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Canada Commerce

May 1984

The Tall Ships — Québec Celebrates

Canada/U.S. Trade

Canada Commerce

The Honourable Edward C. Lumley
Minister of Regional Industrial Expansion

The Honourable David P. Smith
Minister of State for Small Business and Tourism

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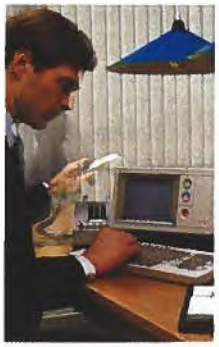
Cover: Sectoral free trade between Canada and the U.S. is the subject of on-going discussions and negotiations.



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Business Review

Canadian Market Opportunities

Looking for new markets? New products? There may be a niche for you in the massive, $64 billion, market outlined in *Canadian Market Opportunities 1984*.

This publication covers 86 per cent of all products imported into Canada. It is aimed at increasing public awareness of the enormous potential in the Canadian marketplace for domestic production and at stimulating Canadian business to further explore potential market opportunities in Canada.

Canadian Market Opportunities lists end products and selected commodities according to the "Canadian International Trade Classifications" of Statistics Canada.

To obtain a free copy, please contact: Business Information Centre (ABUS); Department of Regional Industrial Expansion; 235 Queen Street; Ottawa, Ontario K1A 0H5; Tel: (613) 995-5771.

Two B.C. Firms Win Canada Export Trade Awards

Two British Columbia companies were among 15 winners of the *Canada Export Awards* presented in conjunction with the Export Trade Month held last October.

I.S.E. International Submarine Engineering Ltd. of Port Moody and Seaboard Lumber Sales of Vancouver were chosen from a group of 22 British Columbia firms.

The *Canadian Export Awards* will be presented annually to Canadian companies which exhibit innovative and successful approaches to exporting.

1984 Busy Year for Labour Negotiations

Almost half of all Canadian workers covered by major non-construction collective bargaining agreements and an estimated 70 per cent of construction workers will be renegotiating their agreements in 1984, according to figures released by Labour Canada.

In 1984, 434 non-construction agreements covering slightly more than one million employees will expire as will 249 construction agreements covering 200 000 workers.

Uranium Resource Estimates

Estimates of Canada's uranium resources for 1982 remained essentially unchanged from those of 1980, according to a report released by Energy, Mines and Resources Canada.

Entitled *Uranium in Canada: 1982 Assessment of Supply and Requirements*, the report says that, as a result of changing economic conditions, a smaller portion of these resources is of economic interest. Total resources in measured, indicated and inferred categories amount to 573 000 tonnes of uranium, 10 per cent of which is needed to fuel Canada's nuclear power plants.

Canadian Sheep Surely Shorn

Australia is the country that comes to mind when one thinks of sheep and wool. But Canada has a domestic flock of its own. According to Statistics Canada's publication *Inklings*, almost half-a-million Canadian sheep were shorn in 1982 with each sheep producing an average of 3.2 kilograms of wool.

Prince Edward Island and Alberta lead the country in productive flocks and total, nation-wide production was just over 1 400 tonnes for a value of $2 million. About 800 tonnes of wool were exported in 1982 while 10 000 tonnes were imported.

Helicopter Industry Deregulation to Continue

Immediate steps will be taken to amend the Air Carrier Regulations extending the trial period of partial economic deregulation of commercial helicopter services in Canada, according to the Air Transport Committee (ATC) of the Canadian Transport Commission.

The trial, which began in August 1980 and was to have ended this June, will continue until December 31, 1987.

The move comes as a result of a cross-country survey from which the ATC concluded that the trial period was "significantly obscured" by the recession and it was "not yet clear how the industry would function in a freer regulatory environment".

"It Was Elementary" Says Trade Sleuth

When it came to tracking down the vital role exports play in the Canadian economy, it was elementary for Sherri Bobowski. The 11-year-old Saskatoon girl was chosen Canada's top "Export Detective" in a poster contest held in conjunction with last October's Export Trade Month.

Sherri won the national award for her artistic talents and her knowledge of export trade and its economic importance. She is shown here receiving her award from Gerald Regan, Minister for International Trade.

Alaskan Operator Adds Three Twin Otters to Fleet

Anchorage-based Seair, Alaska's largest user of de Havilland Canada aircraft, has ordered three additional Twin Otters to expand its route network within the state. The new aircraft join a fleet of 15 other de Havilland Canada products as well as 10 Convair 580s. Deliveries will take place this spring.

Conference Round-Up

Small Business Congress

The 11th International Small Business Congress will be held in Amsterdam, The Netherlands, October 24 to 26, 1984.

For further information, please contact: 11th International Small Business Congress, c/o Organisatie Bureau Amsterdam bv, Europaplein 22, 1078 GZ AMSTERDAM, The Netherlands.

International Trade Opportunity in Tacoma

Buyers from all over the world will be attending the 1984 Pacific Northwest Trade Expo in the Tacoma Dome, Tacoma, Washington, U.S.A., October 2, 3 and 4. Canadian companies can apply to the Program for Export Market Development (PEMD) to cover 50 per cent of the cost of participating in this exhibition.

For further information, please contact: Kelly Green, Magee Robertson Inc., 156A West Third Street, North Vancouver, British Columbia V7M 1E8; Tel: (604) 986-0331; Telex: 04-352830.

Two Shows in One

The 6th Annual Canadian Stationery Show and the 4th Annual Canadian Luggage, Leathergoods, Handbags and Accessories Show will be held in Toronto's International Centre, Airport Road and Derry Road, June 3 to 5. Close to 200 companies are expected to take part in the combined show.

For further information, please contact: Ann Dutchburn, EKSPO, 33 Isabella Street, Suite 102, Toronto, Ontario M4Y 2P7; Tel: (416) 960-8739; Telex: 06-986766.

Hi-Tech in Logging and Sawmilling

WOOD EXPO '84, the 6th International Forest Industries Equipment Exhibition, will be held in the dome stadium of Vancouver's B.C. Place, September 27 to 29. Technology and the future of logging and sawmilling are themes.

For further information, please contact: Southex Exhibitions, #202 — 2695 Granville Street, Vancouver, British Columbia V6H 3H4; Tel: (604) 736-3331.

Southeast Asia Markets
Coming exhibitions scheduled for Kuala Lumpur, Malaysia:

- HARDWARE '84, International Hardware Exhibition, November 27 to December 1, Changkat Pavillion, Kuala Lumpur.
- SAFETY 84, Asian International Safety, Security and Fire Equipment Exhibition, November 27 to December 1, Changkat Pavillion, Kuala Lumpur.
- ELEMEX 85, International Electrical, Electronic Engineering and Technical Installation Exhibition, January 30 to February 2, 1985, Hilton Hotel, Kuala Lumpur.
- DEFENCE 86, Asian Defence Exhibition, February 18 to 21, 1986, Putra World Trade Centre, Kuala Lumpur.
- WOODEX 86, Asian International Forestry, Timber Processing and Woodworking Exhibition, October 18 to 21, 1986, Putra World Trade Centre, Kuala Lumpur.

For further information, please contact: Pertama-Tentar Inc., 9 Brynston Road, Islington, Ontario M9B 3C5; Tel: (416) 236-1169; Telex: 06-984711.

Books, Books, Books

In 1981-82 Canadian book publishers made more than $1 billion providing pleasant means of relaxation and escape to readers across the country as well as producing books with strictly educational merit, reports *Inklings*, a Statistics Canada publication.

About three-quarters of books sold in Canada were imported but about 7 000 new titles came from domestic publishers. About two-thirds of all new books were tradebooks — novels and non-fiction about entertainment, sports and other general subjects.

Apparently, Canadian authors found it easier to be published by French Canadian and small English Canadian firms who produced almost 90 per cent of all new titles written by Canadians. Less than half the new books published by medium-sized and large Canadian companies were by Canadians.

Labour-Government Employee Secondment

A Labour-Government Employee Secondment Program has been established aimed at improving the working relationship between the federal government and organized labour.

Set up by Labour Canada, the $1.9 million program will permit the exchange of staff between trade union organizations and the federal government for varying periods up to two years with the object of improving understanding, creating greater sensitivity and improving communications.

Railway Accidents Down

Major train accidents dropped 16 per cent in 1983 from 1982 despite a railway tonnage increase of 3.7 per cent, the Canadian Transport Commission's Railway Transport Committee (RTC) reports. Fatalities were 14.2 per cent fewer and there were 17.4 per cent fewer injuries.

There were 568 crossing accidents reported in 1983 resulting in 58 fatalities and 271 injuries compared with 77 fatalities and 357 injuries in 1982.

Derailments of through trains also dropped sharply from 273 in 1982 to 198 in 1983 while collisions involving through trains increased slightly.

Telecommunications — Canada Makes Connections

Canada is virtually self-sufficient in telecommunications — the result of Canadian companies responding to the needs of an affluent society and a vast and territorially rugged country.

Canada's physical size as the second largest country in the world has provided continuing impetus for the development of new technologies to bring people and their organizations together.

In meeting these needs, Canada also has attained a worldwide reputation for its expertise in advanced telecommunications, being the leading edge of communications technology.

Canada had an early start in telecommunications. Alexander Graham Bell invented the telephone in Canada in 1874 and two years later the world's first long-distance telephone call took place.

With a population of 24 million, Canada has 14 million telephones in service (62 per cent of the population) and has the fourth highest telephone density in the world. In the interest of even greater reliability and increased operating economies, the system is being rapidly converted to the digital mode.

Digital Excellence

Canada has a world class presence in digital switching equipment and technology. In the early 1970s, Northern Telecom, in concert with Bell Northern Research and Bell Canada, began to develop digital switching and transmission systems. Northern Telecom became the first company in the world to announce, and bring forth, a complete family of fully digital switching and transmission systems.

(Previously, analogue systems had been used, but the increasing use of computers and "machine" communications dictated that digital signalling be used. In analogue transmission, signals are amplified; in digital transmission they are regenerated.)

Digital has become the future, shaping the telecommunications industry around the world. Today Northern Telecom has in service, or on order, more fully digital systems than any manufacturer in the world.

Canadian digital PABX equipment has won acceptance in markets worldwide. Two Canadian manufacturers of digital PABXs, Northern Telecom and Mitel, are recognized as being among the world leaders in this product sector.

The Electronic Office in Canada

Canada, like other western countries, is in the midst of an information revolution. The Canadian government, in 1980, initiated field trials of integrated electronic office systems within government departments. The aim was also to develop services for national and international markets. About $12 million has been budgeted.

Some 5 000 work stations used by professional and executive employees will be established across Canada. Expected to meet operational requirements, they should make Canadians aware of the potential of electronic office products, systems and services. These field trials will cease in 1985.

World's First Teletext

In February 1983, Teleglobe Canada, a Crown company responsible for Canada's external communications services, announced it inaugurated the world's first overseas Teletext service, making it possible to transmit a business letter from Canada to West Germany in 10 seconds. Teletext is a new service using computer terminals and transmitting data in digital form.

Canada, West Germany and Sweden are the first countries to adopt the new system. Teleglobe expects to extend this efficient service to other countries in the near future.

Canada in Space

Canada has more satellites in space than any country apart from the United States and the Soviet Union.

Telesat Canada was incorporated in 1969 to establish and operate a commercial system of satellite communications to serve all parts of Canada's heavily populated and remote northern regions. Currently there are more than 100 communications earth stations in service.

The Telesat reliability factor is better than 99 per cent, providing such service as global television relay with local-area television distribution, telephone service, computer-data transfer, teletype, facsimile.

With the launch of Anik A satellite in 1972, Telesat established the world's first geostationary domestic satellite — providing communications services to 10 million square kilometres (3.9 million square miles). Today, most of the world's commercial communications satellites carry some form of Canadian mechanical and/or electronic subsystems.

Telesat Canada, with its extensive background, also provides consulting services to a number of countries.

Spar Aerospace, the Toronto-based firm that built the highly successful on-board mechanical arm for the U.S. space shuttle, is another example of Canadian expertise in satellite technology.

An active participant in the European Space Agency, Spar recently signed a $65 million contract to build Solar energy panels for the L-Sat, a 50-metre (164-foot) long new generation communications satellite being built by three members of the European Space Agency for a 1986 launch.

Spar Aerospace was also selected as the prime contractor, in an international competition, to provide two communications satellites to the government of Brazil for its domestic satellite system. This $150 million contract includes the ground control stations.

Fibre Optics Technology

Fibre optics technology has been utilized in Canada since 1976. A wide variety of field trials have been introduced throughout the country — from trunk to subscriber loop applications — where homes receive simultaneous transmission of telephony, data, television and videotex.

In the small community of Elie, Manitoba, some 150 households were connected by fibre optics, making the field trial the first for multi-use tests of fibre optics systems in a rural community.

The Saskatchewan Telephone Company three years ago began to install a 3 400 kilometre (2 100-mile) fibre optics broadband network linking a number of communities in the province. The world's longest commercial fibre optics network, the digital system provides full voice and data services, as well as cable television signals, to 52 communities.

Canadian manufacturers can supply opto-electronic hardware, fibre, cable and systems planning services for both commercial and special military requirements. Typical manufacturers are Northern Telecom, Caustar, Phillips Cable and Foundation Communications.

Videotex-Telidon

In 1978 Canada's Department of Communications (DOC) announced the development of an advanced videotex terminal, Telidon, capable of producing images with a much higher resolution than currently available equipment. Superiority is also exhibited in flexibility and compatibility of data bases with different terminals and having a designed capacity for future expansion.

A range of Telidon hardware and equipment is now being manufactured, with Canadian Telidon hardware and information services companies finding ready acceptance in Canadian and export markets.

Like other videotex systems, Telidon consists of a slightly modified television set or display monitor, an interface decoder device, a telecommunications system and a central computer. Since Telidon has a microcomputer in all its terminals, it can fully exploit recent advances in computer graphics and telecom data technologies — making it uniquely fitted to convert the television set into an important and highly advanced information tool.

Data Networks

Canada initiated the first dedicated coaxial data network, a 12-tube cable linking Toronto, Ottawa and Montréal. The country has had its own national digital-based data networks since 1973 when Dataroute was introduced into the Trans-Canada Telephone System (TCTS). Introduction of the Info switch and Datapac followed in 1977. The systems, which cover the width of Canada, link into United States systems and are part of a network for voice data and visual services.

