Canada Commerce

June 1984

Part Two of Canadian/U.S. Trade

Saskatoon Company Makes Remarkable Comeback

CURRENCY IN EXPORT

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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Featured This Month

Regular Features:

CORRECTION

In the April 1984 issue of *Canada Commerce* section "Canadian Companies & Products", the brief on AMTEL Systems Corporation of Markham, Ontario, read that the company's microcomputer uses a "32-bit Motorola 6800 microprocessor". It should have read a "32-bit Motorola 68000 microprocessor".

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Business Review

Booklet on Exporting Now Ready

A new publication has recently been released by the Department of External Affairs — *So You Want to Export* — which shows potential exporters where to begin and takes them through every phase of the exporting process.

It includes tips on putting together export pricing worksheets; explains the role of trade commissioners; translates much of the jargon likely to be encountered; and points out the myriad of export assistance and development programs currently available in Canada.

The book may be obtained from any Regional Office of the Department of Regional Industrial Expansion (DRIE) or from Martha Hancock, Department of External Affairs, Tel: (613) 995-6720.

Natural Gas Fuelling Station Program Payments

Payments have started to private industry under a federal program to promote the development of natural gas retail outlets for vehicles. As of the end of March, 29 firms received payments under the Natural Gas Fuelling Station Contribution Plan, according to Energy, Mines and Resources Canada.

The first two contributions of $40 000 each were made to Inland Natural Gas in British Columbia and Carburants GNC Enr. of Québec.

Canadian Pickles With a Taste for Travel

Canadian pickles and relishes are world travellers, according to Statistics Canada's publication *Inklings*.

Canada's largest market is Australia where more than a million kilograms went last year. Almost 14 000 kg went to New Zealand. Canadian condiments can also be found in Bermuda, Barbados, Trinidad and Tobago and the Leeward and Windward Islands.

More than 6 000 kg were exported to Greece and almost 9 000 kg to Cyprus while Saudi Arabia took 21 000 kg, the United Arab Emirates almost 12 000 and little Qatar just over 1 000 kg. Japan was a big consumer with close to 69 000 kg. Singapore took 29 000 kg and Malaysia 7 000.

Japan Eases Product Testing

Bowing to pressure from some of its major trading partners, Japan has relaxed rules on testing products before they can be imported into the country.

Officials in the Ministry of International Trade said Japan would accept tests by overseas laboratories on electrical goods, chemicals and some other products. Previously, foreign companies had to pay Japanese officials to travel overseas so the Japanese could conduct their own tests.

Rainy Day Spending

Rainy weather calls for preparation — umbrellas, rubber boots, raincoats — and much of it comes from other countries, Statistics Canada's publication *Inklings* reports.

Most umbrellas Canadians buy are imported — 2.5 million of them in 1982 worth $4.5 million. Most, more than 2 million, came from Taiwan with another 200 000 from Hong Kong and 144 000 from the United States.

Canada imported more than 1.5 million rubber boots in 1982, valued at almost $8 million. They came from Czechoslovakia, Poland, West Germany and Malaysia. Plastic boots were not nearly as popular with only 67 000 pairs imported costing $564 000.

Raincoats came from many different places as well — Belgium, Luxembourg, China, Britain, Romania, France and the Philippines, among others. There were 420 000 cotton and nylon raincoats imported, valued at $5 million, and 760 000 plastic and rubber raincoats at a $1.7 million value.

New Business Magazine

A new business magazine for export management — *Canadian Export World* — has been launched. Aimed at senior management of Canadian manufacturers and processors involved in international trade, the new publication is designed to encourage expansion of Canada's exporting capabilities.

The magazine will be published eight times a year by Kerrwil Publications Limited, 443 Mount Pleasant Road, Toronto, Ontario; Tel: (416) 482-6616.

Awards Presentation

The first of the new *Government of Canada Awards for Excellence in Productivity, Innovation and Design* were presented by Ed Lumley, Minister of Regional Industrial Expansion, on May 25 in Toronto. A complete story on the presentation will be in the July/August issue of *Canada Commerce*.

Export Sales Success Leads to Expansion

Motorola Canada Limited of Willowdale, Ontario, plans a major realignment and expansion of its production facilities in order to increase the company's manufacturing and research and development capabilities.

The expansion and realignment have been made necessary to meet an urgent need, the result of increased export demand for Motorola products. Initially, the move will cost $1.5 million with an additional $3 million to $4 million spent on capital items to improve productivity.

First Vessels Open Shipping Season

As the ice goes out of the St. Lawrence-Great Lakes waterway, shipping starts returning to the inland ports. Traditional ceremonies welcome the first vessels in port.

The *M/V Timur Frünze*, a Russian oceanliner, was the first to call at the Port of Montréal and Captain Ants Kuljus received the traditional gold-headed cane.

The Port of Toronto's 1984 overseas navigation season opened with the arrival of the Belgian vessel *Federal Thames* of Federal Atlantic Lakes Line. Captain Thiery Quertinmont was presented with a Captain's Dispatch case.

The Liberian vessel *M/V Mohawk* was the winner of the gold-headed cane for being first in the Port of Québec. The cane was presented to Captain Lodewyk H. de Beer.

A magnificent tapestry was the award for the first vessel arriving in the Port of Trois-Rivières. Created by a local artist, Carmel Gascon, the tapestry was presented to Captain Frank Unruh of the German *M/V Frank Schroder*.

Satellite System May Go to Mexico
Mexico may be a major customer for new Spacetel satellite communications systems designed and manufactured by Microtel of Burnaby, British Columbia. Spacetel provides practical means of serving isolated locations with dial phone service.

Ing. Miguel Sanchez Ruiz (right), director-general of Mexico's space telecommunications program, joined in an inaugural Spacetel call to Communications Minister Francis Fox and said Mexico has thousands of villages that could get first telephone service with such technology. Gordon MacFarlane (left), chairman and chief executive officer of B.C. Tel, placed the call. Microtel President Robert Alexander turned this first commercial Spacetel system over to B.C. Tel.

Conference Round-Up

Pacific Automated Office Exhibition
The largest show of its kind to be held in Vancouver, British Columbia, the Pacific Automated Office Exhibition will take place in Vancouver's B.C. Place Stadium, November 28, 29 and 30. It will feature "The Ultimate Office", a display with the latest state-of-the-art technology and equipment.

Winter Cities '85 International Forum
Edmonton, Alberta, will be host to a major international conference, exhibition, design competition and winter festival — the Winter Cities '85 International Forum — February 16 to 19, 1985.

For further information, please contact: Winter Cities '85, City Hall, Edmonton, Alberta T5J 2R7; Tel: (403) 428-3576.

IDAC Professional Development Conference
The annual Professional Development Conference of the Industrial Developers Association of Canada will be held in Vancouver, September 10 to 12. The theme will be Export Trade.

For further information, please contact: Industrial Developers Association of Canada, Suite 602, 350 Sparks Street, Ottawa, Ontario K1R 7S8; Tel: (613) 238-1490.

Québec Granite for New York
The "Battery Park Project", a five-tower complex to be erected on the southern tip of Manhattan Island, New York, will use Québec granite to cover the walls and floors of all five buildings and the complex's central plaza. Granicor Inc. of Saint-Augustin in the Québec City area, will be providing 0.1 billion square metres (1.2 billion square feet) of granite slabs for the project.

Bilingual Computer Courseware to be Developed in NATAL
Partagec Inc., a Québec non-profit auxiliary services organization, in agreement with the National Research Council, will develop and distribute nationally bilingual National Authoring Language (NATAL) courseware for such applications as cardiac arrest.

Partagec will use Telidon technology with the assistance of the federal Department of Communications. Consultants for the project, Maheu Noiseux & Associates, are working out the Canadian and Québec hospital associations, the Québec region health and social service council as well as other key social services institutions in the area. Honeywell Limited developed NATAL under a contract with the National Research Council and is supplying formation and technical assistance.

New Publication on Working Life Quality
The most comprehensive review ever undertaken of Canada's growing experience with the application of quality of working life (QWL) processes is the new Labour Canada publication, *Quality of Working Life: Contemporary Cases.*

The book is a collection of 15 case studies on the new approaches to organization and work design. It describes various innovations implemented by organizations to give workers a greater measure of control over their conditions of work.

Copies of the publication, priced at $22.00, can be ordered from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ontario K1A 0S9.

A Stake in the World

Northern Telecom has reached the point in its development when it must look beyond Canada and the United States and ask, "Should we aggressively enlarge our stake in the rest of the world?"

This is an extremely important question. And, if representatives of all multinational enterprises in the United States and other countries were assembled, a respectable percentage of them would say, "Look, fellows, maybe this was a good idea in the 1960s, but the train pulled out of the station long ago. The era of multinational expansion is over. Stay where you are and consider yourselves fortunate to have such a wonderful internal market as North America."

There is some disconcerting evidence to support this view. From the 1960s to the latter part of the 1970s, statistics from the dark side of business show that 250 foreign-owned manufacturing subsidiaries were nationalized by various governments.

Also, during the first half of the 1970s, about 9 per cent of the manufacturing subsidiaries located outside of their home base were voluntarily withdrawn, liquidated or sold. Today, you can pick up almost any issue of *The Wall Street Journal* and read that a manufacturing enterprise is pulling out of one country or another.

Is this the wave of the future? My unequivocal, unconditional answer is, "No." But it is a sign. It reflects an accelerated turnover, a rate of change that is probably more rapid than at any previous time.

Corporations find themselves continually adjusting to conditions in countries where they operate. They are constantly shifting their bases, reorganizing their subsidiaries, and restructuring themselves. But, on balance, multinationalization in one form or another is not declining. Rather, it is increasing.

The Americans, pioneers in multinationalization, continue to be major players in the game. But in a fascinating development, multinational enterprises throughout the world are beginning to join the race. Brazilians, Koreans, Indians and Mexicans, among others, are steadily setting up subsidiaries outside their home countries. Ever-smaller firms from the United States and various European countries are going multinational.

As you look at the motivations involved, it is not from any joy of adventure or desire to leave home that companies continue to establish foreign subsidiaries. It's a simple, primordial reaction to a shrinking world. There's no place to hide. You can't stay home. If you remain home, foreign firms invade your market. If it isn't the Japanese in sophisticated products, it will be the Brazilians in primary manufacturing. So there's no place to go but everywhere.

There are two corollaries of this simple point. Number one: the concept of national markets is rapidly disappearing. There are now world markets. Some companies try to maintain separate markets, and some try to maintain monopolistic control over portions of single markets. But all are forced by a shrinking world to expand constantly into new services and products. Therefore, every manufacturer today is obliged to develop a global marketing strategy.

This is obvious, but the second point is perhaps less so. Technologies used in the development of products, processes and software are no longer the exclusive domain of any one country. They are the sum of the technological contributions from all countries. Competitors, such as the Japanese, draw on technologies wherever they may arise and incorporate them into their products and processes.

Unlike the resourceful Japanese, U.S.-based multinational enterprises generally do not avail themselves of technology developed elsewhere. Americans have the most extensive network for potential technological feedback. Yet these networks are characteristically designed for one-way communication. The subsidiaries take commands from the home office, but the majority of U.S. companies fails to absorb information received from subsidiaries and incorporate it into their operations. Organizing a company so that messages from the field can penetrate the centre is one of the toughest challenges that confronts successful multinationals.

