in from elsewhere," he suggests. "If there's no local supplier, you could be in business."

But, he warns, you can't learn everything you need to know about your prospective business in your own backyard. The ideas and technology may be somewhere else.

"Once you have your idea and have done your homework," Shaw advises, "it's time for a little tunnel vision."

— by Winnifred Desjardins
DRIE Halifax

Molicel — A Revolution in the Making

When Molicel™ hits the market next year, it may well prove to be as revolutionary to the world of rechargeable batteries as the gas turbine engine was to the world of aviation.

The brainchild of University of British Columbia physicist Dr. Rudi Haering, Molicel is a lightweight, high-energy lithium-molybdenum disulphide battery that has a shelf life of at least eight years, compared to one of several months for current nickel-cadmium rechargeable cells.

It was in 1977 that Haering first read of U.S. researchers' experiments to develop a commercially viable rechargeable battery using lithium and a synthetic compound called titanium sulphide.

"I couldn't help wondering," says Haering, "why one would use an exotic (and expensive) compound like titanium sulphide, which would have to be manufactured, when another member of that class of compounds, molybdenum sulphide, is available naturally."

As a physicist rather than a chemist, he had not read papers by the latter demonstrating that his idea wouldn't work. So, he scrounged some molybdenum disulphide from a friend in the UBC geology department and, by the end of the afternoon, had produced a crude working model of the new battery.

"It's not a chemical cell in the normal sense of the word," Haering says. "You get the energy because you take the lithium atoms from one sort of environment and put them into another

environment (tucked into the molecules of molybdenum disulphide) where they have lower energy. You extract the difference.

"It's really a physicist's battery, not a chemist's," he adds.

As he and fellow scientists worked to perfect the battery, his discovery came to the attention of Vancouver entrepreneur Dr. Norman Keevil, head of the mining giant, Teck Corporation, and its venture capital arm, TDC Technology Development Corporation.

By 1980, Keevil had formed Molicel Energy Ltd. (assigning equity shares to Haering and two of his development colleagues) and had negotiated a deal to have UBC assign patent rights for the battery to the new firm in return for future royalties.

Knowing they probably had not much more than a two-year lead on the competition, Keevil was anxious to get the Molichel into production. With nearly \$25 million of his firms' funds already invested or committed, he turned to the British Columbia and federal governments for assistance.

Spurred by rumors Keevil might move the whole operation to Ontario, the B.C. Development Corporation

A separate, 15-employee facility will be constructed at Kamloops to process the molybdenum sulphide which occurs naturally with copper and is widely distributed throughout B.C.

Research facilities will be moved to UBC's Discovery Park.

At start-up, the plant will produce the popular AA batteries and gradually expand its product line. Initial production will be about 50 000 units per day.



Photo by Alex Waterhouse-Hayward

Dr. Rudi Haering and his revolutionary battery

announced last summer it would provide \$25 million in loans to help the company launch its production and marketing drive. In lieu of interest for the first two years, the corporation would receive equity shares.

A month later, the federal Department of Regional Industrial Expansion (DRIE) announced it would provide an interest-free repayable contribution of \$7.85 million towards construction of facilities and a \$2 million non-repayable contribution for further R&D.

This was what Keevil had been waiting for and in November 1984 he announced the first factory would be built in Maple Ridge on the eastern outskirts of Vancouver. Scheduled for opening in 1987, it will employ about 250 persons.

Initially, at least, Moli is not looking at the retail market, but will offer the batteries exclusively to original equipment manufacturers (OEMs). Already more than 60 firms (some of whom reportedly offered to pay up to \$200 a cell) have received batteries produced at Moli's Burnaby pilot plant for test purposes.

"The performance tests of our cells in OEMs were even better than we originally claimed," says Keevil.

Irving Hollis, president of Moli and former president of Duracel Canada, Ltd., explains that of the \$10 billion world market for batteries, some \$6 billion goes into starting, lighting and ignition batteries for cars, trucks and tractors, a market Moli will ignore for the time being.

"The remaining \$4 billion," he told B.C.'s *Equity* magazine, "is shared among brands such as the Energizer and Duracel, carbon-zinc, rechargeable nickel-cadmium and the lead-acid batteries camera operators wear on their belts."

It is this latter market segment Moli is aiming at and Hollis says research indicates the firm can expect a one to two per cent share of that market within the first couple of years of operations.

Moli officials predict Molichels will have a major impact in such areas as portable communications equipment, portable computers, implantable electronic medical devices (such as pacemakers), power supplies, military and marine applications, alarm and security systems, scientific instrumentation, power tools and a host of other consumer products.

"There's a \$5 billion worldwide market just waiting for our product," says Keevil.


And, while Keevil and Hollis gear up the manufacturing and marketing impetus, Haering and his scientists are busy with the research and development of new products.

One of these, to be demonstrated at Vancouver's Expo 86, is a beer-can sized unit to replace the present heavy, bulk batteries used on electric wheelchairs.

Nor has Haering forgotten his original thought way back in 1977 that the Molichel concept would be ideal for electrically-powered vehicles.

Says Hollis: "If someone comes up with a battery to drive an electric vehicle — and experts expect this by 1990 — this segment of the market alone will be worth \$19 billion in today's terms by 1999!"

Keevil, the catalyst in converting an invention into a market-ready project, is keeping one eye firmly on the future.

"Eventually," he says, "we are going to have to build plants around the world." 

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— By Ron Johnson
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