Consulting Services

Canadian telecommunications consultants are well known and equally well respected around the world. The largest Canadian consultant in this field, Bell Canada International, has provided services worldwide and has gained further renown for more than five years of work in Saudi Arabia.

Canadian consultants offer a complete range of services: from consulting to managing turnkey operations; from initial basic assessment of an organization's needs through to managing systems installations; and training local staff prior to turning over an efficiently operating network.

Since joining the International Telecommunication Union (ITU) in 1907, Canada has been committed to the idea of promoting international co-operation and the extension of international networks. Canada is an active member in all ITU organizations and committees.

Just as the Canadarm was successfully extended, so too are Canadian communications companies are ensuring that Canada makes connections.

— Prepared by the Department of External Affairs

Productivity and Technology: Top Management and the Challenge

Computer integrated manufacturing (CIM), flexible manufacturing systems (FMS), and computer aided design and manufacturing (CAD/CAM) have become high profile subjects of late. This last recession has driven home to labour and management alike, that our manufacturing industries must become more competitive in world markets. Fortunately, these advanced technologies have much to offer in helping us meet this objective.

But, while most of these technologies were developed right here in North America, we really haven't done a very good job of applying them to our own industrial problems.

The National Machine Tool Builders Association (U.S.) recently surveyed their membership. They found that those with CAD/CAM installations were using them primarily for preliminary layout and drafting. Few were tackling more integrated, and potentially more productive, applications in design and manufacturing. The situation in Canada is even more dismal, where few companies even have such systems, let alone worry about using them more effectively.

Coopers & Lybrand which, with Columbia University, surveyed the *Fortune* 1000 manufacturing group, found that the majority of top management weren't even aware of productivity problems in their companies. They also found that little change could be expected in the short term for industry to renew outdated equipment and facilities. The number one obstacle cited to achieve this vital objective was a lack of funds.

At the same time our world trade competitors, particularly in Japan and West Germany, don't seem to have these problems. They are advancing rapidly with the implementation of *our* integrated manufacturing technologies. Evans Research in Toronto reports that 90 per cent of the $100 million Japan spent for CAD/CAM equipment last year was imported from the United States. Creative Strategies International, a market research firm in the U.S., says that West Germany has an enormous appetite for CAD/CAM technology and is expected to absorb 32 per cent of this year's European sales. It also notes that a small number of American firms dominate this market, capturing over 80 per cent of the world sales.

It's ironic that we're so successful in selling our most productive technologies to our most virulent competitors, but we can't seem to bring these tools to bear on our own industrial productivity.

Why Aren't We Harnessing This Technology?

Researchers and visionaries all come to the same conclusion — it's not a technical problem, it's a management problem. Top management is *key* to harnessing this technology, but few recognize or accept their roles in the process. Our "captains of industry" either don't understand or have chosen to ignore their important responsibilities here.

The strategic and pervasive nature of these technologies causes impacts on organizations and operations that can only be addressed by senior management. Influences on a company's long-term survival make these technologies as important to top management as any of their traditional policy areas like marketing, finance, or product strategy. Yet, little has been done to understand and address these critical issues.

There are four important aspects that senior management face in trying to harness these technologies to meet the challenge of foreign competition:

First: Their Strategic Nature

It's a serious error to assume there are only technical issues to be dealt with by company technicians. The management issues and structural impacts these technologies can bring to a company are significant. **For example:**

- They change the roles and responsibilities of traditional, functional sectors, i.e. engineering, manufacturing and information services.
- They change the mix of skills and knowledge requirements.
- They have an impact on the flow of work and materials.
- They affect the form, flow and control of information.
- They have an impact on sales, marketing and distribution strategies.
- They even influence how people perceive the company.

Resolving issues of such consequence will require extensive change and adjustments in all areas of the company's operations. These can only be addressed with the strategic perspective of senior management.

Second: Understanding the Technology

There is no way these issues can be properly addressed without some understanding of the technologies themselves. Senior management must avail themselves of this knowledge, but it's no mean task for executives, well into their careers before the era of computers and microelectronics. Still, achieving a better understanding needn't be a traumatic or demeaning experience. There are numerous ways for them to improve their grasp of the key technical and management issues of these

technologies. These range from reading, talking, attending conferences and seminars, to private consultation with outside experts. The important thing to realize is that, unless management overcomes these shortcomings, they will never be successful in advancing large scale applications of these powerful tools. Let's face it, no one was ever mystified into achieving higher productivity, quality, or competitiveness.

Third: The Requirement for In-Depth Planning

Senior management has traditionally had little to do with technology planning. Conversely, manufacturing and engineering executives haven't played much of a role in the company's strategic planning. To successfully harness technology, this will have to change. More levels in the organization need to be involved in developing strategically oriented, technology plans. This requires an understanding and analysis of the complete business cycle. Organizational roles, information needs and interactions have to be combined with a computer integrated systems architecture that meets the company's needs. These conceptual plans must then evolve and flow into specific and staged implementation plans.

This unique combination of strategic policy and hard core technology planning calls for a new working environment. Top management will become involved in technological issues. The organization will become more flexible and open. Communications will cross traditional lines and flow more freely. Labour and management will "bury the hatchet" and start working in greater harmony. Achieving such major change won't be easy. But, beyond yielding an environment for better technology planning, this will certainly improve the effectiveness and spirit of the entire company.

Fourth: The Need for Deep Commitment

Top management's personal involvement and sustained support are imperative to the success of such a major undertaking. Commitment means more than just "okaying" the expenditure of funds. Simply authorizing the procurement of a turnkey system here or there won't put a company on the leading edge of this technology. In fact, such a move could almost assure failure. Not that there are no successful point applications. But, without a committed and concerted effort to guide their growth and development, there is little hope for achieving the major productivity gains of integrated applications.

So, unless top management is willing to make long-term commitments, it is probably better to not start at all. A company *might* survive the threat of foreign competition, but it will almost certainly fail to survive expensive abortive attempts with these advanced technologies.

An Innovative and Aggressive Response

Top management must recognize that any period of forewarning has long passed. Our world trade competitors have implemented these technologies and are now using them to attack our markets with devastating results. Management can't retard technology by ignoring it, nor can they hope to survive by just letting it happen. Their only hope lies in mounting an equally aggressive and innovative response. We have the tools and expertise available, but the thrust for creatively using them must come from industrial management.

It's time to stop avoiding these issues and hoping for a miracle. If we don't get started soon, we'll never recover our national losses in world trade. But if we can encourage and support continued innovation by understanding and creatively applying these technologies, we will begin to realize some of the potential for improved industrial productivity. ◘

— Prepared for *Canada Commerce* by David E. Close, Management Consultant

Canada/U.S. Sectoral Free Trade Boom or Bust?

There was not a doubt earlier this spring that the Canadian Manufacturers Association (CMA) had picked a hot topic for their Montréal Conference at the Hyatt-Regency Hotel.

Canada/U.S. Sectoral Free Trade was the topic and top executive officers from industry, provincial and federal officials and trade experts from both countries filled the hall to the point where CMA was forced to turn away many last minute registrants. And while there was a deep sense of urgency at the meeting that something should be done, there was also a healthy scepticism about what course of action would be in Canada's best interest — laissez-faire, cautious investigation or full-speed-ahead with negotiation.

But in the words of Canada's top official at the conference, the Hon. Gerald Regan, Minister for International Trade, "I am convinced above all that we cannot stand still. We must explore new alternatives to preserve and expand our market access. Our economic well-being depends on our trade performance more than many Canadians realize. If we were not examining new forms of trade liberalization there would be ample grounds for criticism.

"The status quo is simply not a viable option for Canada's future."

Referring to the Trade Policy Review of the Canadian government, which appeared last August and which had brought forward the sectoral free trade concept, Minister Regan pointed out that the review reconfirmed Canada's fundamental commitment to the multilateral trading system as the "bedrock of Canadian trade policy".

However, he also emphasized, "More than a quarter of our two-way trade with the U.S. is already covered by sectoral arrangements — the Auto-pact and Defence Sharing Arrangements." He said that trade liberalization is far advanced already; more than 80 per cent of Canada's exports will enter the U.S. duty-free after the full implementation of the Multilateral Trade Negotiations (MTN) tariff cuts in 1987. In the reverse direction the figure will be 65 per cent.

And to put these figures in context he pointed out that the United States is by far Canada's most important single trading partner. In fact the increase in trade to the U.S. last year was double total trade with Japan, this country's second largest trading partner. (Total U.S./Canada trade last year amounted to $120 billion — by far the world's largest between two countries.)

Commenting on the progress of sectoral trade negotiations with the U.S., Mr. Regan said preliminary talks

had been held in mid-February with the United States Trade Representative, William Brock, at which time it was decided that some of the sectors to be examined initially would be steel; agricultural equipment and inputs; government procurement, with particular emphasis on urban mass transit; and computer services/informatics.

It was small wonder then that CMA panels at the Montréal conference should be composed of chief executive officers of some of the major players in these sectors. According to Mr. Regan, at the February inter-government meeting, both countries had agreed to examine other areas or sectors of mutual interest.

your fear of being swallowed up. We have, therefore, decided to approach this question at your speed. If you want to crawl, we will crawl; if you want to walk, we will walk; and if you want to run with it, we will run with it."

While he emphasized that the American Trade Relations section did not have the authority to enter into negotiations at the present time, the matter was to go to the U.S. Cabinet in April and that a favorable reception was expected. While at the present time he could not foresee a great deal of problems with the General Agreement on Tariffs and Trade (GATT), he could see some might arise, but this was a bridge that would have to be crossed when the federal government for the Tokyo Round of Multilateral Negotiations.

> At the February meeting Mr. Brock said, "With all the negative news on trade, both domestic and international, and the pressure on the world trading system, it is a matter of real consequence that the two largest trading partners in the world are holding conversations about liberalizing trade, about expanding jobs and growth."

Mr. Brock's sentiment was enthusiastically endorsed by Ambassador Mike Smith, Deputy U.S. Trade Representative in his luncheon talk to the CMA delegates. The U.S., he said, was willing to enter into across-the-board free trade discussions with Canada or to do as was now the case — enter into sectoral free trade discussions. The time, he said, was never better. There was a much greater appreciation in his country of the importance of good Canada/U.S. relations now than any time in the past.

Too often, he noted, Americans took their relationship with Canada too much for granted and, although there were many disagreements, most of the trade between the two countries was almost as easy as doing business between the various states or the provinces. It was a mistake, he continued, to think that there was a deep-seated trend to American protectionism — any country which amasses a foreign trade deficit the size of that now facing the U.S. marketplace is not protectionist minded. In Ambassador Smiths words, "We understand the reluctance of some Canadians to embark on these negotiations due to the relative size of the two markets and upcoming discussions and subsequent negotiations were in an advanced stage of finalization.

Ambassador Smith and other speakers, including Mr. Regan, pointed out that they were well aware that the political situations in both countries would have an effect on the negotiations but all were confident that the basic soundness of the consultations and subsequent negotiations would prevail regardless of the result of the upcoming elections in both countries.

There was agreement also on the necessity of bringing state and provincial governments into the decision making process as well as the labour sector and, of course, the members of the CMA and business in general.

This last point was stressed strongly by Bernard Landry, Minister of Foreign Trade and International Relations, representing the Québec provincial government. With the increasing role that provincial governments are playing in their own economic development, he said, it is only proper that the federal and provincial governments move in concert through an even more elaborate consultation process than that set up by the

While no agenda or even formal discussions on sectoral free trade had yet been set up, he felt that they could be as, if not more, important than the MTN. The reason was clear. "We are dealing with our main trading partner and addressing most, if not all, the problems that have been encountered over the years."

Similar sentiments were expressed in private by many of the other provinces' representatives during breaks in the conference. Seven of the provinces were represented by from one to six delegates.

While Mr. Landry stressed the importance of federal-provincial-industry-labour input into the decision making process and the necessity of "rigorous analysis of the consequences of an eventual agreement", he left no doubt in delegates' minds that Québec was fully in accord with any negotiations which would "fairly" increase bilateral movement of goods between Canada and the United States.

The morning panel and audience discussion brought together J. M. Curtis, Institute for Research on Public Policy; A. V. Orr, vice-president and general manager, Atlas Steels; R. Royer, president of the Mass Transit Division, Bombardier Inc.; and Professor R. Tremblay, University of Montréal. All were in general agreement that Canada/U.S. sectoral free trade was an idea whose time had come, but with few exceptions they did so in the realization that a great deal of study was required before any agreements could be signed.

In the words of Prof. Tremblay, "It is amazing that we are doing this today; such studies should have been undertaken 10 years ago."

In spite of this, he warned, both countries and particularly Canada must take sufficient time to explore and weigh the advantages and disadvantages of free trade thoroughly.

Similar words of caution were given by Mr. Curtis. Canada must assure itself that it has a viable growing base in industry and also that the U.S. will remain committed to greater access of markets. Without these assurances, he said, it would be difficult to raise the necessary capital to build modern world-sized plants and thereby gain the economies of scale so necessary for market competitiveness.

Other points that require greater study, he said, included ownership, vertical integration, non-tariff barriers and governmental regulations and taxes.

Both Curtis and Tremblay stressed the absolute necessity for the provinces and states to be brought into the discussions particularly in the matter of perceived economic development initiatives and the raising of non-tariff barriers in government procurement. Both deplored the development of these non-trade barriers between provinces in Canada and between states in the U.S. At times, they pointed out, these provincial and state barriers are more restrictive to trade than international boundaries and tariffs.

For Atlas Steel's A.V. Orr, sectoral free trade promises to eliminate a problem faced by the Canadian specialty and carbon steel manufacturers in the U.S. market. U.S. steel producers, badly hurt by offshore producers, brought in a series of protectionist measures which caught Canadian producers, even though they were not part of the problem.

In pleading the case for sectoral free trade in steel, Mr. Orr pointed out that Canadian mills have the same philosophy as their American counterparts, are fully modern, and even have the same union (the following week a Canadian was elected president of the United Steelworkers of America, one of the most powerful and largest unions in both countries). As a result of the U.S. restrictive measures, Canada has been forced to impose its own reciprocal tax on American steel entering this country.