This is a challenge that must be tackled seriously and soon. It's a challenge the Japanese have found easy to meet. Traditionally they have assimilated important knowledge from outside. They absorbed the Chinese culture in the Ninth, Tenth, Eleventh, and Twelfth centuries, adopting its alphabet, its art, its method of making china, its method of dress, and its religion — Buddhism. They then improved on the adopted Chinese culture and, beginning in the middle of the Nineteenth Century, repeated the performance by drawing on the technologies of the West.

Unlike the Japanese, we fat and happy North Americans have not had to face the adversities that would have required our drawing extensively on the ideas and cultures of others. Yet this is a requirement that must be met by any company that hopes to be successful in today's intensely competitive world technology market.

There is another profound change executives must absorb into their very glands and psyches. This is the change in the role of government as related to the activities of multinational enterprises.

Both Americans and Canadians have been raised with the assumption that, although government has a lot to do with daily life, its direct transactional role in buying and selling is limited.

With the Canada Development Corporation, Canada has begun to depart from this tradition, but not very far.

However, the rest of the world simply isn't aware of the concept of excluding government from these transactions. Other countries have always operated on the assumption that, if it is useful for the economy to have government involved in direct buying and selling, it is perfectly acceptable. Thus, around the world, governments intervene, sometimes indirectly — but often very directly — in simple transactions.

More specifically, returning to Northern Telecom, the tendency to direct government subsidies, connected with specific research objectives, is becoming more pervasive. The Japanese, Koreans, Bra-

zilians and French do this. The British are doing less of it, but I think they are changing as well.

The Japanese government goes beyond directly subsidizing research. In programs designed for achieving particular objectives, the government guarantees a market for prototypes of various kinds, sharply reducing the risk for a company launching a new product or entering a new market. Increasingly, government purchases in Japan and other countries are being designed to stimulate particular industries. So far, the Canadians and the Americans have done little of this, other than a few clumsy exploratory programs. Yet, my strong expectation is that this trend will continue, not because it will be acceptable to American and Canadian ideology, but simply because the rest of the world doesn't share this ideology and is building up a real technological advantage as a result.

This trend will be slow to develop in the United States and Canada because of the government's complex structure. But I believe it will develop. As it does, Northern Telecom must be prepared to monitor and capitalize on its development, not only in the U.S., but in other countries. The corporation will have to know how to obtain and use British, French, German and Brazilian research money in some kind of internally coordinated enterprise strategy aimed at reducing the risk of the development of the firm's new products and processes.

Another aspect of the role of government involves the question of state-owned enterprises. These now account for about 40 per cent of the international trade in raw materials and about 15 per cent of the international trade in manufacturing.

State-owned enterprises are strange animals. They can't go bankrupt. The capital they use is, typically, a gift from the state and is replenished as it disappears. State-owned enterprises usually have an inside track on such things as preferential buying by government. They are a powerful force.

Given these characteristics, multinational companies have found it fairly attractive to enter into joint ventures with state-owned enterprises, which, in turn, are seeking advantages. They want, among other things, access to the multinationals' markets and technology. They also want to be able to use the multinational enterprise as an internal whipping boy should the joint venture fail, and as a buffer against their governments' attempts to lower the price, change the product, or otherwise interfere with operations. When a local entity has a foreign joint-venture partner, its principals can always reply to government pressure by saying, "Well, we'd love to do that, but our foreign partner won't permit it."

We now have enough experience to realize this particular kind of joint venture can be inherently unstable. State-owned enterprises can jettison their multinational partner once they have absorbed their technology or in response to political pressures. Joint ventures with state-owned enterprises tend to be highly productive in the beginning, providing all kinds of entry advantages. But if there is no strategy beyond entry, the arrangement can lead to disaster. On the other hand, knowing how to exploit the initial advantages of these relationships can bring substantial rewards.

A corporation must be flexible. Take, for instance, counter-trade. Don't be surprised if Northern Telecom is selling a switching system to a foreign country and is told that 120 million poisoned arrows or some other local product will be what you receive as payment.

This is not a problem as far as the Japanese are concerned because they work through trading companies, and trading companies are prepared to trade in whatever is necessary to do business. North Americans have no institutions for coping with counter-trade, but they will have to develop this expertise soon.

Another critical variable that multinational enterprises must take into account is the changing nature of the world trading system. Tariffs have declined sharply, but new kinds of trade barriers are developing. Subsidies and state-owned enterprises can have the effect of restricting trade.

These non-tariff barriers, which are part of the new world trading system, are unlike tariffs in many ways. So dealing with them through international agreements is not as easy as agreeing to hold down or cut tariffs. Determining the facts involving these new barriers is more difficult, and any change to the rules involves going into the domestic affairs of the country in question.

However, changes must be made, for, as things stand, the mechanisms created by Canada, the United States and others for dealing with international tariff arrangements — especially the General Agreement on Tariffs and Trade — simply do not fit the problems created by the new trade barriers. This is the bad news.

The good news is that there has never been a time in modern history when governments have had a greater stake in keeping their borders open. The importance of exports to every major economy of the world today is greater than anything we have previously seen. Political forces within the U.S. and Canada — and within practically every other country in the world — have an enormous stake in maintaining open borders to international trade and offering powerful resistance to any attempts that would close their borders.

But if these borders are to be kept open, governments will have to enter into agreements of a different kind from those of the past. They will have to be more specialized, complex, detailed, and limited to small groups of countries.

What this means for a corporation such as Northern Telecom is that it can no longer remain aloof from the process of these international agreements, which will be rifle-shot agreements aimed at specific targets and specific markets of specific import to the operations of individual companies. It will be to Northern Telecom's interest, therefore, to become as involved as possible in their negotiation.

Multinational companies must organize themselves to deal functionally with these agreements and other situations and problems, learning to use government processes as an asset, not as a liability, while remaining enormously flexible in structure. It also means a willingness to use various forms such as the joint venture, the management contract, or any other structure that individual governments impose upon the corporation, as a normal part of a multinational enterprise's strategies.

— by Raymond Vernon
Clarence Dillon Professor of International Affairs at Harvard University

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Fortress Scientific Brings High Technology to Wheelchair

Comfort, styling, control — and performance — are all features built into a new wheelchair developed by Fortress Scientific Limited of Downsview, Ontario.

After only two years of operation, the company has already become a recognized leader in powered wheelchair technology with the recent introduction of the 655 FS deluxe powered wheelchair.

Fortress Scientific was established in 1982 to research, develop, manufacture and market innovative health care products and its newest creation, the 655 FS, has met with considerable success. The company is the health care products subsidiary of Northern Fortress Limited, a Canadian-based holding company with diversified interests.

In the early stages of new wheelchair's development, the company's team of engineers toured the world, researching state-of-the-art technology and discussing health product requirements with leading doctors, therapists, institutions and users. The result was a fresh approach to product development including a unique modular design and an advanced power package for the wheelchair.

High torque drive motors with built-in gear box and automatic disc brakes plus a sophisticated solid-state controller and easy-to-operate joystick control all offer indoor and outdoor versatility and performance.

The modular approach of a two-piece powered chair allows a range of seats to be fitted easily onto the centre post of the power unit in a matter of a few seconds. Seat options include a range of deluxe reclining seats, standard sling-type seats and children's seats, all with a full 180° swivel feature.

A company engineers' team toured the world to research state-of-the-art technology in the development of powered wheelchairs.

According to Wilfred Chan, executive vice-president, product design has a high priority at Fortress Scientific.

"The disabled are no different than any other consumer. They want performance along with an attractive product," he says. "To a disabled person, a wheelchair is an extension of his or her body. The quality of life depends on the performance and reliability of the product as well as its appearance."

Fortress Scientific takes this responsibility seriously. It maintains an aggressive research and development program as well as on-going development work with a number of outside research companies.

The company is currently working with the National Research Council in developing a "total environment control package" to allow the seriously handicapped person the ability to control all the functions of the wheelchair as well as a number of appliances, lights and even the telephone, through a sophisticated transmitter mounted on the wheelchair.

In this stage of robotics, a totally automated environment is possible for the disabled and Fortress Scientific is working to develop software for its product to provide greater independence.

The 655 FS powered wheelchair showing some seat options.

Comfort, styling, practicality and performance all make the 655 FS wheelchair a decided asset to the handicapped.

Fortress Scientific has full facilities in its Downsview plant for fabricating, machining, assembly, painting and engineering.

In addition to the 655 FS powered wheelchair, the company will soon introduce a revolutionary three-wheeler chair for the growing number of people who need mobility assistance but are not totally dependent on it.

To service the growing number of dealers and export sales, Fortress Scientific has established service and warehouse facilities in Marietta, Georgia, U.S.A., and Southall, England, along with its major facilities at Downsview, Ontario, and Pointe-Claire, Québec.

According to Michael Smith, president, the company will be introducing additional innovative products during the coming year.

Fortress Scientific has recently reacquired the Allatt organization of Downsview which, as Fortress Allatt, is a supplier of replacement parts to the construction industry and manufacturers of sophisticated hydraulic paving equipment. More than 50 per cent of its business is outside Canada.

Fortress Scientific believes the disciplines learned in the construction parts and equipment business can well be applied to the health care products industry. In the construction equipment industry, when a $200 000 piece of equipment suffers downtime because of the failure of a part, service and reliability become increasingly important. This is one of the important lessons the company has assimilated from its Allatt experience.

Among other new products the company will be introducing in the near future is a revolutionary three-wheel powered wheelchair.

It was from previous experience with Allatt that Fortress Scientific became involved with powered wheelchairs. There were several disabled people in the company who were using what were believed to have been the best electric wheelchairs on the market.

The company was surprised at the chairs' lack of sophistication and decided to follow up with additional market research. This led to the intensive product research and development that has since resulted in the 655 FS powered wheelchair.

"We are extremely proud of this product as well as the new products we are currently developing," a company official states. "But above all, we are proud of the people who form the nucleus of Fortress Scientific who are the asset that will assure our success in the future."

In its Downsview facilities, Fortress Scientific houses well-equipped fabrication and machining, assembly, painting and engineering departments. There is also a large in-house computer system and ample room throughout for expansion.

For further information, please contact:
Fortress Scientific Limited
1100 Finch Avenue West
Downsview, Ontario
M3J 2E3
Tel: (416) 661-2000

The Black Brant Rockets

Bristol Aerospace Ltd., a diverse Winnipeg manufacturing company, supplies the world market with scientific research rockets.

Black Brant IV being readied at Churchill Research Range.

Space research was still in its infancy when Bristol started rocket development in 1958. Sputnik I had astounded the world only the previous year and the United States had mounted a massive satellite development program. Satellites were, however, limited in capability and reliability, and beyond the means of smaller nations. Canada had a particular interest in space because the auroral belt, source of the "Northern Lights", lies across our most inaccessible areas and disrupts communications for long periods.

Government programs recognized both the scientific problems and the industrial opportunities. A space research facility was established at Churchill, Manitoba, with a range reaching into Hudson Bay. At Valcartier, near Québec City, the Canadian Armament Research and Development Establishment (CARDE) — now known as Defence Research Establishment Valcartier (DREV) — had embarked upon solid rocket fuel development. With some assistance from Britain, a Propellant Test Vehicle (PTV) was designed and built by CARDE and then tested at the Churchill range.

Bristol had been watching these events and was eager to enter this new, high technology area. The Bristol facility had matured since its establishment in 1930 as MacDonald Brothers Aircraft Limited, building floats under licence, and CARDE recognized its suitability for rocket manufacture. Industry and government agreement was reached to develop the PTV into a range of Black Brant (named after species of goose indigenous to Western Canada) rockets capable of lofting a wide range of scientific payloads to an equally wide range of altitudes.

In order to have access to U.S. technology and experience, Bristol established a joint venture with Aerojet Corporation of California. This association led to the construction of a propellant manufacturing plant on 1 214 hectares (3 000 acres) near Rockwood, some 30 km north of the main plant. By 1963, Bristol was manufacturing Black Brants. Production was also in process of JATO (Jet-Assisted Take-Off) motors used by aircraft to facilitate take-off from short runways.

This milestone had not been achieved without difficulty. The comprehensive support of all Bristol's departments had to be mobilized to develop skills largely from scratch. Shapes had to be designed which would travel at 12 times the speed of sound; motors created to generate 10 tons of thrust for 30 seconds; structures built to withstand air pressures of 97 640 kg/square metre (20 000 pounds per square foot); precision hardware developed using exotic materials; instruments designed to measure the delicate movement of the rocket

while withstanding 35 times the force of gravity; antennae had to work at 540°C (1 000°F) or higher — as did the nose-cones while keeping the enclosed instruments at room temperature; motor cases had to be strong enough to withstand propellant burning pressures and insulated from the fierce heat. All this with the knowledge that every pound of structure reduced the payload by the same weight and that costs had to stay within budget.

DREV and the National Research Council provided invaluable technical support to Bristol — and continue to do so. Financial assistance was provided through the Defence Industrial Development Program (DIPP) administered by the Department of Regional Industrial Expansion.

Over the years, Black Brants have been launched from many parts of the world and for a wide variety of experiments.

The original three rockets evolved into a broad range of variants, with the Black Brant being combined with other booster motors, mostly U.S. military surplus, to cover virtually every altitude and payload requirement of the upper atmosphere scientist. The customer can select a rocket with performance between the extremes of 500 kg to 200 km and 70 kg to 1 500 km.

Complementing the rocket vehicle manufacturing capability, Bristol offers a complete launch service from the design of the payload, through manufacture, launch and data analysis. Specially-developed sub-systems are available to de-spin, eject and recover payloads. In the words of Ralph Bullock, vice-president, engineering, "Everything up to handing the scientist a roll of data."

This comprehensive service has led to Bristol expeditionary teams launching Black Brants from isolated locations. Temporary sites 160 km north of Halifax, Nova Scotia, and at Red Lake, Ontario, have seen Black Brants launched into solar eclipses. Geophysical investigations have been conducted from Resolute Bay and Cape Parry in the Northwest Territories. Expeditions have been mounted to Wallops Island, off the Virginia Coast; Peru; Brazil; Spain; Norway; Sweden; and San Marcos Island, off the coast of Kenya.

Black Brant VC launch from tower at White Sands, New Mexico.

Black Brant sales average over $5 million per year with 85 per cent going to export. NASA (the U.S. National Aeronautics and Space Administration) is Bristol's largest customer with 75 per cent of sales. Canada's National Research Council purchases about $1 million per year and the remainder goes to Germany, Sweden, and U.S. organizations such as the Sandia Corporation and the Air Force.

Bristol's rocket propellant technology was given a boost in the late 1960s through a government-sponsored project with the U.S. Army to develop meteorological rockets. This introduced Bristol and DREV to polybutadiene technology and its enhanced efficiency, which has permitted Bristol to propose its all-Canadian satellite launcher, the low-cost Expendable Launch Vehicle (ELV). Again, a comprehensive 'one-stop shopping' concept is planned with services tailored to suit each customer. An alternative to NASA shuttle launches, the ELV offers the capability of placing from 320 to 770 kg into low earth polar orbit or 360 kg into synchronous transfer orbit at 35 900 km apogee altitude.

Simultaneous launching of Black Brants II and IV at Churchill Research Range.

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

Canadian Team Dressed in Style

Each year, Tourism Canada, Travel Alberta and Super Natural B.C. feature pictures of skiers as part of their winter travel promotional packages. If you look closely at next year's pictures, there's a good chance that you will see the name Sun Ice on the fashionable sportswear worn by the models. This is the latest phase in a marketing coup achieved by a Calgary-based sportswear design and manufacturing firm that is out to challenge head on, the top-of-the-line European and United States manufacturers.

It all started three years ago when Vic Rempel, general manager of family-owned Sun Ice Sportswear Ltd. became "offended at the sight of Canada's Alpine Ski Team, representing Canada while dressed in skiwear made in Italy". Rempel approached the national team to see how his firm could help them convey a more Canadian image. "These days," he says, with a smile, "they come to us."

Now the team has a distinctly Canadian image because of a 1982 decision by Sun Ice to supply it with free ski garments. "Sure, it's costly to provide free outfits to athletes," says Ian MacDonald, Sun Ice's marketing manager, "but in our case it's a super way to show just how good our products are, and it's good for sales (which this year totalled over $2 million). As a bonus," he notes, "we get great feedback on our suits from expert athletes." In recognition, the company has been named 'Supplier of the Year' by the National Ski Association.

Recently, Sun Ice provided sportswear also to Canada's luge and bobsled competitors and to the Canadian hockey team that battled at Sarajevo. Even the large Canadian Broadcasting Corporation/Radio-Canada contingent covering the Sarajevo winter games kept warm, efficiently yet fashionably, in Sun Ice suits.

"We got the idea of sponsoring national athletes as a result of our experience in outfitting the 1982 Canadian Everest expedition which was led by Calgarian Laurie Skreslet." That venture posed some special design and development challenges for Sylvia Rempel, the artistic genius behind the firm's outerwear designs.

"First of all," she says, "we had to create garments that would literally be 'lived in' for two months and could withstand the rigors of climbing the world's highest mountain. Warmth, light weight and resistance to water are important too." One major achievement was the strategic installation of zippers that would take care of all the needs of "Mother Nature", while the wearers were hanging onto the side of the mountain.

In all, four prototypes were tested and retested in actual climbing conditions; in deepfreezers and under all imaginable circumstances. The total finished wardrobe consisted of 24 high-altitude, one-piece climbing suits, 65 mountain parkas, 110 pairs of wind pants, 230 sets of mittens and 40 shells. As a result, in the words of their literature, "Sun Ice made it to the top!" In fact it got there twice! So delighted was Skreslet with his climbing suit that he lent it to the U.S. climber, Carlos Buhler, for his ascent of Mount Everest a year later.

A third victory over the Himalayan slopes is anticipated for Sun Ice in 1986 when Skreslet, and a crew of 15, will attempt to conquer Everest once more, this time from the China side.

Durability, good design and dependability are essential in the highly competitive clothing market. That is why Sylvia Rempel maintains firm control over every step in the manufacturing process — pattern making, grading, cutting and sewing — functions she feels must be most closely supervised if quality is to be maintained. In her opinion, these are areas overlooked by other companies. "In sportswear, you cannot delegate quality control to employees," she states.

Any company that experiences such rapid growth — from a cottage industry in the basement of the Rempel family home, to a 2 790 square metre (30 000 square foot) manufacturing facility within six short years — is bound to have some problems. For Sylvia Rempel, the least difficult task is to create more than 100 different styles each year. "I always have more ideas in my head than I can put down on paper," she says.

Sun Ice does, however, have some difficulty obtaining experienced workers. A trained designer/seamstress, Rempel notes that "we frequently have graduates who come to us after years of schooling, but who don't understand sports garment manufacturing. They don't know how much insulation to use, or the type of fabric to use for varying weather conditions, or how to set in inside cuffs. These cannot be learned in the classroom. 'Hands on' experience is the only way."

Next winter will see the introduction of a Steve Podborski signature line of skiwear, made from Consoltex, a unique Canadian material manufactured in Montréal. As Vic Rempel puts it: "The Podborski line will be a 100 per cent Canadian, in design, manufacture and, of course, in name."

A major Sun Ice preoccupation is the foreign market. Notes MacDonald,

Sun Ice to introduce Steve Podborski signature line of ski wear.

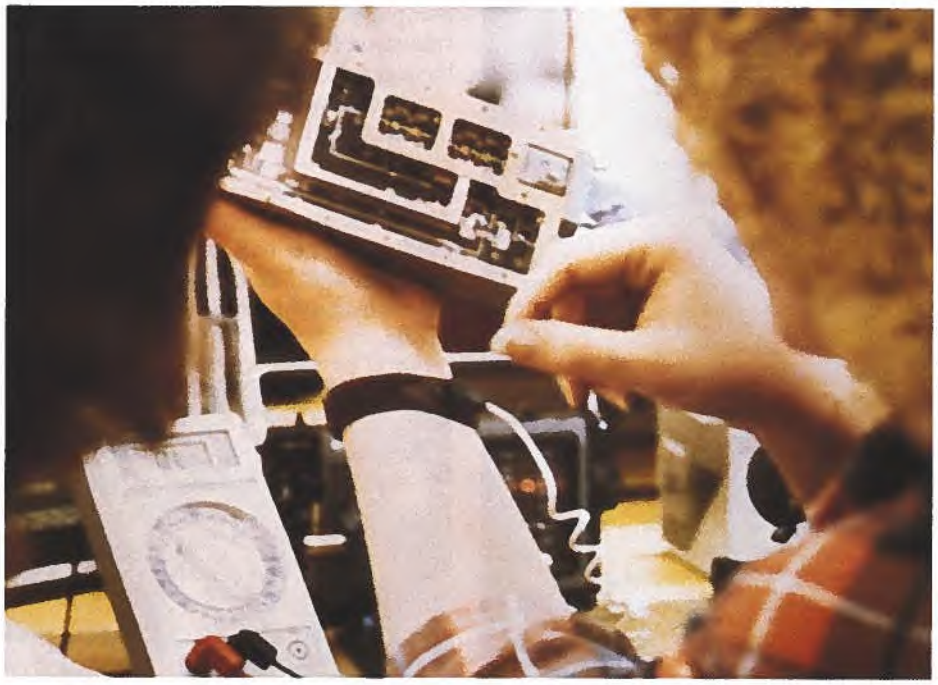
"A visit to a Las Vegas, Nevada, ski show quickly convinced us that Sun Ice products are ideal for the U.S., so we're developing strategies to reach that market." Sun Ice is also zeroing in on the summer sportswear market. This year it is introducing a new line of swimwear and a line of aerobic exercise suits. The company will, in addition, feature the splashy colours and distinctive lines that have marked Sun Ice's winterwear.

To continue their support of striving athletes, Sun Ice also has stylishly outfitted the Aquabelles, a synchronized swim team which will compete in the 1984 Summer Olympics. Even Willie deWit, another of Canada's gold medal hopes at the Los Angeles games, will enter the boxing ring wearing Sun Ice shorts.

If you ask the principals of Sun Ice the reason for their 'Cinderella of the ski wear' success story, you get various answers. "Hard work," according to Vic Rempel. "If we hadn't been a family firm (six members) working 12 to 14 hours a day, we couldn't have done it." For Sylvia, determination is the key. "If you work hard enough, the sky's the limit," she feels. It also helps to have a little bit of luck. "We are always doing things that other people are saying we shouldn't be doing and getting away with them," chuckles MacDonald in a spirit typical of Western Canadian entrepreneurship.

— by Sharon Irven
DRIE Calgary

Saskatoon Company Makes Remarkable Comeback



Assembly in SED Systems' plant.

The last year has been an exciting one for SED System of Saskatoon, Saskatchewan, and its president, Alex Curran.