In spite of the seeming benefits to extending free trade to the steel sector, many speakers and others at the meeting were cautious as to the outcome of the planned talks.

The U.S. for example, would require minimum content provisions to protect against backdoor entry of steel products from third countries. Washington's fear is that Canadian mills would use cheap hot rolled coils from offshore to make pipes which would then be sold in the U.S. at prices undercutting domestic producers.

In the case of Canadian mills, some provinces may not want to expose their mills to full competition from abroad. Another unknown from the Canadian viewpoint is long-standing corporate relationships. Many of the largest U.S. corporations with plants in Canada have centralized purchasing. These U.S.-based purchasing decisions, coupled with anti-dumping rules, could make it difficult for a Canadian steel maker to compete against U.S. producers, even with a free trade pact.

Since anti-dumping rules will stay, regardless of a free trade arrangement, a Canadian producer could not export at prices below those at home. But if several U.S. manufacturers drove down prices in a competitive fight for a large contract, for example in the auto industry, a Canadian plant could not bid lower without risking anti-dumping charges.

While not as positive about the necessity of sectoral free trade, R. Boyer of Bombardier was willing to give the option a qualified yes. "We must, however," he said, "protect free trade from becoming a free-for-all." He pointed out that his firm had been quite successful in competing on world markets in the transportation field, particularly in urban and rail, as have other firms in this sector.

He did caution Canadian companies not to become complacent or their advantages could be lost if protectionism grows. At the same time, he felt that Canadians would have to examine closely what Americans would want in return for freer access to their markets.

A similar mix of opinions on the free trade issue was evident in the afternoon session. C. H. Hantho, president and chief executive officer of C-I-L Ltd., expressed full support for the implementation of free trade for the petrochemical sector. T. R. Bell, who holds similar positions with Dominion Textiles, warned that, for the most part, the Canadian textile and clothing industries would face a highly uncertain future if free trade was imposed on them without a very thorough examination and safeguards to protect them from unfair offshore competition.

Because the Canadian industry has had to accustom itself to short production runs and its resultant down time and production schedule alterations, adaptability has become the norm in the Canadian clothing and textile industries. But they cannot compete with an increasing onslaught of cheap clothing imports from the newly emerging countries such as Korea, Hong Kong and even the Republic of China.

While the stiffest competition is in the clothing field where there is a high concentration of labour, the two industries are so closely linked that loss of the home market for Canadian-made clothing has put a strain on the more capital-intensive textile industry.

Probably the most positive support for free trade at the meeting was put forward by Charles Hantho of C-I-L who outlined the situation in the petrochemical industry on both sides of the border.

Canada, he said, was well positioned to take advantage of the larger market share which would open up, since it was largely composed of modern, efficient, world-sized plants, while at the same time it would not pose any undue threat to the U.S. industry.

To emphasize the commitment of the industry on both sides of the border, he told delegates that the International Trade Committee of the U.S. Chemical Manufacturers Association and the Trade Policy Committee of the Canadian Chemical Producers Association have already met to organize a co-operative approach to the question of

sectoral free trade. Another meeting was scheduled for April to draw up a preliminary list of petrochemicals on which existing tariffs can be reduced or eliminated.

To emphasize his commitment and that of the industry, Mr. Hatho said: "The world of petrochemicals is on the verge of radical change, with the traditional producing nations in real jeopardy of losing world markets to the emerging energy rich, less developed nations. The competition is becoming more intensive. We need each other more than ever if we are to remain winners.

"Sectoral free trade is the way we can win — together."

The most vehement opposition to the free trade concept was expressed by Melvin Clark, an Ottawa-based trade consultant, who was a deputy leader of one of the GATT trade negotiation teams (1974-79).

He warned that sectoral free trade would translate into a loss of sovereignty in economic matters and eventually restrict Canadian political freedom. It would mean Canadians would have to follow American taxation policies, adopt similar regulatory stances and environmental and safety standards if Canadian companies were to compete on a fair footing with Americans.

Clark emphasized that GATT had built-in safeguards to offset the disparities in power between the two countries and Canada would lose these negotiating and settlement mechanisms if trade disputes arose under the proposed free trade agreements.

While he agreed with the necessity of in-depth study of sectoral free trade, Dr. Harold Crookell of the School of Business Administration at the University of Western Ontario, pointed out that the players in sectoral free trade discussions have changed roles. Business is now interested in free trade while governments have turned cautious.

And, he continued, this is not just a phenomenon of Canada's national mood. It stems from three related global trends which are led by multinational enterprises.

- First, in spite of non-tariff barriers, there has been a significant worldwide decline in tariffs under GATT.
- Second, there is a growth in demand for similar products brought on by satellite television, jet travel and an increasing affluence — cultural barriers are no longer prohibitive.
- Third, technology leadership has moved away from the U.S. No longer can foreign subsidiaries survive as miniature replicas of their parents; they become fair game for predators from abroad. Thus, if there is no specialization, there is no modernization.

As a result, the multi-nationals are changing their corporate strategies away from market seeking investments dependent on protection toward globally competitive production for export. Corporate strategy marches to a different drum than government policy because it is more efficient, reduces intervention potential and permits R&D to be allocated with production.

While many small and medium-sized firms are specializing in worldwide market niches, larger multi-nationals, including Canadian firms, have greater problems in decision making than are normally allowed for. As a result, some executives do not have the stomach to face the hard decisions required to change from hiding behind tariff walls to undertaking specialization and export.

Since such a large portion of Canadian industry is foreign-owned, Dr. Crookell continued, it is very important to know how multi-nationals will respond to lower tariffs. Have they the high calibre of chief executive officers required to go it alone with special products? Unless they do, they could be eaten alive.

Dr. Crookell warned that Canadians must think through carefully all the implications of free trade both now and in the future. Relevant to this would be an examination of all factors such as Canadian corporate strategies, expertise in research and development, international business, managerial competence and finance.

"We must," he said, "make sure that a method be developed to redress disputes that may arise." Such mechanism should have, if possible, third-party adjudication powers.

At the same time, he felt that Canadians should work diligently for a solution since indecision now would cause many sectors to put off much needed investment until the course of the present discussions and any subsequent negotiations becomes clearer. With the real momentum building for these discussions to continue, it would be difficult now to turn them off without such a thorough airing.

That momentum for a thorough study of the implications of sectoral free trade is indeed building was clearly evident at CAM's conference and the spate of both news and editorial coverage of the issue from coast to coast.

Whether sectoral free trade is an idea whose time has come or just another good but impractical idea must await the results of studies being undertaken and negotiations between the main players — governments, labour and business on both sides of the Canada/U.S. border.

— by Bob McDonell
Canada Commerce

On the Other Side of the Border:

Canada/U.S. Trade Relations: Problems and Prospects

Indicative of the widespread interest in freer trade on both sides of the Canada/U.S. border, many of the delegates at the Canadian Manufacturers' Association (CMA) conference in Montréal flew directly to Provo, Utah, to participate in an American version of the free trade discussions at Brigham Young University.

Like many American universities, Brigham Young has a Canadian Studies program associated with its Center for International Studies and School of Management.

Canada was represented at the conference by Jacques Roy, Economic Minister of the Canadian Embassy in Washington; Bruce Wilkinson, University of Alberta; Robert Hawkins, Manager of the CF-18A Industrial Benefits Program, and Pierre-Paul Proulx, Senior Policy Adviser, both of the Department of Regional Industrial Expansion (DRIE).

Speaking on the subject of "Industrial Adjustment Policies in Response to Trade Liberalization", Mr. Proulx dealt primarily with structural as opposed to cyclical adjustment problems.

Canada's industrial problems, he said, were complicated by two back-to-back recessions, a slow growth environment and continuing upward pressure on interest rates as well as a record of poor growth in world trade. These factors have resulted in weakened incentives for business adjustment and a general resistance to any change including free trade.

Evidence of the need for adjustment in Canada, Mr. Proulx continued, was to be found in the low rate of return on investment, which has declined since the mid 1970s, and in the number of resource processing and manufacturing industries which are currently suffering from both cyclical and structural overcapacity.

While a recent DRIE study had shown that there was significant fundamental structural change in many sectors there was less than expected impact over the broad range of industrial sectors. More adjustment has occurred in the composition of the labour force and employment than in the composition of constant dollar value added and there is evidence of a slight upward turn in the rate of structural change in the service sector.

In comparing Canadian and American firms in 33 sectors, the study reported that from 1961 to 1979 there had been greater structural change in Canada than in the U.S.

Mr. Proulx quoted another study by the Institute for Research on Public Policy which compared changes in the composition of exports and imports in Canada, France, Germany, Japan and the United States. It was estimated that the U.S. had experienced the greatest and Canada the least change in its import structure.

Because of the openness of its economy, one of the major causes of adjustment in Canada is trade. These trade impacts can be separated into those caused by changes in competitiveness and those caused by changes in comparative advantage. Each requires a different solution. The first should be dealt with by broad fiscal and monetary policies and the second by fine tuning industrial-regional policies.

The IRPP study demonstrates neither a general increase in imports or a deterioration of trade balances translated into a drop in employment or the need for labour adjustment. Furthermore, it shows that trade measures which protect certain industries do not necessarily help to overcome a loss of international competitiveness.

A World Bank study of the adjustment process in 50 developing countries showed that those with the healthiest adjustment records placed heavy emphasis on export trade and domestic resource allocation through an increase

in investment and a decline in the consumption ratio of gross national product, and had only short-term and limited recourse to external financing. This suggests, Mr. Proulx continued, that incentives to export and relatively open markets, although producing greater vulnerability and shocks from imports, facilitate the process of adjustment.

Some special aspects which must be included in any analysis of adjustment problems in Canadian trade include the following:

- Two-way trade between Canada and the U.S. accounted for 20 per cent of Canadian employment and 30 per cent of GNP.
- Import penetration of the Canadian market, especially from the U.S. increased from 19.1 to 22.3 per cent from 1971 to 1982, at the total manufacturing level.
- Intra-firm trade, that is between parent firms and their subsidiaries increased from 67 to 79 per cent on the import side and from 63 to 81 per cent on the export side between 1961 and 1979.
- In 1979, of $26 695 million direct and portfolio investment in Canadian manufacturing by all non-residents, $22 365 million was held by American investors.

This American direct investment in Canada, in the form of subsidiaries, contributes, to a great extent, to the joint nature of adjustment problems and the potential solutions facing both countries.

Mr. Proulx then turned to current Canadian government policies:

"In a recent study for DRIE, D. C. McCharles concluded that U.S. subsidiaries play a significant wholesaling role, dominate imports of manufactured goods and trade primarily with affiliates. Branch plants would seem to be slower than their Canadian counterparts in adapting to the freer trade environment. McCharles suggested that they are diversifying rather than specializing and that this is the case much more than for Canadian firms. Needless to say, this difference in performance has to be verified further because of its significant policy implications.

"Although trade is an important cause of adjustment in Canada, there are other causes, some independent of trade, which should be taken into consideration. They include: technological change, shifts in comparative advantage, a slow shift in trade from Europe to the Pacific Rim, currency instability, the changing real price of major products, the growing convergence of industrial capacity (i.e. increased integration of investment, production, distribution), changes in policy at both the national and international level, etc.

"Canada-U.S. sectoral trade liberalization, should it occur, will also prompt significant adjustment activity.

"Constraints on the use of macro monetary and fiscal policies point to the need for more pro-active government micro-industrial-regional support of private sector initiatives to adjust.

"Canada-U.S. sectoral trade, should it occur, will prompt significant adjustment activity" — DRIE's Pierre-Paul Proulx.

"There are a number of government programs either industry or worker oriented that have an impact on adjustment, although most were not initiated solely for the purpose of industrial adjustment.

"DRIE programs aimed at aiding industries in the process of adjustment have been developed and modified in the context of the department's overall policy direction which proposes a private sector led approach to deal with the problems of adjustment with government programs acting at the margin. Rather than directing the industrial adjustment process, the various programs are designed to facilitate the necessary changes by the private sector.

"Overall, DRIE's industry adjustment assistance measures focus more on the effects that these measures can produce rather than the causes of the adjustment problem, be they trade, technology or otherwise. With regard to government adjustment assistance programs aimed at workers, most of the programs operate without distinction as to the cause. However, there are a few programs that do discriminate in favor of workers affected by trade-related difficulties and possess, as well, geographic or age restrictions.

"Our examination of the situation has indicated that significant adjustment needs have not been addressed in the last few years given two back-to-back recessions. It is suggested that it will be difficult to address these needs in the forthcoming environment of slow growth which has and will continue to stunt business incentives to invest.

"The objectives of a Canadian adjustment policy should be to facilitate the transfer of resources to more productive uses and to cushion social problems which arise in the process. The method used should be the reinforcement of market mechanisms *in advance*, through the removal of major obstacles to structural change. What is called for is a medium-term growth approach oriented towards the goal of higher investment, innovative applications of new technology and exports as a means to obtain industrial adjustment in Canada.

"The development of an equitable, efficient and politically efficacious policy package which must recognize the concentrated costs and widespread benefits of adjustment and the regional configuration of the problem will not be an easy task," he concluded.

The Brigham Young conference, like the second scene in a long play, did not allow for the formulation of conclusions concerning the nature of trade liberalization to pursue. Americans preferred a broad free trade approach and Canadians, primarily for political reasons, the narrower sectoral approach.

The conference served to identify adjustment to trade problems jointly shared by Canada and the United States. It also pointed to the benefits of the rationalization of industry on a North American basis to improve competitiveness.

In Mr. Proulx's terms, this is necessary to render possible a subsequent viable diversification of Canada's trade relations. The stage was thus set for scene three at the Brookings Institution conference in Washington.

A New, Multi-Purpose Air Cushion Vehicle

Three Ontario companies have achieved a signal success in their joint venture to develop and market a multi-purpose air cushion vehicle (ACV). The Model 140 has been awarded Department of Transport certification and the first craft has been shipped to a customer in British Columbia.

The focus of activity is Air Trek Systems Ltd., operating from the facilities of Omnitech Steel Works in Chatham, Ontario, with the support of consulting engineer Derek Jones of Jones, Kirwin and Associates in Hamilton. The Model 140 has its origins in a study contract awarded by the Lower Thames Valley Conservation Authority to Jones for the design of an ice-breaking ACV capable of resolving the flooding problems experienced in the Chatham area every spring.