This high technology company marked its return to profitability with corporate sales of $21 million, the formation of two affiliated companies and several major new contracts. A remarkable comeback from the financial doldrums in which the firm had languished for several years.

The company is justifiably acclaimed throughout the world of systems engineering for the excellence of the design and production of satellite control systems, complex shuttle and rocket payloads as well as its proprietary products for satellite communications and agricultural machinery.

Space Engineering Division was established within the Department of Physics at the University of Saskatchewan where, in the early 1960s, a small group of researchers had achieved international recognition for its upper atmospheric research and expertise in the design and construction of scientific payloads for rockets.

In 1965 it was decided to establish the division as a commercial enterprise. Thus SED came into existence with a birthright of expertise, facilities — and a contract supplied by the university.

The infant company matured quickly. In 1966, a suborbital rocket was launched from Churchill, Manitoba, with scientific instruments to monitor auroral activity, measure the characteristics of the upper atmosphere and transmit the results of these measurements back to earth for later study.

Designing and building rocket payloads for upper atmosphere research was the original work of SED Systems Inc. and the company is still one of only two in Canada with such a capacity. Through its early space work, the company developed the highly sophisticated technologies for the reliable operation and real-time control of complex systems — technologies which are equally as useful on earth as they are out in space.

Today, SED's Advanced Systems Engineering Group continues to produce scientific rocket payloads and instruments for the space shuttle program. In addition, the company designs and implements monitoring and control systems.

By applying technologies developed over nearly two decades of project work, SED has diversified into the design and production of other major lines — agricultural monitors and controls which are marketed in North America, Europe and Australia; and satellite communications equipment including microwave components, television receivers for 4 GHz and 12 GHz bands and complete satellite TV receiving stations for master antenna systems and cable front-ends.

Real-time monitoring and control systems, agricultural instrumentation and satellite communications equipment — these are the three product lines that make up the flourishing SED Systems of today, a successful high technology engineering company with an international reputation for excellence.

The development of SED Systems, however, has not been without major setbacks. Between its privileged birth and current successful maturing, its growth was marked by the awkwardness of adolescence.

When he took over as president of SED in 1982, Alex Curran found the company virtually out of money and facing the imminent prospect of closing down its manufacturing operations and laying off more than half of its 265 employees.

SED Systems produces scientific rocket payloads and instruments for space shuttle programs as well as monitoring and control systems.

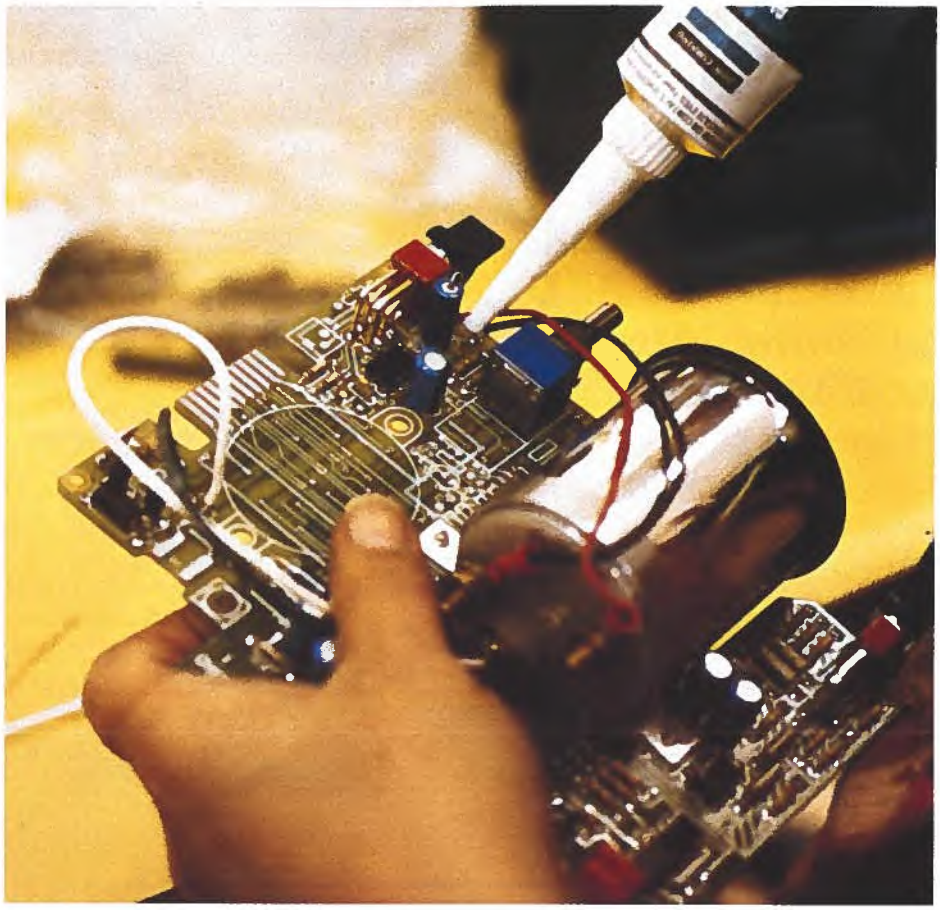
Today, SED Systems employs approximately 300 people, has money in the bank plus new and potential contracts and has earned the renewed respect of investors and scientists alike.

The remarkable turnaround has been credited largely to the experience and cool thinking of Company President Curran whose involvement with the communications industry stretches back more than 30 years.

The most immediate danger of major cuts to SED's operations was averted, after a tense, 10-week waiting period, by the granting of a $2 million loan guarantee by the Government of Saskatchewan. Having bought a little time, Curran set about reorganizing the company's overall operation, cutting out inefficient and unprofitable practices and seeking new opportunities for expansion.

A pre-forming machine.

The market for agricultural instrumentation was rationalized. Although this market continued to be very flat and sales were lagging badly, it was recognized that SED is best known in its home province for agricultural monitors. The company had been helped by the provincial government's financial intervention and the value of the Saskatchewan people's goodwill was appreciated. It was therefore decided to close a U.S. subsidiary, SED Electronics, and a London, Ontario, sales office retaining a concentrated, streamlined sales and service operation in Saskatoon.



Printed circuit boards touched up in SED's Saskatoon plant.

To increase business and create new demand for its products, SED formed Caelum Technologies Ltd., in conjunction with White Radio Ltd. of Burlington, Ontario, to design, install and service satellite communications systems for cable companies. This venture is creating new demand for SED's satellite television receivers.

Perhaps the most significant of the company's new undertakings over the past year is SED's participation in the development of Skyswitch — a technology developed by Mitel Corporation of Kanata, Ontario.

Skyswitch is an earth station, or terminal, capable of transmitting signals to, and receiving signals from, a communications satellite. This ability for two-way communication means it can be applied to a host of telecommunications services from the very simple, such as connecting two private telephones, to the extremely complex interconnecting of offices, industrial plants and communities, across a continent or around the world.

Skyswitch networks may be owned and operated by corporations or institutions independent of their local telephone companies or, alternatively, telephone companies may choose to use Skyswitch to enhance their network capabilities and services.

The targetted market for this equipment will be small to medium-sized companies for which it will provide a cost-effective alternative to other communications systems.

The system will be sold to developing nations, where the cost of building conventional telephone networks is prohibitive, as well as to U.S. companies looking for a more flexible telephone service.

The effects of new ventures and the acquisition of the company's largest contract have turned SED Systems into a profit-making concern.

SED Systems will be the major shareholder in the proposed Skyswitch Satellite Communications Corporation with Mitel Corporation and two U.S. firms. The new company's headquarters will be located in the city of Denver, Colorado.

SED will have exclusive marketing rights in Canada and will be responsible for all R&D concerning equipment. Network R&D will be conducted in the U.S. because of a more liberal regulatory environment regarding telecommunications.

The effects of these new ventures, as well as the acquisition of SED's largest contract ever — for advanced systems engineering for the multi-million dollar Brazilsat communications satellite program — have turned the company into a profit-making concern, broadened its base and staked out new areas for growth.

Besides doing the spadework for these new sales opportunities, Alex Curran has also been working on cutting costs and increasing efficiency within the company's plant. The R&D division, the rootstock of the whole operation, has been formed into a separate company which, it is expected, will make its own profit. Benefits from this are expected to be two-fold — it should avoid the repeat of an undisciplined approach where money was spent on projects that were not part of the company's business plan; and SED should be able to raise money for R&D through the use of new federal government tax shelters.

Inventory costs have been reduced significantly by stopping the practice of ordering supplies on the basis of market projections rather than actual sales — a practice that, in the past, had led to an increasing stockpile of unused parts.

As a result of these initiatives, productivity is improving. Sales per employee, which had declined dramatically over the past few years, have doubled. Corporate sales of $21 million for 1983 were the highest in the history of the company.

A private sale of SED shares was completed in January 1984. The offering attracted more demand than the shares available could satisfy. Investors include the Federal Business Development Bank, Citibank Canada, the Alberta government, the University of British Columbia pension fund and Royal Bank Venture Capital Ltd.

As a result of the sale, the Saskatchewan government's holding in SED has been reduced to 23 per cent from 42 per cent and the University of Saskatchewan's share from 40 per cent to 17 per cent.

The company hopes to sell another issue of shares in the future but, at present, there is enough money in the coffers to develop and refine some of the ideas and opportunities that have emerged over the past year.

Alex Curran describes the firm's evolution as a story of commercial growth made possible by co-operation among university, government and industry.

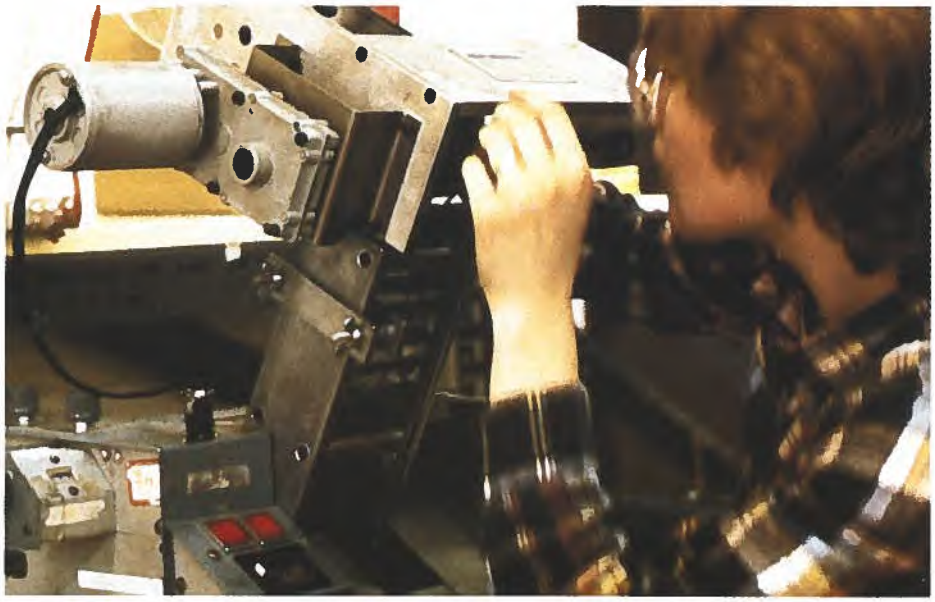
From the university SED has acquired knowledge and talented people. From the government SED has received funding and the contracts required to develop expertise. The company's own task has been to multiply the contract seed-money through intelligent risk taking.

In addition, he says the company's success was, to a large measure, due to the enthusiastic support of all its members. "While I can help to set directions and targets and open opportunities, that is of no value unless the company of young Canadians operating out of Saskatoon is wholeheartedly determined to succeed."

Curran believes his company is on the road to success!

(At the recent Ottawa High Technology Show, Alex Curran was named Canada's first High Technology Person of the Year and was awarded a plaque commemorating the event by Ed Lumley, Minister of Regional Industrial Expansion. Mr. Curran was selected by a panel of senior executives from private industry, professional associations, the media, and government.)

— by Gillian Welbourne
Canada Commerce



A microwave assembly.

For further information, please contact:
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CANADIAN COMPANIES & PRODUCTS

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

A Forestry Industry Leader

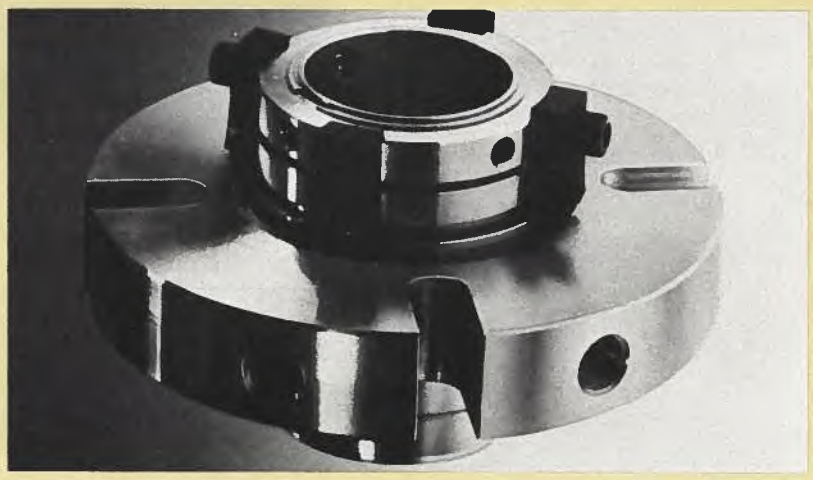
Harricana Metal Inc. of Amos, Québec, is rapidly becoming a leader in the forestry industry. The company produces heavy machinery attachments to provide maximum performance in cold weather and under extreme conditions.

Harricana's products include feller-bunchers, delimbers, high-lift booms, rigid or rotating grapples — all well known for their strength and built for heavy work.

Canadian Mechanical Seals Abroad

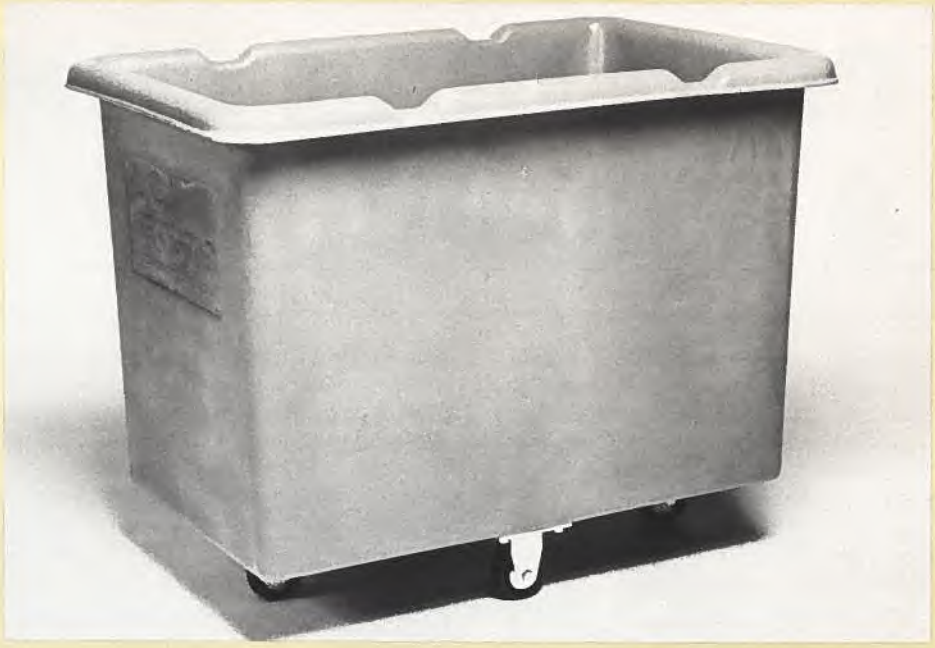
Through its Exact.A.Seal Division in Sarnia, Ontario, Robco Inc. of Mississauga, Ontario, recently obtained a contract to provide its Canadian-designed and engineered mechanical seals to fluid processing industries in Singapore and Malaysia. Future sales are expected to other Asian countries such as Indonesia.

Exact.A.Seal mechanical seals, such as the Enviro series, represent the latest in mechanical seal technology. They are used in petrochemical plants, power plants, chemical complexes and similar applications in many countries including South Africa and South American markets.



Techstar Molded Plastic Cart
A new molded plastic cart, specifically designed for bulk handling of textiles, food products, laundry and waste materials, has been introduced by Techstar Plastics Inc. of Scarborough, Ontario. Applications include use in factories, laundries, hospitals, hotels, motels, nursing homes and department stores.

The Starcart Model 125A features a one-piece body, rotational molded from high density polyethylene. Easy to clean, it is available in two versions — light duty to hold up to 135 kg (300 lb.) or 3.6 hectolitres (10 bushels) and rides on 7.6 cm (3 in.) casters; heavy duty to hold up to 365 kg (800 lb.) and has a plywood base with 10 cm (4 in.) casters.

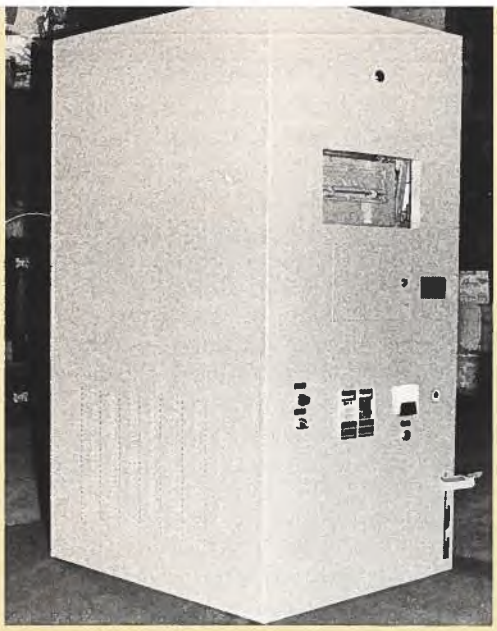


Warm Feet Without "Hot Foot"
Footwarmers that can keep feet warm even on cool nights are the promise of Solpar Manufacturing Inc. of Barrie, Ontario. Slip them on, close the ankle strap and feet are cozy and comfortable. The Solpar Footwarmer is a slipper-bootee ideal for those with circulatory problems; for relaxing after sports or outdoor activities; for travelling and vacations — or simply for being comfortable.

Outside seams prevent skin abrasions while a hook and loop fastener ensures snug and easy fit, and a non-skid sole makes the Footwarmer safe on any indoor surface. Smartly styled in material that retains natural body warmth, it is machine washable.

All-Terrain Vehicles
Ontario Drive and Gear Limited of New Hamburg, Ontario, has been manufacturing and successfully marketing the *Argo* line of six- and eight-wheel off-road, amphibious vehicles since 1967. With the introduction of its newly-designed Argo 8 I/C (Industrial/Commercial) version, the company believes it has the most comprehensive line of small, multi-wheeled vehicles produced in North America.

The newest model eight-wheel unit is aimed at the growing industrial/commercial market for a lightweight, low ground pressure vehicle with amphibious capabilities. It is economical yet durable enough to withstand the punishment of work-day operations.



50 Years of Assay Furnace Experience
For nearly 50 years Williams & Wilson Limited of Scarborough, Ontario, has been supplying its electrically heated assay furnace to the mining industry in North America and elsewhere. It has been and is the criterion for exacting fire assays by gold and silver mines, gold or silver bearing copper and zinc ore mines, and precious metal refiners.

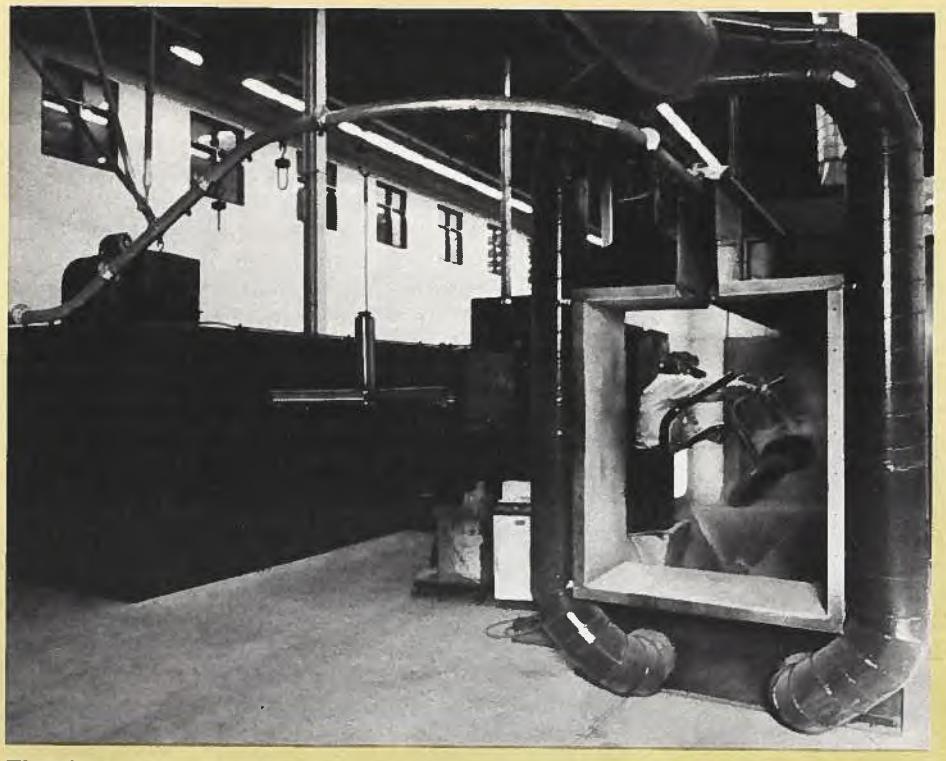
The furnace is equipped with solid-state, automatic temperature control. High quality refractory and insulation materials ensure consistently uniform temperature distribution in the working chamber.

Boiler Designed for Small Businesses
Owners and operators of greenhouses, garages, motels, stores, small factories and other types of small businesses can now heat themselves inexpensively with an industrial boiler that will burn anything — wood, trash, paper, cardboard, etc.

Developed by W.R. Benjamin Products Ltd. of Springhill, Nova Scotia, the "Dutch Oven Industrial" boiler is capable of producing up to 125 950 kg-cal (500 000 BTU). Constructed of 6.35 mm (¼ in.) boiler plate, it has a 130 cm (51 in.) fire box completely surrounded by water for maximum efficiency.

New Generation of Functional Workplace Components
A leading Canadian manufacturer of office furniture, products and systems, SunarHauserman, Ltd. of Waterloo, Ontario, presents "The Cameron Group", a series of basic, free-standing desks, tables and credenzas offering flexibility to the space planner.