After a flurry of activity in the 1960s, the pleasure ACV has virtually disappeared from the Canadian scene, probably due to its performance limitations and high cost. The larger ACVs used for commercial purposes have been developed through the aircraft industry and generally utilize aircraft structural techniques and gas turbine engines.

The Model 140, a 1 360 kg (3 000-lb.) payload craft, is aimed at the commercial market but is appreciably cheaper to both purchase and operate than its relatively sophisticated competitors.

The Air Trek Model 140 in winter conditions on Lake St. Clair.

Omnitech saw an opportunity to diversify its operations and utilize the experience gained from more than 34 years in the design, engineering, manufacture and installation of turnkey systems and special equipment for the automotive, food processing and agricultural industries. Air Trek was incorporated in 1982 and the first Model 140 was shipped last December to VPR Holdings Ltd. in Coal Harbour, British Columbia, to support the logging and mining operations in Quatsino Sound.

New commercial ACV design has overcome the slow speed controlability problems that limit ACV operations.

The lower cost of Air Trek's new ACV is achieved through the utilization of welded, marine grade aluminum and a 350-horsepower turbo-charged Caterpillar V-8 diesel engine.

The single engine has a toothed-belt, direct drive to the six-bladed, fixed pitch, ducted propellor and also powers an independently-controlled hydraulic motor which drives the two centrifugal lift fans. Directional control is achieved by a combination of vanes in the propellor air flow and vanes in the propellor duct, thereby resolving the slow speed controlability problems which have limited the operation of other ACVs.

Overall dimensions of the Model 140 are: length 11.2 metres (36.8 ft.) and width 5.7 metres (18.8 ft.). The longitudinal sponsons are hinged and can be folded, reducing the width to 2.8 metres (9.1 ft.) for transportation on a flat-bed truck or in a C130 aircraft, or removed for transportation in a standard 12 metre (40-foot) container.

The cockpit accommodates the pilot in the left-hand seat with the radar or crew-man on his right. The standard 16-passenger cabin can be rapidly removed leaving a 11.9 square metre (128 sq. ft.) well deck for general cargo. Long loads, such as drill rods or pipe, can be carried on the sponsons.

Particular attention has been given to northern operations. Diesels and hydraulics are used throughout the north so parts and maintenance can be readily obtained. General Manager John Curtin emphasizes Air Trek design features which allow the field replacement of skirt segments from the deck of the Model 140 — an essential feature for operations over tundra and loose ice where the craft can not be jacked up for repair.

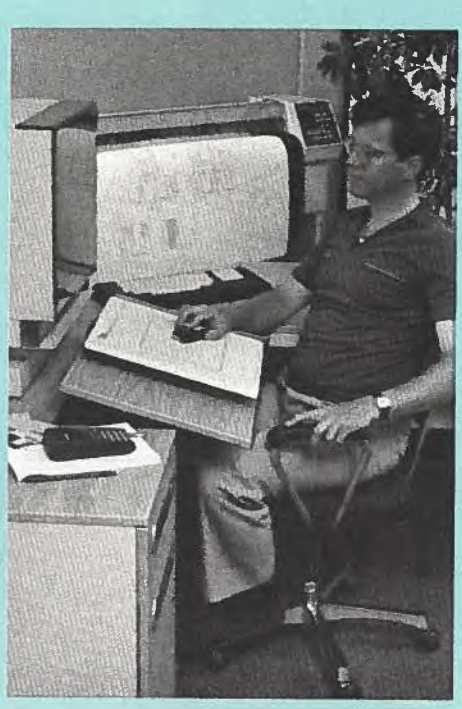
The Model 140 is a privately-funded development. Government assistance amounts to $4 000 from the Ontario government for stress analysis. The federal Department of Transport's Transportation Development Centre has recently awarded Air Trek a $15 000 contract to study ice-breaking techniques.

Mr. Curtin has an active enquiry list and forecasts applications for the Model 140 as a ferry, freighter, search and rescue, coastal patrol, and ice-breaking craft.

The address of Air Trek is P.O. Box 1224, Chatham, Ontario N7M 5L8; Tel: (519) 352-7040.

— by S.B. Shaw
Electronics and Aerospace Branch
DRIE

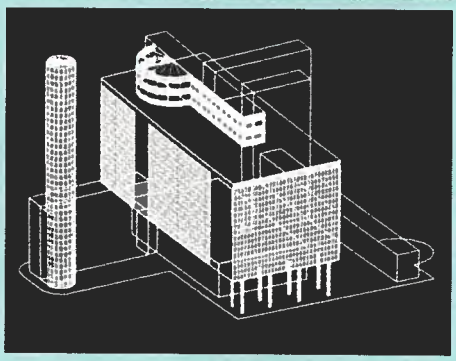
CANADIAN COMPANIES & PRODUCTS



Affordable Computer Aided Design

Computer aided design (CAD) and computer graphics have, until now, been expensive systems, out of reach of many small companies. Advances in hardware technology have resulted in standalone turnkey systems costing considerably less and Cymbol Cybernetics Corporation of Ottawa, Ontario, offers low cost, highly functional CAD systems.

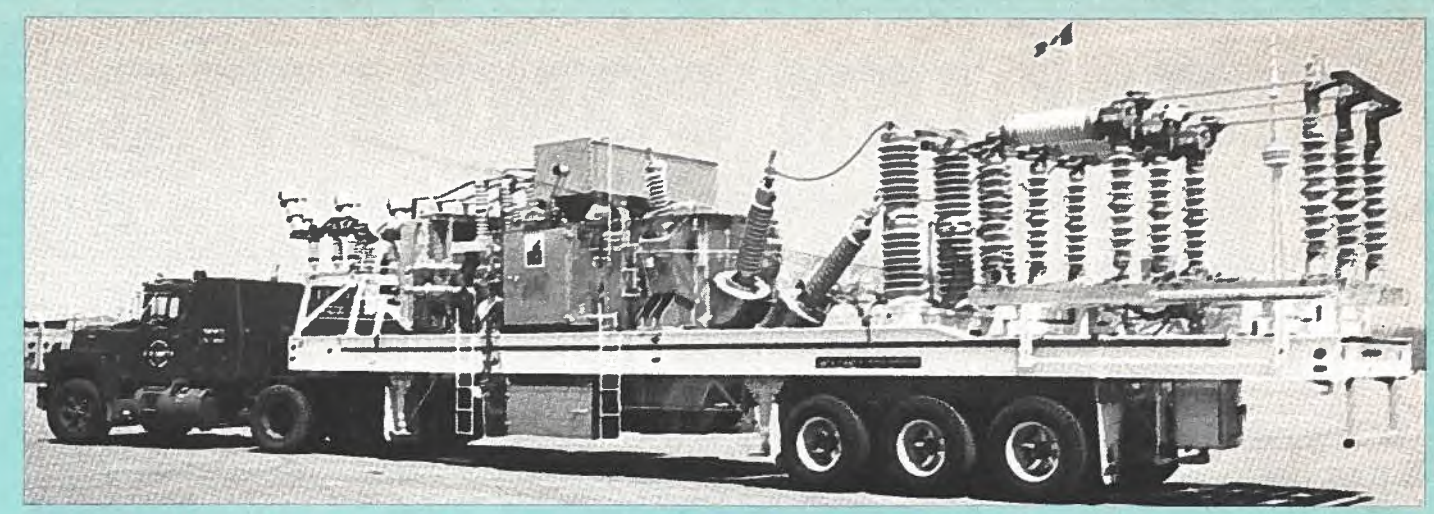
Cymbol's system is simple to use with a 48.2-cm (19-in.), high resolution graphic display terminal and a virtual memory capability to handle drawings of unlimited size. Software and hardware products are modular allowing for growth to more powerful and advanced systems.



Spray-Gun Takes Aim at Aerosol Cans

Aerosol Spray-Gun, a product designed to fight the inconveniences of using aerosol cans, has been developed by a Burlington, Ontario, company — Howard Ross Group Inc. The gun is a hand-held, portable working tool that can give professional results in painting, cleaning windows or spraying roses.

It snaps on to any aerosol spray can turning the container into a professional spray gun. A gentle squeeze of the trigger is all that is needed to direct a continuous, even spray over any surface. With a unique metal clip design, the Aerosol Spray-Gun snaps on and off easily while ensuring a tight bond to the can when in use.



Moloney Mobile Substations

With today's high costs of capital investment, many utilities achieve cost reductions using "World Class" mobile substations from Moloney Electric Corporation of Toronto, Ontario. The mobiles are easily moved from site to site and are designed to accommodate the various voltage requirements of the particular utility system.

Moloney "World Class" mobiles are used by electrical utilities around the world as the back-up to provide temporary power while equipment is being serviced or during emergencies to replace equipment that has failed.

New Tire Introduced

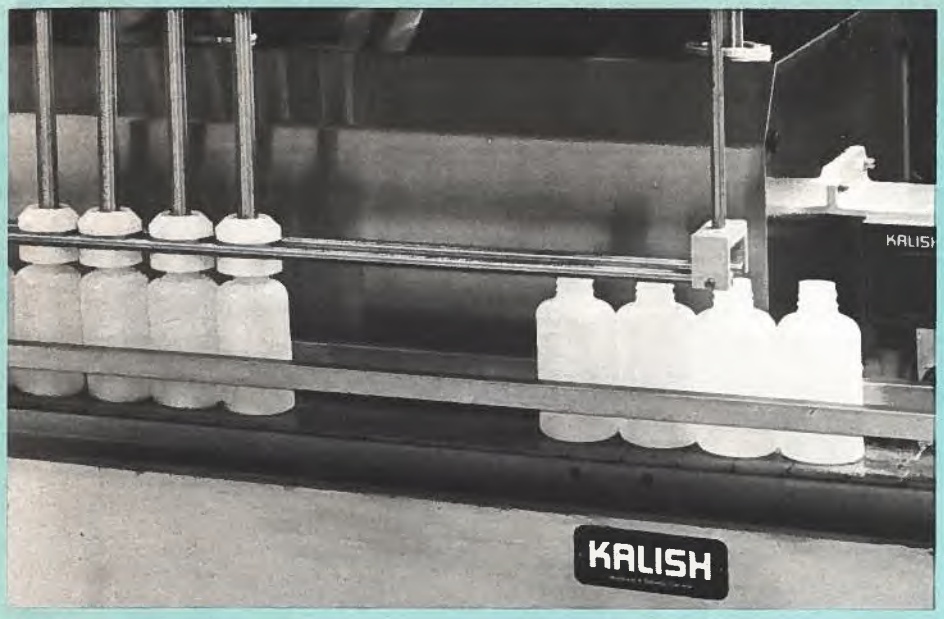
United Tire & Rubber Co. Limited of Rexdale, Ontario, Canada's largest independent tire manufacturer, introduces new tires — the 68/50-32 Super Swamper/Super Muskeg — for use on agricultural and forestry machinery where concern for environmental disturbance or high flotation are factors.

This tire has a 127-cm (50-in.) wide tread and performs on very low ground pressure (0.56 to 0.84 kg/cm^2 — 8 to 12 psi). Significant increases are shown in fuel savings, productivity and travelling speeds. Lower rolling resistance, increased climbing traction and longer tire life are some of the proven advantages. United manufactures this tire with full Kevlar protection and markets the rim with an exclusive bead lock system to prevent slippage.

Carrying for Canada

Every once in a while a product comes along that, like the paper clip, is so simple and handy, one wonders why it took so long. Such a product is the Hand Aid, a little plastic handgrip that clips onto the handles of paint cans, pails, cartons, shopping bags — anything with a handle that can hurt — and prevent the handle from cutting into the hand.

Developed and marketed by The Grab Bag Plastics. (Canada) Ltd. of Concord, Ontario, the Hand Aid is small enough to slip into a pocket or hand bag when not in use and sturdy enough to tame the toughest handle. Its design makes it equally useful for handling such items as sheets of glass, some thicknesses of plywood and even beer cases.



The Kalishtronic.

Kalish Fills a Need

For close to 20 years H. G. Kalish Inc. of Pointe-Claire, Québec, has been successfully marketing commercial filling machines for a variety of bottle and tubes. It now introduces two new pieces of equipment.

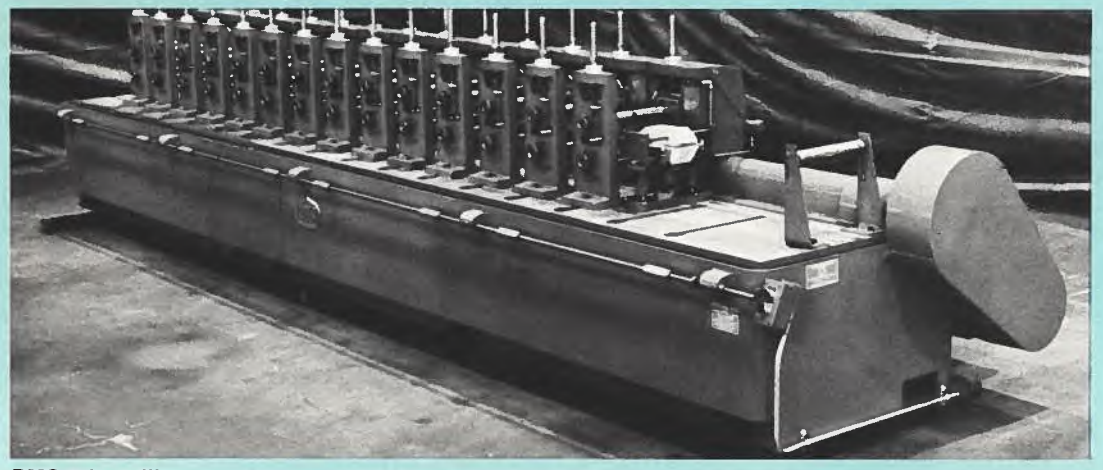
The Kalishtronic features a state-of-the-art micro-processor control which allows a customer to dial in fill volumes from a few millilitres to 30 litres. Its sanitary stainless steel gear pumps and shut-off nozzles, which close right at their tips to eliminate any dripping or stringing of product, are perfectly suited for all pharmaceutical, cosmetic, chemical and food products.