Basic to "The Cameron Group" are table desks, 71.1 cm (28 in.) and 66 cm (26 in.) high with double and single bull-nose tops. From these it is possible to build a variety of single or double pedestal desks and credenzas, executive tables and small machine desks. Choices include wood or steel drawers, end and back panels in natural wood or coloured polyurethane paint.

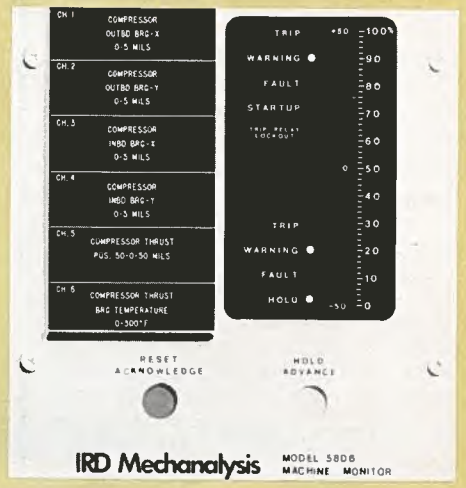


Finishing Line Conveyor
PACLINE Corporation of Georgetown, Ontario, presents its medium capacity overhead conveyor which is shipped completely prefabricated and ready to be bolted together on-site, eliminating the need for overhead welding. Installation labour is further reduced by the elimination of heavy idler and drive sprockets.

The conveyor chain is protected from contamination by travelling along an enclosed track. The extremely low friction design of the chain makes possible long systems with only one drive unit; e.g. distributed loads of up to 13 600 kg (30 000 lb.) can be conveyed on 180 m (600 ft.) system with only one drive.

Six-Channel Machine Monitor
IRD Mechanalysis Limited of Stoney Creek, Ontario, announces a new, economical six-channel machine monitor with microprocessor digital circuitry. Model 5806 continuously monitors machine vibration amplitude, axial position, temperature and speed as well as spike energy. It is ideal for monitoring rolling element bearings and gears.

Features include trip, warning, fault, start-up and trip lockout indicator lights and alarms to alert operating personnel of abnormal machinery conditions. Model 5806 will also automatically shut down the machine if a critical condition exists.



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Solpar Manufacturing Inc.
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The second of two parts:

Foreign Exchange Explained

*In the first part of this series, Diego Giurleo, manager of economic research for international money markets of the Royal Bank of Canada, explained why the Canadian exporter or importer required a basic knowledge of foreign exchange and then went on to explain foreign exchange transactions (*Canada Commerce, *February 1984).*

In this second part, Mr. Giurleo explains how exchange rates are established and how to manage foreign exchange risk:

How are exchange rates determined? Where do the numbers come from? Why is the Canadian dollar worth only 78, 80 or 82 cents American? Why isn't it worth $1.50 American?

"To answer these questions, we have to look at what factors determine a country's exchange rate. Also we must look into what type of exchange rate regimes exist today," says Mr. Giurleo.

The major factors influencing exchange rates can be either economic or political in nature.

"On the economic side," he noted, "there are numerous theories to explain how exchange rates are determined. The most popular of these is known as the Purchasing Power Parity theory (or the PPP theory as it is commonly referred to).

"All this theory argues is that basically, over time, the exchange rate will reflect inflation differentials across countries. High inflation countries will experience depreciation in their exchange rates. Low inflation countries will experience appreciation in their exchange rates.

"Now, although the Purchasing Power Parity theory has generally failed to explain actual exchange rate movements, it is still commonly applied to indicate either over- or undervaluation of exchange rates."

To understand why prices of any commodities fluctuate, Mr. Giurleo believes that one must first investigate the underlying demand and supply conditions which determine these prices.

Every foreign exchange transaction involves the purchase (or demand) for one currency against the sale (or supply) of another.

"If we were to examine a country's balance of payments, it would provide some insight into the types of transactions involving foreign exchange or which require foreign exchange conversions. These transactions could be merchandise trade related, capital flow related, and so on.

"By tracking economic developments across countries, one could generally anticipate changes in a country's balance of payments and, in turn, exchange rate trend.

"One would normally define good economic fundamentals as low inflation and strong productivity, since both of these point to improved competitiveness which would allow increased export penetration on world markets.

"An increase in exports would in turn contribute towards a balance of payments surplus. This means that, overall, the demand for the home currency which is experiencing the balance of payments surplus would exceed the supply. This would lead to a stronger exchange rate."

Furthermore, because international money markets are highly integrated, interest rate movements also affect capital flows, according to Mr. Giurleo. And this, in turn, affects exchange rates over time, because as capital flows into countries, there will be a conversion of one currency into another.

A country experiencing a capital inflow will have upward pressure on its currency. A country experiencing capital outflow will face downward pressure on its currency.

As a general rule, capital will flow into the high interest rate countries whose currencies will experience upward pressures.

"Of course," he added, "some countries have high interest rates simply to inhibit capital outflows, so it is not generally the case that high interest rates alone will attract foreign capital.

"Turning to the political side, we know politicians basically set the economic course of a nation. In this respect, international political developments can also have a major impact on exchange rates. Fiscal policy and industrial strategies affect direct and indirect foreign investment flows, and consequently, they affect exchange rates. And any major political event, be it an election or a war, has an exchange rate implication.

"Generally speaking, sounder political environments allow greater exchange rate strength and stability.

"In summary," Mr. Giurleo said, "numerous variables interact to determine exchange rates. At any moment in time, you could isolate inflation rates, interest rates, labour market developments, political events, or any number of other factors as being the dominant force which influences exchange rate trends."

While some of the economic and political factors explain how exchange rates move over time, in reality some exchange rates are fixed while others fluctuate on a daily basis.

Under a fixed exchange rate regime, a country's exchange rate is based on a fixed parity, with fluctuations confined to a specific band above or below that parity.

The parity may be fixed against a single currency, as was the case for the Canadian dollar, for example, between 1962 and 1970. During that period, the Canadian dollar was fixed at a parity of 92.5 U.S. cents and fluctuation bands were around that level.

The parity may also be fixed against a basket of currencies, as is currently the case in the European monetary system.

"As long as fixed parities represent true equilibrium rates," he continued, "market forces will tend to stabilize

the exchange rate around the parity. Should pressures push the exchange rates outside the established fluctuation band, then the central bank must step in to buy or sell foreign exchange in order to stabilize the exchange rate.

"Under a flexible exchange rate regime, the value of the currency will move according to the market. In its purest form, there is no official intervention by the central bank.

"Of course, in practice, the authorities intervene quite regularly in order to stabilize erratic movements in the rates. (Canada has been under a flexible exchange rate system since June 1970, and the Bank of Canada has intervened regularly when necessary.)

"The Bank of Canada does not have a specific rate target for the Canadian dollar."

Summarizing, Mr. Giurleo noted that, under a fixed exchange rate system, the exchange rate is established at a pre-determined rate. These rates can only be sustained in the long run if the market forces, both economic and political, are such that the established rate is an equilibrium or stable rate.

Under a flexible exchange rate system, rates are free to respond to market forces and will move in the direction suggested by the relative economic and political factors.

Managing Foreign Exchange Risk

"The high degree of exchange rate volatility," Mr. Giurleo explained, "has increased the need for corporations involved in international business to practise effective foreign exchange risk management."

Risks:

The foreign exchange risk manager faces four major responsibilities:

- The first is to identify the risk or exposure.
- The second is to outline the options open to deal with the foreign exchange risk.
- The third is to establish policies and implement strategies which are tailored to the specific requirements of the company.
- The fourth is that one must monitor the effectiveness of the management policies over time.

"The first step in formulating a foreign exchange risk management program is to identify the risk.

"An exchange rate risk exists if a company has assets, liabilities, or income streams which are denominated in monies other than the home currency. For example, let's take a Canadian corporation which is involved in export and import business, and which has, say, a subsidiary in France. The Canadian company may be exporting to the U.S. and importing from Japan, while its French subsidiary is doing domestic business in France.

"As a result, the company has receivables in U.S. dollars from its exports and payables in yen from its Japanese imports. At the same time, when it consolidates its world operations, it will have to translate its French franc assets and liabilities into the domestic currency — the Canadian dollar."

Basically, exchange rate risks could be classified into three general categories:

Transactional Exposure: This is defined simply as the risk associated with having future income streams in currencies other than the home currency.

Example — Export and import transactions which lead to U.S. dollar inflows and yen outflows have caused this transactional exposure to exist. Because the future Canadian dollar value of these money flows is unknown, there exists an exchange rate risk which could cause earnings to fluctuate significantly from expectations.

Translation or Accounting Exposure: This is simply the risk related to the uncertain domestic currency values of foreign currency denominated assets and liabilities.

Example — Because the Canadian company has a foreign subsidiary whose assets and liabilities are in French francs, there exists a foreign exchange rate risk when the subsidiary balance sheets are consolidated with the parent.

Economic Exposure: This is the risk associated with the impact of exchange rate movements on the overall valuation of a foreign enterprise; in other words, it goes beyond the transactional or accounting aspects.

Example — Because estimates of home currency values of a foreign subsidiary's future earnings are required to calculate the overall worth of the enterprise, to the parent company, identifying the economic exposure is crucial.

Today many companies have foreign subsidiaries in countries where the currency has devalued drastically. If they were to repatriate or sell the enterprise, it would essentially generate very little foreign exchange. Consequently, economic exposure is fundamental to foreign exchange risk management.

"In dealing with foreign exchange risk," Mr. Giurleo warned, "you either accept the risk or you eliminate it. Management can only accept the risk if, after examining reliable data and forecasts, they are of the opinion that exchange rates will move in their favour. Obviously if they believe otherwise

they will hedge or cover the risk. In this case, the foreign exchange position must be watched very closely.

"Since most companies are in the business of producing goods and services and not in the business of trading foreign exchange, eliminating the risk is fundamental unless the company is in a position to absorb an exchange loss.

"If the corporation wants to establish a fixed Canadian dollar value of its future foreign currency money flows, then it must eliminate the foreign exchange risk.

"The most common method of eliminating foreign exchange risk is to hedge on the forward market. If, for example, the Canadian firm knew its export earnings would be 1 million U.S. dollars a year from now, it could sell 1 million U.S. dollars on the forward market at a rate established today."

If the one-year forward rate was $1.25 Canadian per U.S. dollar, then the Canadian dollar value of the export earnings would be $1.25 million, and the company would lock this rate in by executing a forward contract, according to Mr. Giurleo.

If the company did nothing and the Canadian dollar in a year's time moved to parity with the U.S. dollar, that is one Canadian dollar is worth one U.S. dollar, suddenly the export earnings would have declined by $250 000.

Had the rate moved the other way, that is, to $1.50 Canadian and the company did nothing, then of course there would be potential increase in export earnings of $250 000.

"The corporation could also hedge its yen payables on the forward market by establishing a fixed rate today for delivery in a year's time. In this case, what it would do is buy yen on the forward market, because it's importing from Japan and has payables in Japanese yen," he said.

"Aside from using the forward market, which is the most common outlet to eliminate risk, a company could also hedge through other methods. Common methods include establishing pricing policies in the home currency. For example, in the next contract with the Japanese, they may want to strike a Canadian dollar price. Then there is no exchange risk, because it's in the home currency. Or in the next export contract with the U.S., they may want to establish a Canadian dollar price instead of a U.S. dollar price. Also, they could set billing policies in such a way as to offset foreign currency loans and deposits in order to neutralize the foreign exchange rate risk."

Once these risks and options are known, the third step is to establish a foreign exchange risk strategy.

"It is important that whatever strategy is chosen, it must conform to the overall corporate objectives. Should a company's treasury department act as a profit centre? And take advantage of fluctuations in exchange rates? Or should it act strictly to eliminate risk and uncertainty which could have an adverse impact on earnings. The degree of acceptable risk must be established before setting a course of action.

"Finally, once a strategy has been established, the overall success of these policies must be evaluated and monitored over time.

"Whichever way we look at it, it is important to be aware that not hedging exchange risks is essentially equivalent to speculation. In today's volatile market, such policies could prove very costly.

In summing up, Mr. Giurleo stated that managing foreign exchange risk is very important for firms involved in international business. Managers must identify the risk, outline the options, establish policies and continue to monitor the firm's progress toward corporate objectives.

Bank Participation in Foreign Exchange

Because of their size and traditional involvement in international business, Canadian banks form a very important link in the global foreign exchange network.

Banks are active in the foreign exchange market for a few key reasons:

First and foremost, banks are in the market to look after the foreign exchange requirements of their clients.

The days when banks simply provided foreign exchange rates to their clients are long gone.

Today, banks offer an array of services to suit customer needs, from the individual customer who requires foreign currency for a vacation, to the large industrial customer who is involved in the most intricate international transactions.

Specific services include — foreign exchange notes; foreign drafts; travellers cheques; foreign currency deposits; foreign currency instruments related to international trade, such as letters of credit; and the availability of the forward market for hedging foreign exchange receivables and payables.

In addition to quoting spot, forward and swap rates, banks also advise their customers regularly on such things as foreign currency forecasts, market trends, and new hedging techniques.

Banks must be customer-oriented in the foreign exchange services.

For a bank, the profit in foreign exchange transactions comes from the spread between the bid and the offer rates.

Banks also generate revenues from commissions and fees applied to specific foreign exchange related customer services. However, the bulk of the revenues come from the trading of currencies.

Finally, banks are in the foreign exchange market to manage their own overall foreign exchange positions.

In this respect, banks are no different from any other international company in that they must cover their foreign exchange exposures. Like corporations, they too must ensure that their foreign exchange activities are compatible with their overall corporate objectives.

So, in a nutshell, banks' activities in the foreign exchange market relate to customer and corporate requirements.

Canadian Businessmen Slowly Awaken to the Licensing Game

Bad Economic Times and Licensing

Over the past few years, the crunch on the economy has led Canadian businessmen to look seriously at their operations and many have had to restructure for their own survival. The rapid decline in product demand suddenly affected revenues and operating costs had to be trimmed considerably, resulting in leaner operations and high unemployment. However, how many Canadian businessmen have embarked on a search for new avenues, through licensing, to increase revenues and ensure greater stability to face future situations such as the recessionary period from which we are now emerging?

Many Canadian businessmen fail to recognize that licensing is an important tool to increase revenues either by selling (licensing out) some of their proprietary rights that may not have been fully exploited outside Canada, or by acquisition (licensing in) of intellectual property which could enhance their position on the marketplace or increase the profitability of their existing manufacturing operations.

Technology Audit and Saleable Property

It is important for a business to have an up-to-date audit of the intellectual property side of its operation as well as the financial side. When was the last time that you audited, or sought expertise to audit, the saleable property of your company? This kind of saleable property that can be classified into three main categories.

The first is statutory intellectual property rights consisting of patents, trademarks, industrial designs and copyrights. The second is "know-how", which may be defined as a disclosable type of property wherein the licensee who acquires knowledge saves research costs and time by not having to develop it himself. When "know-how" is transferred through a licence, it passes quickly to the hands of the licensee. The third category is "trade secrets", sometimes referred to as "secret know-how". With this type of information, the licensor has to bind the licensee to a non-disclosure agreement whenever it is transferred.

Intellectual Property

To evaluate this type of property, to discover if there is a proprietary right or if there are likely infringement problems in foreign markets, it is essential that proper searches be done by qualified professionals, experienced in intellectual property matters. A search and an evaluation are necessary to establish the strength of the property. Often the result of such a study results in improvement to the property. The value of the property will vary depending on its strength. If the saleable property is weak, the royalty rate or remuneration will likely be low. Conversely, a strong property should command a higher royalty.

The foreign position should be evaluated as well as the Canadian. Before establishing a sale price for a product, process, trademark, etc., it is necessary to determine everything about your bargaining position. For example, patent rights may have been damaged by misuse, constituting statutory bars against obtaining valid protection in certain countries.

Other avenues should also be investigated to put together a saleable intellectual property package. For example, manufacturing procedures, purchasing techniques, marketing techniques, distributor/dealer lists, engineering, drawings, trademarks, secrets, etc., can all form part of the licensed property. Quite often their value to a product or process goes unnoticed.

The geographical territory of protection must also be evaluated to deter-

mine how it can best be protected and at what cost. Although it may be desirable to "lock up" a large territory, incurring the expense of obtaining intellectual property protection in a great many countries is not always necessary. It may be sufficient to know how the products are sold in the various territories. Take, for example, the European market. A single distributor in Germany may be supplying a particular line of products throughout many European countries. The decision for territorial protection is, in fact, dictated by the product and the competition. Obtaining protection in a few European countries may be sufficient to discourage any competition from within the entire European Economic Community (Common Market), as a large portion of that particular market would be under the control of the patentee, making it unjustifiable for the competition to restrict its market.

In licensing trade secrets, however, there is no problem as far as protective territory is concerned. There is a monopoly for as long as the secrets are maintained. What must be assured is an absence of leaks in transferring the secrets to all parts of the world. This transference requires careful planning and control.

Know-How

The most common "know-how" property being licensed is engineering intelligence of the sort that goes into the development and manufacturing of products, projects, processes, etc. It may be desirable to consider transferring engineering know-how by separate agreement, particularly if engineering time is being licensed as part of the package. A profit can be made here because engineering time can be marked up and expenses added on top.

Another type of licensable "know-how" is engineering drawings. Drawings take time and cost money to produce, so they have a value. They may consist of parts drawings, assembly, process and others. A case in point could be an assembly plant drawing including construction drawings that may be required if a plant is to be built in a foreign country. There may be information concerning areas such as packaging, handling, special materials, marketing, distributing, pricing, etc. These are examples of areas that have to be audited to discover saleable property.

Product pricing can be determined directly on the marketplace by a comparative analysis with competitive products.

Trade Secrets

With trade secrets, a licence or transfer agreement should be established before any transfer takes place. As a rule, one should not transfer the trade secrets before an agreement is signed and the licensor has some payment secured. Obviously the licensee requires advance assurances of the value of the trade secret. Such assurances should be demonstrated by methods which do not divulge the secret. A restriction should be imposed on the licensee as to where the secrets may be transferred and the mode of so doing. In other words, if the secrets are transferred to third parties, they also would have to enter into a secrecy agreement. The remunerations for trade secrets tend to be quite similar to those for patents but often they do not extend over as long a period of time.

Price Structures

During the audit process property available for sale is identified either singly or in a package. Now it must be costed. The proprietor's accounting records are generally a source which reveals how much it cost him to develop the property, in terms of time, material and overhead costs, and how much it is worth in today's dollars. Time is an element often overlooked in pricing and it can have a high dollar value, particularly to a small enterprise where engineering time may not have been taken into account.

Product pricing can also be determined directly on the marketplace by comparative analysis with competitive products. Market surveys of the potential demand for the product should be conducted so that the potential profit which the product may generate can be evaluated. These are available through agencies providing such statistics.

Acquisitions and R & D

The need to expand in foreign countries often leads to establishing a foreign joint venture, or the acquisition of foreign "rights to manufacture" in Canada. You may decide to exchange technology with a foreign company to keep up with your domestic competition while, at the same time, increasing the "know-how" to stay ahead. Your product line can be expanded quickly by the purchase of rights to new products. The acquisition of new technology can also improve your manufacturing.

A few of the bigger Canadian corporations with large R&D budgets have, on staff, licensing executives whose job it is to manage their intellectual property portfolio and seek licences for the sale of such property to obtain an increased return on their R&D investments. Such executives can generate extra revenue, from foreign sources, for products developed in Canada. They also seek acquisitions of technology to improve their operations and to become more efficient and profitable. At the same time, their companies become more aware of the state of the art amongst competitors and thereby remain abreast of the competition both on the national and international markets.

To the small businessman, however, licensing is an unexplored strange world, because of his lack of understanding of what constitutes licensable (saleable) property, and the benefits that can be derived from licensing. Where, and how, can he acquire new products or technology, and how does one go about the buying or selling of it? Many small businesses cannot afford the costs of research and development programs and therefore should investigate the licensing route to acquire the benefits of R & D on a royalty basis.

Internationally, the importance of licensing and the growing need for high standards have become increasingly recognized.

Licensing, to the average businessman, seems to be a complex field. However, with only basic knowledge, he should be able to audit his own backyard and establish a licensing program, thereby strengthening his home base and increasing his business. Because this is easier said than done, there is a need to learn about licensing.

The Licensing Executives Society (LES) — A Source of Learning

Internationally, the importance of licensing as trade became increasingly recognized, as did the need to maintain high standards in the field. In the United States, in 1965, the Licensing Executives Society, "LES" was established. At that time a few Canadians joined the U.S. society to expand their knowledge of licensing. At present Canada forms part of the U.S. chapter of LES which is known as the LES USA/Canada chapter and has a membership of approximately 2 000.

LES is an international society and encompasses a worldwide federation of business-oriented professionals involved in the transfer of technology and industrial or intellectual property rights. The USA/Canada chapter is still little known in Canada although it is an excellent educational tool to acquire or upgrade one's knowledge in the field of licensing.

The membership of LES International consists of approximately 4 000 licensing executives from all parts of the world who are concerned, in their day-to-day work, with the transfer of technology. These people represent not only the major industries of the world but also a cross-section of the science and technology communities.

The Aims of the Society

LES USA/Canada is an association of management representatives from companies — both large and small — lawyers, scientists, engineers, university and government representatives, and others engaged in licensing.

The purposes of LES are:

To function as a non-profit professional and educational society, encouraging high standards and ethics among persons engaged in the domestic or international licensing or other transfer of technology and intellectual and industrial property rights;

To assist its individual members in improving their skills and techniques in licensing through self-education, special studies and research, sponsorship of educational meetings, publication of articles, reports, statistics and other materials, and the exchange of ideas related to domestic and international licensing or other transfer of technology and industrial property rights;

To inform the public, the business community and governmental bodies concerning the economic significance and importance of licensing or other transfer of technology and intellectual property rights and the high professional standards of those engaged in the profession;

To function as a research organization and assist in furthering the employment of technology and the licensing and other transfer of technology.

LES is an active society and has continuous challenging activities to keep abreast of this rapidly changing world. To its members it provides publications with updates on various aspects of licensing, and a directory of its entire membership as well as an international technology directory listing companies and individuals interested in acquiring or selling specific technologies and products.

U.S. and Canadian Affiliation

The society also affords an opportunity for licensing executives to meet periodically at the various meetings which take place every year. LES USA/Canada holds an annual meeting in the U.S. or Canada and regional meetings in the eastern, central and western sectors of the U.S. and Canada. Last year LES USA/Canada held its annual meeting in Québec City.