The Kalish Band-It places heat-shrinkable band material around container necks which are then shrunk by heat for a tamper-evident seal, answering an ever-increasing demand for security. It will operate at speeds of up to 100 containers per minute and on virtually any shape of container.

An Ashtray in Your Pocket

It is uniquely Canadian, inexpensive, easy to use and highly practical. It is the Extinguisher/Ashtray created and marketed by Pocket Ashtray Manufacturing Co. of Toronto. The small aluminum-lined paper pouch is a positive method of extinguishing cigarettes and matches. Open it and drop a lit cigarette inside and within five seconds the cigarette is put out by heat dissipation through the foil. Each pouch holds four or five cigarette buts and ashes.

As a bonus, the Extinguisher/Ashtray is an ideal vehicle for advertising or safety messages with more exposure time than book matches.



RMS tube mill.

New Mills for Uniroyal

Uniroyal Ltd., RMS Division, of Kitchener, Ontario, has been building special purpose equipment for the rubber, plastic, pulp and paper and automotive industries for more than 60 years. The company recently took on the Yoder line of roll forming and electric weld pipe and tube mills.

Roll forming mills are used by many industries to make formed sections such as automotive trim, storage shelving, metal partitions, filing cabinets. Electric weld pipe and tube mills are used to make welded pipe and tubing in steel, aluminum and stainless steel.

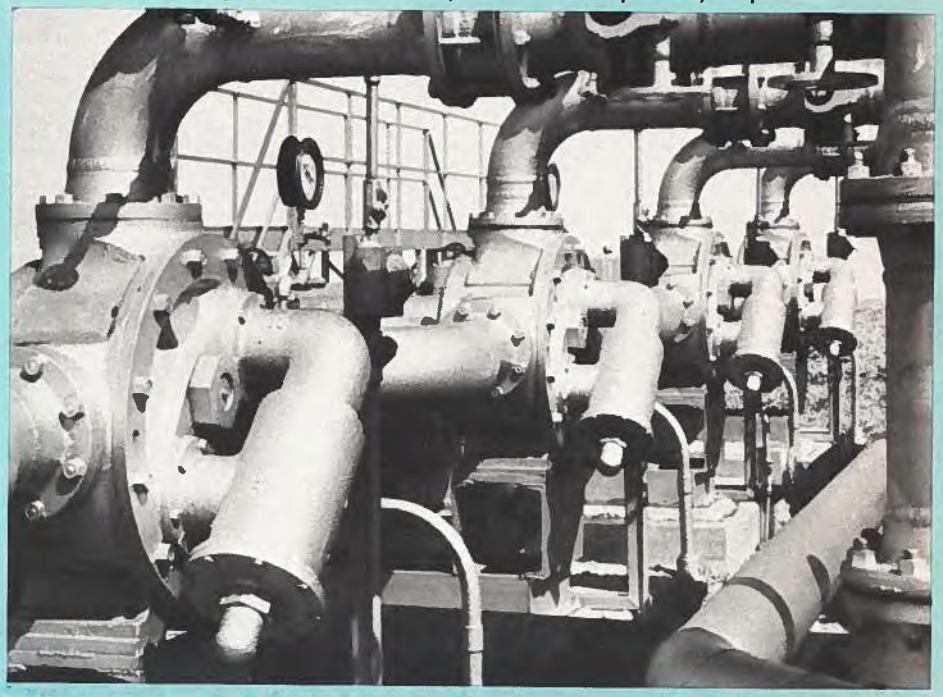
Uniroyal's entry into this field provides Canadian industry with a source for the tools to make the product.

Potable Fans for All Purposes
Established in 1954, Caframo Limited of Wiarton, Ontario, has been producing high quality products for many years. Small portable fans in 110 volt AC and 12 volt DC, humidifiers, fans, heaters and laboratory stirrers are some of the company's main products.

The company attributes at least 50 per cent of its growth to an aggressive approach to marketing. Quality design, cost control and a knowledge of how to export have enabled Caframo to enter the broad U.S. market.

Viking's Basic Pumps
Since 1924, Viking Pump Company of Canada Limited has manufactured three basic types of pumps in Windsor, Ontario — positive displacement rotary gear pumps; centrifugal pumps; and single stage turbine pumps.

With few exceptions, all Canadian industries, manufacturing plants, energy and petroleum companies, have at least one Viking pump in use and many have several. Bunker C oil, #2 fuel oil, liquid asphalt and resins are liquids commonly handled with Viking pumps. Vast people transportation networks rely on fuels pumped by Viking pumps — railways, bus terminals, automotive plants, airports.



Viking pump at Toronto International Airport.

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

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Burlington, Ontario
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Tel: (416) 681-0770
Telex: 061 8514 BOC BUR

Moloney Electric Corporation
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Toronto, Ontario
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Tel: (416) 534-9226

United Tire & Rubber Co. Limited
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Rexdale, Ontario
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Tel: (416) 675-3077
Telex: 06-989197
Cable: "UNITIRE"

The Grab Bag Plastic (Canada) Ltd.
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H. G. Kalish Inc.
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Pocket Ashtray Manufacturing Co.
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Caframo Limited
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Tel: (519) 534-1080

Viking Pump Company of Canada Limited
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Tel: (519) 256-5438
Telex: 024-77617

Canadian Microwave Route in Rwanda

Recent completions of major international telecommunications projects under the supervision of Canadian companies speak well for Canada's capabilities in the global technology community.

A case-in-point is a five-station microwave radio network now providing modern telephone service for the tiny Central African nation of Rwanda for the first time in that country's history.

The event bears considerably more importance than the simple inauguration of a new system — it goes a long way to demonstrating the expertise of Canadian telecommunications suppliers in the international marketplace.

In this case, the players were Microtel Limited and Cantel Engineering Associates, both of Vancouver, B.C. Cantel provided systems-design services in conjunction with Microtel which manufactured and supplied the equipment out of its Burnaby-based factory.

The project is distinguished largely by what *didn't* happen — nothing major went wrong. Generally, work in Third World countries is fraught with difficulties and set-backs, not to mention an extremely high risk factor.

"Jobs in these developing countries are full of potential pitfalls and some companies have 'lost their shirts' on such projects and have vowed to never return again," explained Colin Billowes, telecommunications specialist with the Canadian International Development Agency (CIDA) which financed the Rwanda project.

"We are impressed by how smoothly this job went. We expected things to go wrong and they didn't. The system was delivered on-time and within budget. We consider that an achievement," said Billowes, who recalled one company working in Africa that estimated $100 000 for project transportation costs and ended up paying five times that amount.

Other vagaries which can befall a company working in such relatively untried conditions are government upheavals; lack of skilled manpower and proper equipment for moving heavy machinery; lack of adequate supplies; terrorism; and a rainy season that makes major work virtually impossible for a substantial part of each year.

"I think the key to our success was primarily in the planning. We have a lot of overseas experience so we are able to pinpoint most potential problems before they arise. We also know that, no matter what, we have to 'expect the unexpected'," explained Microtel's John Arnold, who was project manager on the Rwanda job.

And the unexpected did arise. Landing in Mombasa, Kenya, with most of the major equipment and prefabricated microwave towers, Microtel found the country's gas reserves had been completely destroyed either by fire or sabotage. Moreover, the Kenyan government could not afford to replace those reserves for several weeks.

Still other events conspired to play havoc with the crew's production schedule.

The equipment was tied-up for several more months while Microtel waited for a truck convoy to travel through Uganda. The latter country remains highly unstable and highway piracy is a real and constant threat. Travelling in guarded convoys is the only solution to the problem, but the convoys are dispatched irregularly and only with government approval.

"Once we arrived in Rwanda we had a new set of problems, but these were more predictable and we were prepared for them," explained Arnold.

"Because there is such a scarcity of heavy equipment in the country, we had to rely on local manual labour to do much of the work. By Western standards, what they did was amazing."

Hundreds of local labourers were hired. They dug 11.5 kilometres of cable trench with picks and shovels, moving large boulders with ropes, felling giant trees with handsaws and filling in those trenches with thousands of cubic-metres of concrete mixed in small single-drum mixers.

"At another point we had to truck one of our relay stations to an elevation of 1 000 metres. It took us 90 minutes to drive 17 kilometres," described Arnold. "Then we had to unload the equipment using the crane-arm on the truck, which was something of a balancing act. At another point, the brakes failed on a crane we were using and we had a runaway down a fairly steep slope. Fortunately, no one was injured."

Despite these and other problems, Microtel delivered the system in 17 months, one month ahead of an already-tight schedule.

The network is completely integrated and provides 300 channels between the capital city of Kigali and each of the other major Rwandan centres of Tumba, Gisenyi and Cyangugu. Two mountain-top repeaters are located at Montjary and Karongi.

The system includes Microtel's 878F3 radio microwave, its 46A3-C radio multiplex and a System 51 supervisory control unit which monitors the entire network for problem isolation and diagnosis.

Through a service contract with CIDA, three Microtel technicians will remain in the country for at least one year and possibly two. They will be training seven Rwandan technicians to maintain the system once Microtel is gone.

The network should meet Rwanda's communication needs for the next 10 to 20 years. Already, call traffic has climbed to a rate of 1 200 per month which provides additional much needed revenue for the government whose annual budget is under $100 million a year.

"We're extremely pleased with the outcome of this job," said CIDA's Billowes. "We feel that such improvements to Third World countries' telecommunications are a key to their development but there has always been that risk factor. Now we feel a little more comfortable with similar future projects."

"We like to think this is the way all foreign jobs should go," said Arnold. "However, there's no denying the risk factor. The important thing is we anticipated those risks and allowed for all of them right from the start and that is why this project went so well." ◘

— by Kim Symons
Vancouver-based consultant

Lavalin — Canada's Largest Consulting Engineering Company

While it may not be a household word in Canada, like IBM or GM, Lavalin is almost as well known by contractors, project owners and governments — municipal, provincial and federal — from coast to coast in Canada and around the world.

For Montréal-based Lavalin Inc. is Canada's largest and one of three Canadian firms that are among the world's 10 largest consulting engineering services. The others are SNC and Monenco, both also of Montréal.

With a total of over 6 000 engineers, associated professionals and technicians in every major field of engineering and project management, Lavalin has undertaken massive projects in more than 90 countries and currently has projects in some 60 countries, mostly Africa, South America and the Pacific Rim.

Lavalin Inc. was established in 1936 but it was not until the early 1970s that the firm really took off under its new president, Bernard Lamarre, now chairman of the board. Through acquisitions of some of Canada's larger engineering firms in a wide range of disciplines, in just over a decade Lavalin has grown from 40 to 6 000 employees, a truly remarkable record.

The range of its services is just as impressive — from general projects to transportation, oil and gas, industrial and mining, geotechnical sciences, airborne geophysics, mapping, urban and regional planning, environmental assessment, economic and social studies and planning, computer sciences and agriculture — and includes planning, engineering, project management, procurement and construction.

Enthusiasm and Dedication

To discover how such a small firm could, in a relatively short span of years, become one of the world's largest, the writer spent several hours over two days recently at Lavalin's headquarters in Montréal interviewing company executives. The story that emerged was one of enthusiasm and dedication but it was also one of excellent organizational skills in focusing the energies of a worldwide organization to the job or, should we say, scores of jobs at hand.

Two factors were of paramount importance in the company's expansion. The first was the amazing growth of Québec's infrastructure in the late 1960s and early 1970s as the province emerged from its largely rural-based past into the 20th century. With a vengeance, Québec began to provide that visible infrastructure and put in place roads, sewers, waterworks, schools, hospitals, airports and, of course, Expo 67 and the Montréal Olympics.

Unlike many of the other provinces which had slowly developed their own in-house engineering expertise, Québec turned to the private sector. As a result, these were heady days for the purveyors of consulting engineering services. But not content to rest on its local achievements, Lavalin went one step further and entered the export market with its services.

Building on its strength in major Québec projects, it brought to Francophone Africa, its first overseas market, North American technology in the language of the area — and it was an easy step for the bilingual staff to extend this into the English-speaking areas of Africa and then to other parts of the world. Meanwhile, through the purchase of other large Canadian engineering firms — Shawinigan, MacLaren, Foundation Engineering (Fenco) — and a host of smaller firms, it acquired the skills necessary to undertake almost any sized project, anywhere.

Foreign Acquisition

Its latest foreign acquisition was the engineering and research and development arm of Lafarge Ciment C[ie] of France, one of the world's biggest integrated cement companies, well known in Canada for its purchase of the former Canada Cement, Canada's largest. In addition to the advanced technology in the cement and fine chemicals field, the acquisition gives Lavalin a high profile in the French and European Common market.

Although as a privately owned company Lavalin does not produce a consolidated financial statement, Chairman Lamarre in the company's latest annual report (1982) set the firm's fee turnover for the year at $230 million,

Pipeline designer working on models.

exclusive of construction activity. Of this a quarter to a third is generated by Lavalin International in the export market according to vice-president, Jean-Claude Villiard.

And for Villiard, the exciting part of its international business is the opportunity of sourcing Canadian goods for their overseas projects . . . a natural extension of the provision of Canadian expertise and technology. While a Canadian Industrial Development study has shown that in 1980 the spin-off effects of Canadian overseas engineering services contracts was in the neighbourhood of 1 to 1 (that is one dollar of spin-off for procurement for every dollar spent on engineering services), Lavalin's experience has been much better and is improving all the time as Canadian suppliers and manufacturing are becoming more competitive on world markets. In fact on some Lavalin projects, the spin-off is closer to $20 for every dollar of front-end engineering, planning and project management costs.

Prototype production plant for MacMillan Bloedel.

Competitive Field

In the highly competitive field of international development, such a trend will have a significant effect on Canada's overall ability to increase its share of development dollars, provided Canadian suppliers can remain competitive.

To maintain effective control of the worldwide operations of Lavalin International, the company's international arm, each of the five regions has been assigned a vice-president at head office in Montréal who acts as regional anchorman. And it maintains regional offices in Bogota, Colombia, for South and Central America and the Carribean; in Paris and Abidjan, Ivory Coast, for Western Europe and Francophone Africa; in Rome and Lagos, Nigeria, for Anglophone Africa; in Djakarta, Indonesia, and Manila, the Philippines, for Asia and the Pacific Rim. There is no permanent office yet for the Middle East and Eastern Europe.

However, no matter how welcome export business is, the real basis of the

Hydra submersible, workhorse of Lavalin Ocean Systems fleet.

company's success is here at home in Canada. In spite of the backing most international contracts receive from various international development programs, the United Nations, the World Bank and the various regional banks, as well as from Canada's own Canadian International Development Association and the Export Development Corporation, large overseas projects can be extremely volatile and subject to risk. For this reason, Lavalin tries to keep a balance between Canadian and export billings from three or four to one.

Overseas Opportunity

For Armand Couture, group vice-president of Lavalin Inc., the overseas market presents an opportunity for the firm to undertake additional projects

Riadh El Fath monument in Algeria.

when Canadian-based projects suffer a downturn as happened in 1982 sparked by two back-to-back recessions. This, in turn, allows Lavalin to retain its expertise in the 10 process and technical divisions or associated companies which maintain full responsibility for projects in their covered technical areas at all locations in Canada and abroad. However, in each of the various regions of Canada served by Lavalin, one of these technical or associate companies takes the lead role in general engineering for its respective area.

Lavalin is also a major player in consortia where it joins with local or international firms to undertake massive projects or assists in the transfer of technology from or to world clients. To take advantage of the wealth of experience in oil and gas and offshore engineering, Lavalin has recently formed Lavalin Offshore Inc.

"The new company will be the principal Lavalin entity that searches for bids on contractual work offshore," says Art Smith, president. According to Mr. Smith, directing Lavalin's total offshore effort through one company will enhance Lavalin's strength and diversity in this new and fast growing area of engineering. Under the Lavalin Offshore umbrella will be some of the largest engineering operations in Canada: Fenco Engineers, Arctic and ice technology; Partec Lavalin, gas and petrochemical engineering; Petrotech Lavalin, subsea pipelines; Geocon, geotechnical engineering; Global Trading, procurement of drilling and processing equipment; and other associates in a well-rounded package.

Joint Ventures

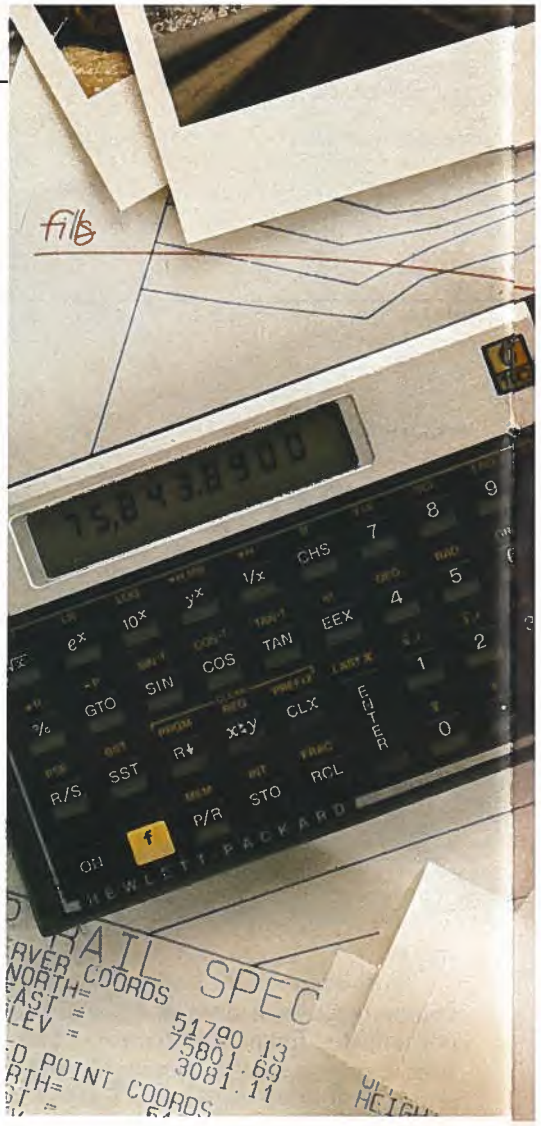
Part of this development are the joint ventures with American firms, namely Lavalin Offshore's association with Earl and Wright of San Francisco and the Houston-based Solus Ocean Systems. Earl and Wright-Lavalin is a successful partnership working on design and procurement for Gulf Canada's Beaufort Sea projects and conceptual studies on the size and cost of platforms off Nova Scotia's coast.

Lavalin Ocean Systems — the Solus venture — has made great progress in manned and unmanned diving vehicles and engineering and maintenance of drilling vessels. Set up in the fall of 1982, it is already the largest submersible vehicle operator in Canada.

Lavalin's other technical divisions are no less impressive. Fenco Engineers Inc. is the world leader in ice technology. Based on the work of Dr. Hans Kivisild, Fenco engineered the first floating ice platforms and ice roads in the Arctic Archipelago.

Petrotech-Lavalin contributes marine pipeline studies and technology. It recently completed a study in the Gulf of Thailand. This study on the cost and design of subsea pipelines, offshore compression platforms and onshore compression facilities, was accepted by the Asian Development Bank.

And Lavalin Offshore has become the subcontractor to North Atlantic Contractors — a venture of Norwegian Contractors, Lundrigan Group Ltd. and Dillingham Contractors — to provide



engineering services for concrete structures off the coast of Newfoundland. So while Lavalin Offshore may be a new entity, its offshore experience runs deep and should serve it well in handling new bids and contracts.

Bread and Butter

While offshore and foreign contracts, such as the completion of the "Parc de la Victoire Riadh El Fath" in Algeria, may be the glamour projects, the more mundane water and sewer, transportation and other infrastructure projects here in Canada are the bread and butter.

Reflecting the increasing concern with environmental issues, Lavalin soil surgeons were recently commissioned to decontaminate the results of a 1979 ecological disaster in which two tanks containing three million gallons of water, oil and tar were accidentally dumped during demolition of the LaSalle Coke plant in the Montréal suburb of Ville LaSalle. No standard technique allowed for the satisfactory treatment or elimination of these contaminents, so consid-

erable research and development was necessary. This was carried out by Lavalin's André Marsan and Associates who had the necessary R&D facilities.

An intensive field study was conducted early in 1983 to pinpoint the extent and depth of the contamination,

Kitimat methanol plant.

a job akin to looking for the proverbial needle in a haystack since as a stop-gap measure the entire area had been land filled up to two metres above the base of the former tanks. Once the extent of contamination was determined — it involved a four-hectare area contaminated to a depth of from two to six metres or some 45 000 cubic metres — solutions were sought. Given the enormity of the cleanup operation, only one solution was feasible and adopted.

This entailed:

- determining a two-hectare work area on the contaminated surface;
- extracting the large pieces of debris, pipes, pieces of concrete, etc.;
- moving contaminated soil from the periphery into the work area;
- turning and draining the soil in 10-centimetre layers in order to stabilize and partially oxidize its hydrocarbon content;
- piling the stabilized soil at the edge of the work area;
- transporting and compacting the stabilized soil in three specially designed basins.

The basins themselves were designed to hold 54 000 cubic metres of the contaminated soil. To assure that the bottoms and sides of these basins were impermeable, hundreds of tests were conducted to find a suitable liner . . . Finally, the high-density polyethylene HDPE was chosen and two layers of impermeable clay to shield the plastic were laid down. To prevent accumulation of rainwater, each basin, once filled, was covered by the same synthetic membrane and a layer of arable soil.

To prevent groundwater contamination a drain ditch was constructed around the site as well as several test wells for permanent monitoring. The water so collected was then purified in on-site portable water treatment units to remove the gathered contaminants.

The project is bound to have many spin-offs in the future as contaminants become an ever increasing danger to the human environment.

Environmental Issue

Meanwhile at the other end of the country, MacLaren Plansearch Corp., another Lavalin division, was engaged to attack another type of environmental issue.

To meet the objections of Parks Canada, who maintained that the construction of a second track through Rogers Pass, B.C., was going to greatly decrease the beauty of Glacier National Park, Canadian Pacific Ltd. engaged MacLaren Plansearch to assess the possible impacts and reduce them.

To assess the visual impact of the work through construction and afterwards, MacLaren Plansearch made extensive use of computer graphics. Various engineering, environmental and visual concerns were balanced against each other to yield the best solution.

In some cases, significant adverse visual impacts resulted in major changes to the proposed design, while in many areas only small adjustments were required. In a few locations engineering or environmental constraints were so severe that only minor changes could be made.

Oil drilling operations.

The final result in the process was that Parks Canada officials were satisfied with the process — one that will become more commonplace as environmental groups take up battle against visual pollution in our natural vistas.

Whether across Canada or around the world, Lavalin has positioned itself to participate in any upswing in development throughout the 1980s. This could mean a great deal for the company's home province of Québec and the rest of Canada, for in the words of Armand Couture, "Next to cost competitiveness, our greatest challenge and aim is to bring as many procurement dollars as possible back to Canada."

— by Bob McDonell
Canada Commerce

The Tall Ships

Jacques Cartier reached Gaspé on July 24, 1534, 85 days after leaving Saint-Malo, France. His mission: to explore the coast around Newfoundland. Thus 1984 marks the 450th anniversary of Cartier's landing in Canada.

The great explorer and geographer sailed into Gaspé Bay, landed and planted a cross, claiming the country in the name of King Francis I. On this first voyage, Cartier had two ships and 61 men.

Unfortunately, he found neither gold nor a passage to the west. However, he did make contact with the Iroquois and Chief Donnacona, and accurately charted the Gulf beyond Newfoundland. It was not until his next voyage, next year, that Cartier explored the St. Lawrence River, sailing up as far as Hochelaga (Montréal), returning to Stadacona (Québec) for the winter.

French colonization began in earnest in the early 17th century. In 1608, Samuel de Champlain, who was not on his first voyage to Canada, built the "Habitation", the first permanent settlement at Québec. The Indians called the place Stadacona, which means "the place where the river flows between cliffs", after the rocky promontory which overhangs the St. Lawrence.

But if the name Cartier is still unfamiliar to many Canadians, it is perhaps because even after the Conquest in 1763, only French Canadians maintained a special regard for the ancient French régime.

By the early 18th century, New France, which began with Cartier, had assumed the dimensions of a veritable empire. Travelling along the waterways, the French took possession of the greater part of present-day Canada (as far as the Rocky Mountains) and more than half of the present territory of the United States, from the mouth of the St. Lawrence to Louisiana via the Great Lakes and the Mississippi, Ohio and Illinois rivers. After the Conquest, the French concentrated in Québec to resist assimilation. In 1760, 650 000 French inhabitants shared the continent with 1 600 000 English settlers.

A half-century later, the city of Québec was prospering as a result of its port activities. The port was the centre of the timber trade and shipbuilding. This vitality is easily explained. In 1807, Napoleon ordered a blockade of European ports. Britain, cut off from its timber sources in the Baltic countries, turned for supplies to its colony of Canada.

The export of timber, mostly oak and pine, soon became the economic foundation of the Québec City region. In 1851, its shipyards employed nearly five thousand workers. Between 1840 and 1871, there were 1 477 ships of all types built there. Until about 1850, the Port of Québec had a distinct advantage, being the last port upriver accessible to large sailing vessels.

The historian Ivan S. Brookes, in his book *The Lower St. Lawrence*, says that 779 ocean-going sailing ships visited the Port of Québec in 1875. By 1900, steamships had made their appearance and, in the years that followed, the tall ships gradually disappeared from the Québec City scene.

The return of the "Tall Ships" to Québec City this summer will give tourists an opportunity to relive that glorious era. The architecture of the Old Town, which resembles that of a 17th-century Norman port, will be a perfect setting for the giants of the sea. The historical monuments, the old buildings and the narrow, picturesque streets of the Upper Town will provide the backdrop for the largest gathering of tall ships in North America.

Exhibitions, cultural and scientific activities, ethnic festivals, concerts and stage shows will be held for the enjoyment of visitors. Québec 1984 has been planned to appeal to all ages and all tastes, to allow everyone to savour the friendly atmosphere of this unique assembly of peoples.

Activities will recall the great days of the Port of Québec in the last century — shipbuilding and the lumber trade. Visitors will be able to see the tools and methods of the boat builders of that era as a boat will be constructed on the spot over the summer.

The science and technical pavilion offers visitors a cruise on the St. Lawrence in a simulation room where sounds and sights will create the impression of being on a sea voyage at night.

The Vieux Port de Québec will be the meeting place where the Corporation Québec 1534-1984 will welcome the hundreds of thousands of visitors. La Société du Vieux Port, commissioned by the Canadian government, directs this unique site which will serve commercial, residential, cultural and recreational purposes.

The Vieux Port, with an area of 33 hectares, has four kilometres of pathways. Tourists can choose between history, major stage shows, technical sciences or simply to stroll along the docks or relax in a shady corner.

Hotels and inns will evoke the atmosphere of the old country, and restaurants in historic residences will serve the finest French cuisine. Fine eating aboard floating restaurants will be a feature not to be missed during the 1534-1984 celebrations in Québec City.

Master mariners or fresh water sailors will have the use of a magnificent pleasure boat harbour. More than 400 boats will be able to moor in the Bassin Louise. Unquestionably, the new port will give an important boost to nautical sports in Québec and will promote the growth of sailing in the region.

The rebirth of the Vieux Port de Québec follows several government studies. The Canadian government's contribution to the local economy will directly create 2 500 jobs, mainly in the building sector, while there will be nearly 400 permanent and 100 seasonal jobs, once the project is completed. In addition to the $110 million put up by the federal government, funds from private enterprise could reach another hundred million.

The "Old Port" under construction, summer 1983.

From the summer of 1984 on, the Vieux Port de Québec will also be the site of the most impressive annual floating boat show in Canada. The first show will take place from August 12 to 19 along with the celebrations to mark the 450th anniversary of the landing of Jacques Cartier and will coincide with the start of the Transat TAG Québec — Saint-Malo.

With 600 metres of docks, the Québec boat show will be able to welcome 150 full keel sailboats and boats of more than eight metres. This show will compare favourably with others of its kind on the east coast of the United States, including the ones at Boston and Stanford, Connecticut.

Four big spectacular events head the list of nautical activities at Québec 1984 — the Return of the Tall Ships, the Labatt Blue Flying Sails, the Challenge Labatt Canada race and the Transat TAG Québec — Saint-Malo.

The Return of the Tall Ships, without doubt the most spectacular event on the program, will feature a sail-past in front of Québec City by about 60 magnificent sailing ships. The first fleet of ships from several European countries left Saint-Malo last April 15 and will make its way to Brest, the point of departure for a long voyage on the high seas. After calling in at the Canary Islands, the ships will be joined at Ber-

muda by a second fleet of tall ships from the three Americas and will set sail for Canada. They will call at Halifax and Gaspé before getting under way for Québec on June 20.

These queenly vessels from the last century will be moored at the Vieux Port from June 25 to 30, when the public will be able to visit them. On June 27, more than 3 000 crew members from the Tall Ships will parade through the streets of Québec and, after five memorable days of festivities, the Tall Ships will salute the city for a final time with an incredible sailpast on the St. Lawrence on Sunday, June 30. Most of the ships will then sail to Sydney, Nova Scotia, to start the return voyage. They are expected at Liverpool, England, in early August.

A record number of ships, for modern times, are participating in the gathering at Québec next summer, Richard Drouin, president of Corporation Québec 1534-1984, recently stated. Up to this time, 65 "cathedrals of the sea" in class A, B and C (that is from 15 to 117 metres) with traditional rigging, have confirmed their arrival at Québec.

Another fleet of about 10 of these beautiful sailing vessels, several from Class A, will stay at Québec for the full 63 days of festivities. This permanent "armada" will give all the tourists, whenever they visit Québec this summer, a chance to admire the Tall Ships.

The Labatt Blue Flying Sails is the most important series of regattas for light sailing craft (windsurfers, Lasers, catamarans) ever organized in North America. Picture 500 windsurfers, bobbing in a sun-drenched bay. This pageant of small sailboats will be a dazzling, colourful spectacle. The competitive regatta is no longer just for the few initiates because, for the first time in history, the events will take place close to shore, in Beauport Bay, which will make them all the more exciting to watch.

The pan-Canadian Challenge Labatt Canada race is another important attraction for lovers of sailing. It is the first major multiple-leg race held in Canada. It will cover a distance of 1 600 kilometres between Toronto and Charlottetown, Prince Edward Island. Ten teams, one from each of the Canadian provinces, will compete — a friendly rivalry among sailors from the same country. More than 500 sailboats from across North America will participate in the Labatt St. Lawrence Offshore Championship race, the second stage of the Challenge.

Finally, the ultimate competition, the final tribute to Jacques Cartier, the transatlantic Transat TAG Québec — Saint-Malo race will start with great ceremony on August 19, 1984. You will count yourself lucky to be there on that historic Sunday, on the promontory of Québec, to admire the biggest single hulls, catamarans and trimarans in the world which will undertake this long odyssey. This race, a modern-day phenomenon, closely associates human resources, technology, speed and the sea. Fifty of the most modern boats will keenly compete over a course of 3 000 nautical miles, of which 600 are in the St. Lawrence, another first. The prize money of $275 000 is the largest sum ever offered. Of this, $100 000 goes to the winner. The start of this race will be extremely colourful and will make the mighty St. Lawrence better known to foreign crews.

The transatlantic race promises some matchless thrills. The experts are talking of a fight to the finish between catamarans and trimarans. No other transoceanic race has had so many large boats in it. Among the plastic and kevlar monsters capable of reaching speeds of 30 knots (55 km/h) are the *Charente-Maritime II* (catamaran, 25.9 m, skipper: Pierre Follenfant); the *Fleury-Michon* (catamaran, 26 m, skipper Philippe Poupon); the *Charles-Heidseick* (trimaran, 25.9 m, skipper: Alain Gabbay); the *Crédit Agricole II* (catamaran, 20.4 m, skipper: Philippe Jeantot); the *Radio-Canada* (trimaran, 17 m, skipper: Pierre Sibéril); and the *Formule TAG* (catamaran, 24.38 m,

Among the Class A ships which will be there are West Germany's *Gorch Fock*, a 90-metre, three-masted ship with a stylized albatross figure-head; the *Simon Bolivar* from Venezuela, an elegant 82.2-metre brigantine; the grande dame of them all, the *Gazeila Primero*, a century-old ship anchored at Philadelphia; the *Libertad* from Argentina, a streamlined ship; the *Sagres II* from Portugal; the training ship *Danmark*, a three master, 77.1 metres with 26 sails; the *Empire Sandy*, 59.7 metres, from Toronto. Imagine as well a great Russian vessel, the *Sedov* or the *Krusenstern*, running alongside the three-masted bark of the American Coast Guard, the *Eagle*; and, leading them all, the *Bluenose II*, a trim 49-metre schooner from Nova Scotia representing Canada along with the *Our Svanen*, a 40-metre training vessel.

skipper: Mike Birch). The *William Saurin*, with the French skipper, Eugène Riguidel, had to have her hulls shortened so as not to exceed the length limit of 25.9 metres; before the operation she measured 26.5 metres!

On September 9, 1983, at Québec, Prime Minister Pierre Elliott Trudeau, patron of the *Formule TAG*, christened the ship before her first trip on the river. The *Formule TAG* set no fewer than 10 records at the time of her official launching. Greatest overall length: 24.38 m. Highest mast: 26.52 m. Largest spinnaker: 359 m^2. Most expensive project: $1.2 million.

Five months after her launching at Québec, *Formule TAG* has already lost the title of "largest racing catamaran in the world". Two other twin-hulled giants, the *Charente-Maritime II* and the *Fleury-Michon* will soon be completed by their French builders, proudly carrying hulls of 25.9 metres, the maximum length accepted for the Transat TAG Québec — Saint-Malo next summer. So there are two "Formula Ones" of the sea longer and wider than *Formule TAG*, which still has a respectable length of 24.38 metres. The *Royale*, another giant French catamaran, is currently under construction and will be slightly longer than *Formule TAG*.

The building of these boats for competition is evidence of the gigantism which is penetrating transoceanic racing more and more, and of the advanced technology in the field of sail.

HMCS Oriole.

The contribution of the Canadian government to the events in Québec is not limited to financial and technical aid. The Chief of Maritime Command, Vice-Admiral James C. Wood, announced last February 22 that the *Oriole*, the only sailing ship in the Canadian Navy, will be at Québec next summer. Home port for the 32.08 metre ketch is Esquimalt, near Victoria, B.C. She will make the return voyage via the Panama Canal, changing crews 10 times. About 150 Canadian men and women, recruited from the Canadian Forces across the country, will have a chance to know their way around a sailing vessel.

The Canadian navy will escort the Tall Ships from Bermuda to Québec. Finally, Canadian destroyers and warships will join those of France and the United States which have already announced their intention to drop anchor at Québec during the summer of 1984.

Safety of navigation on the St. Lawrence is essential to the success of Québec's celebrations. Some 240 licensed pilots from the Laurentian Pilotage Authority will provide technical help and special pilotage for the Tall Ships. Their services will be especially appreciated when the ships go up and down river on the occasion of the great sail-past on June 30. The immense job of coordination is already under way and, with pilots at the helm, the great ships can brave the tides, fog, currents and the twisting channels strewn with shoals.

Québec 84 is a passport to the history, traditions, culture and technology of the fascinating world of water. It is the discovery of one of the oldest cities in Canada and the warm hospitality of its citizens. Québec 84 invites men and women from around the world to live an unforgettable event evoking four-and-a-half centuries of maritime history. It is an adventure which is unique in the world.

Finally, it would not be fair to omit two important names associated with the initiatives that led to the transoceanic Transat TAG Québec — Saint-Malo race. We pay tribute to Gaston Truchon and André Langlois who launched the idea of the race several years ago. An impossible dream, so said some at the time, soon a reality thanks to the tenacity of two Canadians.

1984 will be a year filled with historical events from coast to coast. The

Return of the Tall Ships, hub of the touristic activities in Canada in 1984, will have important economic spinoffs for the province of Québec. According to organizers' predictions, the total brought in by all activities should be about $100 million. The federal Minister of Supply and Services, Charles Lapointe, is responsible for overseeing the federal government's involvement in the celebrations at Québec City.

The federal Department of Regional Industrial Expansion, in collaboration with Tourism Canada, has announced that, starting in May, nine marine shelters will be available for the use of pleasure boaters between Québec and Sept-Îles along the St. Lawrence. The $9-million project began last fall with the dredging of certain harbours, construction and enlarging of quays at Sillery (mooring places increased to 355 from 305), at Neuville (from 60 to 85 places) and at Tadoussac (from 50 to 80 places). Thanks to completed construction Lévis can welcome 100 boats, Saint-Laurent on the Île d'Orléans, 100; Cap-à-l'Aigle, 55; Île-aux-Coudres, 50; and Sept-Îles, 100.

The events in Québec will have immediate spinoff effects in Metropolitan Québec and the shock waves should spread later to the towns along the river, to the rest of the province and to all the areas in the tourism field. One can foresee an explosion of celebrations since the whole of Canada celebrates the Year of Tourism this year. The atmosphere created by the multiple activities organized from sea to sea should contribute to the unity of the country.

The rise of the tourism market is linked directly to hospitality. High costs hurt tourism but are not the only thing that can discourage visitors. In many cases a warm welcome can make a tourist forget about a trip's expenses. In the last analysis, friendliness is the priority in the tourism business. It is no longer enough just to put out pretty post cards of our mountains, waterfalls, lakes and museums. Competition affects tourism as much as other industries.

What marketing strategy will be adopted after the events of Québec 1534-1984? That is the real question which those responsible for tourism in Québec must ask themselves. The region has experienced a slowing down in the tourism industry for several years and that is due in part to the fierce competition from certain American cities in New England. The old capital must learn to sell her touristic attractions abroad.

Many tourist operators do not have the professional training to organize tour packages. But package deals, which

are scarcely developed, could help increase the length of tourists' stays. The soon-to-be-created Tourism Board for the Québec City area will, we hope, make it possible to plan an organized tourism strategy.

In 1983, 14 per cent more Canadians travelled to the United States while the number of American tourists in Canada increased by only 1 per cent. The deficit of about $1.5 billion re-

Interview

Q. *Mr. Spencer, we see Tanzer boats in many marinas around the country. What type of boat do you make, and how many people does your company employ?*

A. We make fibreglass sailboats measuring from 4.8 m to 10.3 m (16 to 34 feet) long. Depending on our order books, our facilities in Longueuil employ an average of 50 to 70 people. Tanzer Yacht Inc., our subsidiary in North Carolina, for its part, employs between 20 and 30 people.

Q. *What is your estimated current business turnover?*

A. Tanzer's business turnover stands at approximately $6 or $7 million.

Q. *How does your sales service operate?*

A. Tanzer has a well-established network of sales outlets in Canada and the United States. Sales of our products in Canada are handled by 30 distributors and, given the numbers of our American customers, we have almost 50 distributors catering to our southern neighbours.

Q. *In recent years, there has been much talk of exports in business circles. Do you intend to penetrate any new markets abroad?*

A. No, for a number of reasons, the main one having to do with transport costs. Overseas markets are of interest only to manufacturers of large boats. If you sell a $125 000 boat to a European customer and it costs you $10 000 for transportation, that sum accounts for 8 per cent of your selling price. As we make less expensive boats, the percentage for transport costs would quickly become prohibitive since a boat which retails for $30 000 costs almost as much to transport as a $125 000 boat. A 33 per cent freight charge soon gobbles up the profit margin. Then there is the exchange rate on the Canadian dollar, which is no help to us. In our case, the Canadian and American markets are our best customers.

Q. *Do you anticipate expanding, enlarging or modernizing your facilities?*

A. The Canadian boat manufacturing market produces a mere $350 to $400 million and is divided among approximately two or three thousand manufacturers. As the number of customers is limited, we have no plans to expand for the time being.

corded in this country is proof of a general deterioration of our tourism industry. We must find ways of attracting more foreign visitors and encouraging them to prolong their stays.

The general increase in consumer spending linked to sailing demonstrates the health of the nautical industry in Québec and elsewhere in the country. The democratization of the sport is part of the explanation for this recovery. Shared ownership, the increased accessibility of boat clubs and choices of location, have also favoured the boating industry and boating is a diverse field. Although events at Québec 1534-1984 put the stress on sail, that is only one important part of the market along with motor boats, canoes, row boats and pedal boats.

Québec has some 87 pleasure boat building enterprises which employ about 800 people. It is an industry of small manufacturers, since none employs more than 200 workers; four employ between 100 and 200 persons; 13 between 25 and 100 workers; and 54 have fewer than 25 employees. Ontario is the leader in Canadian manufacturing, followed by the provinces of Québec and British Columbia.

The Bénéteau, Jeanneau, Jouët, Dufour and Gib'sea companies represent serious competition for Canadian sailboat manufacturers. The reputation of these French boats has been magnificently upheld by many specialized magazines, particularly in Québec. Despite protectionist measures adopted by the Canadian government, one cannot deny the amazing penetration of these French boats into the Canadian market.

The levying of a tax of 18.8 per cent on boats of more than 9.14 metres and of 15.9 per cent on smaller boats seems not to be enough to discourage Canadian consumers. The American import tax, which is only 4.5 per cent, has favoured the sale of Canadian boats in the U.S.

The three principal Canadian sailboat builders, C & C Yacht Sales Ltd. in Niagara on the Lake, CS Yachts in Brampton and Hinterhoëller Yacht in St. Catharines, all in Ontario, say they have filled their order books for 1984 since the Toronto boat show, and think they will export up to 70 per cent of their production to the United States. That is the case with C & C which must build more than 500 boats in the course of the year.

To compensate for ground lost to the French in our market, it is not enough to sell our products to the United States. We must re-think our marketing methods and adapt the product to the consumers' tastes.

For the benefit of our readers, we interviewed Eric Spencer, president of Tanzer Industries Inc., a Québec sailboat manufacturer. Mr. Spencer gave us some interesting information on his company and its market, as well as on the sailboat industry in general.

Q. *Of what importance to your firm are technological conversion, robotics and advance technology?*

A. New techniques associated with automation are not particularly useful to us since most of the work done at the plant is manual.

Q. *I imagine that competition in the sailboat manufacturing sector is intense as it is elsewhere. What is the secret of success?*

A. We make boats which are neither too large nor too small. I think our philosophy can best be described by saying that we offer the best product at the best price.

Q. *It is expected that the Return of the Tall Ships and this summer's activities in Québec City will produce economic benefits in the vicinity of $100 million. Do you think the sailing industry will subsequently benefit from this historic event?*

A. I do not think this event will have any effect on our business turnover or fill our order book. At least, if we go on the results obtained by our southern neighbours when the Tall Ships visited the American seaboard in 1976, there is nothing to suggest it. So far as I know, no such thing has happened before.

Q. *It seems to me that sailing has been enjoyed by the English-speaking population for a very long time, whereas francophone Québécois seem to be only just discovering this sport. How do you explain that?*

A. For at least seven or eight years, sailing in Québec has been undergoing an astonishing expansion. Greater purchasing power on the part of consumers and other factors associated with quality of life probably account for the current craze for the sport of sailing.

Q. *What are boat manufacturers doing to give people an awareness of the sport?*

A. We form sailing associations which create an interest in the sport and in certain types of boat. For example, regattas are organized for persons owning boats of a certain class. What is more, we cannot make any alterations to these boats without permission from the associations. Forming an association is a guarantee of long life for a design and enables the product to maintain its repurchase value. We also run advertising campaigns in specialty magazines and participate in boat shows.

— by Pierre Simard
Canada Commerce

Native Economic Development Program Launched

Designed to assist Native people become economically self-reliant, the Native Economic Development Program (NDEP) was launched on March 27, 1984, when, at a news conference, David Smith, Minister of State for Small Business and Tourism, publicly outlined the investment strategy for the $345 million four-year program. The program is open to all Native persons — status and non-status Indians, Métis and Inuit.

The strategy was developed by a 20-member Advisory Board which was appointed by the government last October to oversee the policy development and implementation stages of the program. The board is composed of experienced business persons and development experts from across Canada and 16 of the 20 members are Native. The chairman is a British Columbia rancher and business consultant, Don Moses, and the vice-chairperson is Makivik Corporation president, Mary Simon, from Québec.

The NEDP's strategy is designed to assist at different points in the development process. This allows the program to be flexible but within prescribed limits.

"Native economic circumstances are, of course, not uniform across the country," points out Cam Mackie, the program's federal government co-ordinator. "It was recognized very early in the policy development process that a multi-faceted approach would have to be developed in order to address the variety of economic challenges facing Native people."

Since its appointment last fall, the Advisory Board has been meeting monthly to determine the main emphasis of the program. The government accepted the board's approach and the result is that the program can be described as one designed by and for Native people.

"This kind of input by the Native people into the development of policies which affect them will be very important to the success of this initiative," says board Chairman Don Moses. "Native people have the ability and the desire to perform this kind of role and I am very pleased that the decision was made to have it a central feature of the NEDP's operating style."

Four Parts

The investment strategy is composed of four parts:

- Element I — Aboriginal Economic and Financial Institutions
- Element II — Community-based Economic Development;
- Element III — Special Projects;
- Element IV — Co-ordination.

The growth and development of Aboriginal financial and economic institutions is an essential condition for further Native economic development. Historically, Aboriginal people have either not utilized or have not had adequate access to mainstream economic development institutions.

The services they provide, such as loans, loan guarantees, management and technical advice and human resources training, are crucial to the development of some successful entrepreneurial activity and consequent economic growth. For long-term and self-sustaining economic development, these services must be available to Native people and, at the same time, be sensitive to their socio-economic conditions.

Recently launched Native Economic Development Program (NEDP) is open to all Natives: status and non-status Indians, Métis, Inuit.

Element I of the program will be available to assist Aboriginal economic and financial institutions in the development of improved financial and economic services for their clientele.

Contribution agreements will be concluded with eligible Aboriginal economic and financial institutions when a series of requirements has been met. Among these is the provision of an acceptable business plan, the demonstration of Native support for the investment and evidence of current or projected profitability or the ability to be self-sustaining. In addition, these institutions must be recognized legal entities with a strong and clear economic or financial focus and be Aboriginal-owned, managed or directed.

Numerous Examples

There are numerous examples of existing Aboriginal financial and economic institutions which could be candidates for assistance under this program element such as trust companies, development corporations and equity foundations. New and proposed Aboriginal financial or economic institutions are also eligible.

"There has been a very positive and strong trend by Native people to form and manage these types of institutions," says Mackie. "It is a modern organizational response by Native people to deal creatively with the challenges they are facing. Element I is designed to support this trend and build on it. Through these institutions, Native people can generate the economic clout necessary to tackle their own problems in their own way. The institutions are normally accountable to the Native community they serve and must perform in a way conducive to the economic well-being of that community."

Of course, not all Native people have reached the point where financial or economic institutions are the best instruments of economic development. Native communities in many parts of Canada require significant economic animation in order to undertake successful economic development. Element II

is designed to respond to that challenge in a selected number of Native communities across Canada.

They will be a cross-section of Native communities from urban, rural and remote areas. Selection will be done on the basis of analysis, consultation with Native groups and proposals from communities themselves. "Community" is considered both in the geographical sense and in the sense of a group of Native people with common interests.

Support Available

Element II will be available to provide support in a number of ways — development planning assistance; the analysis of human and physical resource potential; the improved application and co-ordination of private, provincial and federal technical and financial resources; the enhancement of opportunities for community members to participate in the wider economy of the area; and specific community-based projects that have the potential to be commercially successful. As in Element I, funding targets for Element II must be legal entities with objectives consistent with those of the NEDP.

Element III, Special Projects, has been designed to respond to opportunities which will have a positive impact on Native economic development. Funding under this program will be for high priority projects not eligible under other NEDP elements or other government programs or are unable to take advantage of such programs.

"There are a great number of business ideas which, if implemented, could have very beneficial economic results for Native communities. But often these ideas just don't fit the criteria of existing government programs or policies. Element III will be our vehicle to develop the best of these opportunities," says Mackie.

Element III will be available to assist projects in five areas — scholarship and special training programs; product innovation; research and marketing; studies on special Native business issues; and community-based economic development projects and Aboriginal-owned and controlled enterprises of a high priority which conform to NEDP's objectives.

No Duplication

Mackie points out that the program is not intended to duplicate any other programs of the federal government. "The NEDP is incremental to all other funding by the government on Native economic development. A key part of the program's mandate is to encourage existing government programs to assist Native economic development initiatives. Element IV of the program, Co-ordination, is designed to maximize the impact of other government programs in support of Native enterprise."

Traditionally, Native people have not used the broad array of government programs, agencies and assistance measures available for economic development. In addition, some have not been accessible or have not been designed with Native people in mind. Element IV will be able to make positive changes in these areas.

Native Economic Development Program is not to duplicate other government programs for Native people but to be incremental to all other federal funding.

"While Element IV does not involve funding, it is a key part of the program," explains Mackie. Under this provision, the Advisory Board has the power of direct access to all ministers to advise them on how their programs can be improved to assist in the process of Native economic development.

"This is a tremendous tool in the hands of the Advisory Board. There is no red tape involved. If the Advisory Board sees a problem in a department's program regarding Native people, it can contact that minister directly and suggest how the issue can be best resolved."

Don Moses is emphatic on the importance of greater co-ordination of federal programs to support Native economic development. At a recent speech to the Annual Assembly of the Canadian Association in Support of Native People, he put the issue and challenge squarely:

"Native people should participate in as many federal government programs as possible if they are to obtain their fair share of federal support. These services are open to all Canadians and I believe that it is high time for Native Canadians to elbow their way in to take advantage of as many of the mainstream government programs as possible. For too long, they have been there but under-utilized by Natives."

Activity under Element IV will be triggered by staff analysis, Advisory Board recommendations and the minister's direction.

Task Forces

In addition to announcing the details of the NEDP's investment strategy, at his press conference the minister also outlined three task forces appointed by the Advisory Board. The first, on national financial institutions and chaired by Dan Brant, will study the advisability of investments in national institutions and will recommend whether the NEDP itself should evolve into a financial or economic institution.

The second, chaired by Mrs. Mary Richard, will study how Native women can become more involved in economic and business development. A series of seminars will be scheduled throughout the country in order to gain first-hand information on the challenges and opportunities facing Native women involved in business.

The third task force, chaired by Murray Koffler, will consider ways through which the private sector can support Native economic development. In particular, it will review joint venture opportunities, contracting and the provision of employment opportunities to Native people.

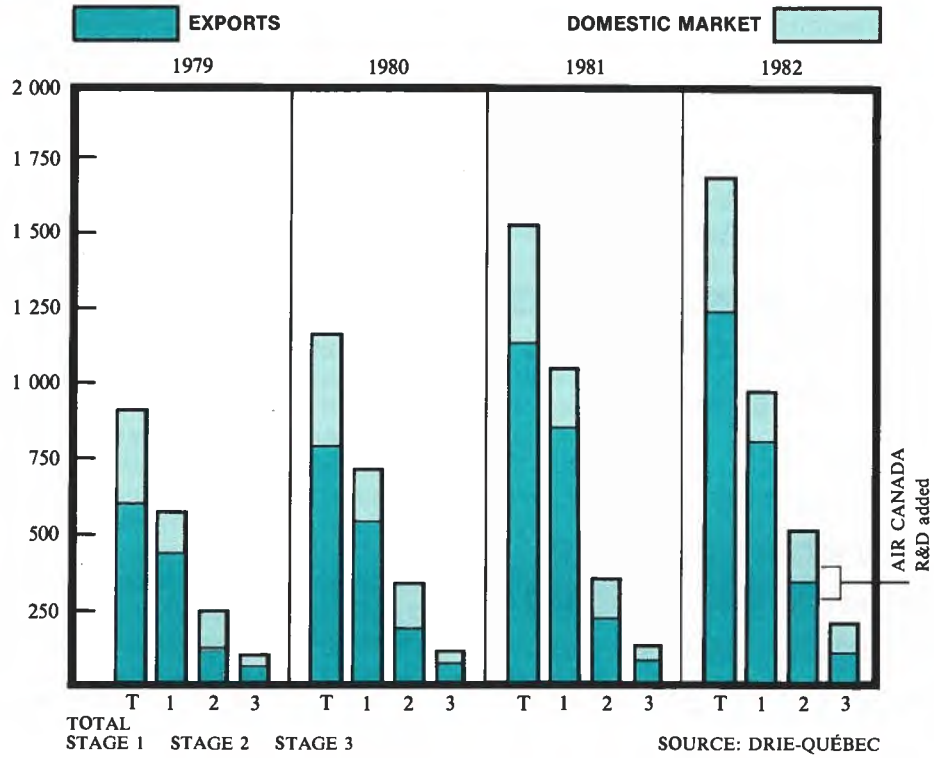
The program has its headquarters in Winnipeg and currently has a small staff of 20 people. This will be expanding to deal with the proposals which are expected to arrive now that the program details have been announced.

"We want to keep staff and overhead costs as low as possible," says Mackie. "Administrative costs come off the top of the $345 million allocation so the leaner the administration costs, the more money we have for investment in Native economic development." ◘

— by Bob Ward
Native Economic Development Program

Montréal, Ideal Aerospace Centre

GROSS SALES OF THE QUÉBEC AEROSPACE INDUSTRY DEVELOPMENT IN STAGES (1979-1982)
(MILLIONS OF DOLLARS)



SOURCE: DRIE-QUÉBEC

For about 20 years now, the Canadian aerospace industry has played a leading role in Québec's economy. This is confirmed by the fact that Québec has accounted for almost half of this industry's sales figures. In 1982, the figure for the entire aerospace industry reached a record $2.8 billion of which slightly more than $1.6 billion went to Québec.

Time has shown that high-technology industries tend to cluster together, and Québec is no exception. For example, more than 90 per cent of Québec's aerospace industry, in terms of production and employment, is located in Greater Montréal.

The industry manufacturing aerospace equipment can be divided into three distinct branches.

- The first includes companies which design, develop and manufacture aircraft or turbine engines. Two of the three Canadian corporations involved in such activities, Canadair and Pratt & Whitney of Canada, are established in Montréal and a third, Bell Helicopter, will soon join them.
- The second branch comprises companies which design, develop and manufacture electronic, hydraulic and mechanical systems or accessories for aircraft and turbine engines. Of the 31 Canadian companies involved, 10 are located in the Montréal region. Their share of total industry sales was 39 per cent in 1982.
- The third branch consists of companies involved in specialized services, such as machining, plating and castings. The Montréal region has about 60 such companies, of which 35 are involved solely in machining. Most have digitally controlled machines and enjoy excellent reputations for product quality. Five companies in this field specialize in the manufacture of precision castings by the cire perdue process. Because of their international reputation, more than 80 per cent of their 1982 production was exported.

The real importance of the third branch of the industry is generally underestimated as most of its products are sold to the companies in the two other sectors and are simply added to the greater sales totals of the industry as a whole. However, sales by these companies were about $200 million in 1982, contributing to the employment of some 3 500 specialized workers. In a demonstration of their dynamic spirit, these companies recently came together to form an association in a determined effort to penetrate foreign markets. The quality, diversity and complementary nature of their products are important factors in the establishment of corporations in the other two branches of the aerospace industry.

This is just one of the many factors which contribute to making the Montréal region an ideal aerospace centre. In addition to this, Montréal has the primary qualities so much in demand by high-technology industries, specifically:

- a substantial pool of highly specialized manpower;
- five universities providing interesting potential for research and development and other features involving cultural development;
- two colleges (CÉGEPs) specializing in the aerospace disciplines — John Abbott and the aerotechnical school of Édouard-Montpetit CÉGEP in Saint-Hubert;
- real estate and construction costs that are among the lowest available;
- public transportation systems and a road network without equal;
- an exceptional standard of living in a cosmopolitan city.

All of these factors together have undoubtedly had a major influence in recent decisions by General Electric, Bell Helicopter, Howmet Termatech and other companies to locate in Greater Montréal. Some of them have already begun production while the others will soon start. Their action will strengthen Montréal's leading role in the aerospace sector and, if trends toward concentration continue, they will do their part to attract other firms in related fields.

— by Paul-A Rousseau
DRIE, Montréal Regional Office

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