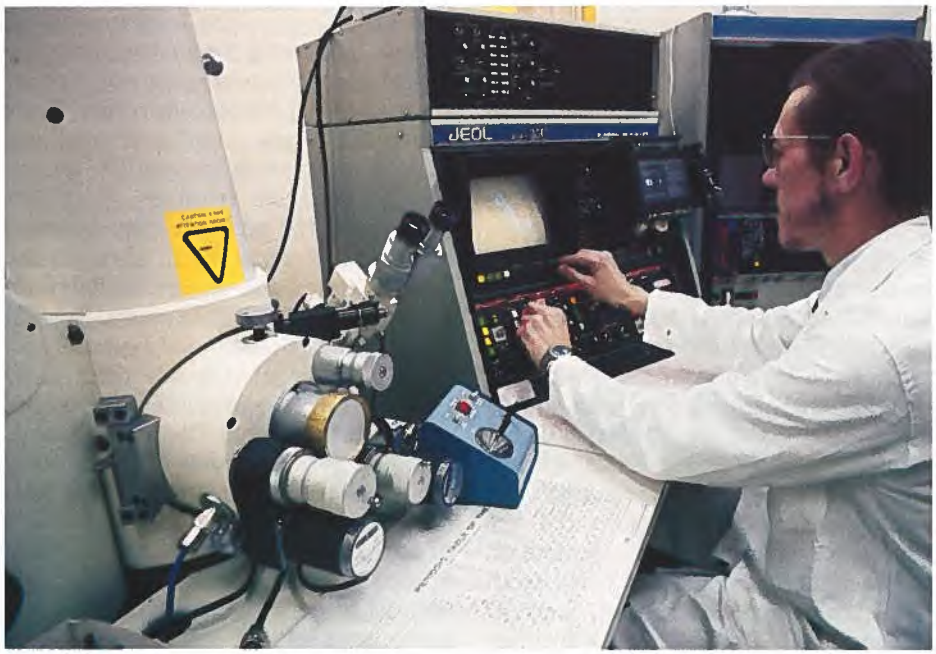
The membership of LES International consists of about 4 000 licensing executives concerned with technology transfer.

Because Canadian and U.S. business have many similarities, LES/Canada members have decided to remain as a combined chapter whereby they can both enjoy the maximum benefits. For example, at last year's annual meeting there was considerable Canadian content at the general sessions and workshops where speakers presented their views on FIRA from both the investors' view and the government's view. Also, John D. Allan, president and chief operating officer of Stelco Inc., delivered a special address on "Stimulating Innovation and Research in Industry".

The central U.S. region and the Canadian region is holding a joint June meeting at "The Abbey" at Lake Geneva, Wisconsin. The program includes presentations dealing with Canadian high-tech and biotechnology and discussions of technology transfer problems peculiar to licences between Canadian and U.S. businesses.

Licensing is no longer the tool of the future. It is present and alive and increasingly in use as the business executive seeks expansion in international as well as domestic markets. The Canadian businessman must be able to recognize the potential of licensable property and the need to be continuously innovative to capitalize on it in the fast-moving business world.

— by Guy-J. Houle
Vice-President, Canada Region
LES USA/Canada



An Alternative To Outside Expertise —

Hire A Seneca International Business School Graduate

When I received an invitation from Bob MacDonald to attend a Seneca College Symposium on International Trade in North York, Ontario, I was naturally intrigued. As well as the similarity in names, it fit in well with the World Trade Centre Conference on Canada/U.S. Trade.

In spite of this, I was sceptical about the whole exercise. I thought a seminar, run by students would be very superficial and full of theory with little practical application for *Canada Commerce* readers. But — surprise, surprise — the old sceptic came away convinced that a dedicated staff and a practical, no nonsense course on international trade could produce hands on, knowledgeable graduates who could and would help lucky export minded firms increase their sales in these lucrative markets.

And due to a cancellation of a previously arranged interview, I was able to sit in on a number of Seneca classes as an observer and a resource person.

One could not help but be impressed with the poise and ability with which these students ran the International Symposium, bringing together government, industry and educational expertise in the international marketing field and attracting a large audience of officers from firms interested in or engaged in export.

Of course, there were the usual problems to be solved by the students as there always are at a conference of this size, but they also had to contend with a last minute change in the program when the luncheon speaker found he had to attend an urgent meeting at his scheduled speaking time. The aplomb with which the students handled these changes bodes well for their abilities at meeting crisis situations.

While Seneca College has full conference facilities at its Finch Avenue campus and the staff to handle such conferences, the instructors felt the experience of running such a seminar at commercial facilities would be an excellent learning experience. Other facets of the seminar — registration, introductions, summaries and question periods — were also handled in a truly professional manner. And good pre-planning of the seminar insured an interesting and informative program.

George MacDonell, Ontario's Deputy Minister of Industry and Trade, outlined the province's commitment to increase exports to $80 billion a year by the end of the decade. To accomplish this goal the province is working closely with the federal government to raise the number of firms undertaking exports from the present 22 per cent to approximately 40 per cent over this period. In backing their projections, the department is encouraging world product mandating for foreign-owned firms and encouraging small and medium-sized firms to enter the market. Assistance is available from its 17 offices throughout the province, and 14 international offices, eight of them in the United States and others in Belgium, Federal Republic of Germany, Britain, Hong Kong, France and Japan.

Seminar speaker showed how international trade fairs bring together buyers and sellers from nearly every country in the world.

Speaking of Canada Wire and Cable's (CW&C) 25 years in exporting and joint venturing, Denys Trillwood, executive vice-president of the company's international branch, told delegates that export required the full efforts of top executives if it was to succeed. While CW&C has been exporting since the 1930s, its real commitment to the export market did not begin to take shape until the post-war years, and its entry into joint ventures not until the early 1960s.

As result of this corporate strategy, the parent company has been able to increase productivity, maintain employment, iron out downturns in the economy and provide a broader base for its R&D expenditures. Canada Wire has thus been heavily involved in fibre optics and other state-of-the-art technology. By staying in for the long haul, the company now has sales of $400 million a year, employs 7 500 and is now the second largest wire and cable company in North America.

Mr. Trillwood pointed out that it takes from 18 months to two years to investigate new business ventures in which the company takes a share position in the high 40 per cent range. This ensures that local input will generate a high degree of interest in the success of the venture and at the same time allows CW&C the right to provide managerial, technical and financial expertise to the venture.

Often, said Mr. Trillwood, persistence pays off. He mentioned that negotiations in Egypt took more than three years of determined effort to hammer out but resulted in a $65 million contract for rural electrification.

While the U.S. is by far the most important and easiest market for Canadian firms to reach, Frank Degg, senior economic officer of the Delegation of the Commission of European Communities (EC) in Canada, pointed out that the EC, if considered as a single unit, was Canada's second largest customer and supplier but was declining in importance. This he attributed to the recession, exchange rate fluctuations which were far more volatile than Canadian rates, changing international trade patterns and the growth of trade protectionism. Yet the Economic European Community had a total population about equal to that of the United States and also had a fairly healthy relationship with Canada. In other words, he continued, the EEC was a market that Canadians should cultivate.

In explaining the workings of the European Communities, he told the delegates that EEC was composed of four distinct branches — the Commission or permanent secretariat which proposes and implements legislation; the Council of Ministers which is composed of the foreign ministers of the 10 member nations and others which set policy and dispose of outstanding issues; the Parliament, elected by voters in the participating nations, whose powers are limited to control of the budget and censure of the Commission; and the Court of Justice which adjudicates disputes.

As a result of the individual members' varying interests and priorities, decisions are often slow and tedious but, in spite of this, EEC has made important strides in setting overall trade policies and developing more cohesive external relations. And, while the Community has a broad range of preferential tariffs and free trade bilateral agreements among member nations, it does have an underlying commitment to the General Agreement on Tariffs and Trade.

Other speakers and panels from government and industry rounded out the seminar covering trade subjects reported at length in this and other issues of *Canada Commerce*.

With my interest in Seneca College's International Business Course and its students aroused by the success of the conference, I was quick to accept the invitation of my namesake and that of Neil Hunter, Seneca College Dean of the Business Division, to sit in on the following day's classes.

As is often the case, the students were to participate in discussions on international trade with experts in the field, in this case, Andrew Lippe, of the Canada/German Chamber of Industry and Commerce. Unlike North American shows, the Cologne show is a year-round operation bringing in as many as 20 world class exhibitions in specific product lines. Mr. Lippe outlined how the shows brought together buyers and sellers from nearly every country in the world, especially from Europe and Africa. Admission to each show is strictly controlled to buyers and sellers of the particular product line whether it be electronics, sporting goods, or mining equipment. Because of the size of the shows, it usually takes several days just to cover all the myriad buildings. While it presents an excellent opportunity for bringing together buyers and sellers, it is also an excellent means of determining the latest technology in the field.

It was quite apparent from the questions of the students that they were well aware of the value of such shows and were eager to discover how they could be worked into an overall marketing strategy for their future employers. According to their professors, this blending of outside expertise in the many facets of international business was a tool used on a systematic basis to enrich the school's curriculum. And there is no shortage of such expertise, since most companies are willing to assist the College in developing talents which they can tap in the future.

Seneca College students handled problems of running an international seminar with an aplomb that bodes extremely well for their future.

Seneca College offers two international business courses. A six-semester, three-year diploma program for secondary school graduates includes economics, banking, finance, business management, political systems, marketing, law, research, communications and liberal studies subjects. The post-diploma program is a two-semester, one-year course for the college or university graduate, or the mature student who has business experience. Emphasis is on marketing, banking, finance and the movement of goods across international borders.

In either case, a Seneca graduate seems like a good bet for any firm wishing to add strength to its international marketing operations.

— by Bob McDonell
Canada Commerce

Canada/U.S. Trade

Freer Computer Information Flow Urged

While it may not be as apparent as a loaf of bread or a truck load of automotive parts, a new form of international trade is developing in services. It includes insurance, transportation, broadcasting and communications, data transmission and storage, tourism and consulting, as well as banking.

It is not surprising then that Rowland Frazee, chairman and chief executive officer of the Royal Bank of Canada, Canada's largest, should be pleading for better understanding of the problems and a start at resolving the trade issues involved in transborder information flows.

"The goal," he told the recent Brookings Institution seminar on U.S./Canada trade in Washington, D.C., "is an unimpeded flow of computer services and, if that is to work, it requires negotiated rules of the road including safeguards for national interests."

In outlining his bank's interest in the subject, he pointed out that the Royal was Canada's largest private sector customer of telephone companies and computer industries.

"The Royal Bank's total expenditures on technology on a global basis is some $377 million. That figure includes hardware, software, telecommunications, and the people who operate them. Today it totals 20 per cent of our non-interest expenses. Twenty years ago, the percentage was negligible; 10 years ago, it was still under 10 per cent; and our best estimates are that these costs as a percentage of non-interest expenses will climb by at least one per cent annually for the balance of this century."

And while these figures or similar ones apply to all banks, they are equally important to all industries and businesses in North America and throughout the world, he continued.

Speaking of the difficulty of developing a comprehensive agreement on trade in computer services, he said that even a definition of what constitutes traded computer services, or the much more common expression "transborder data flows", has still not been established. Even more difficult will be questions of privacy and of government access to records. For banks, such access is required by the Inspector General of Banks.

While Canada's Bank Act of 1980 required all bank data processing and electronic record storage be done within the country, it certainly added to the operating costs of newly-established foreign owned banks. In some cases, other nations have moved to block the access to commonly stored information and to prevent it from moving out of their countries.

Unless and until such roadblocks to the free exchange of information are removed by negotiation, according to Mr. Frazee, they will continue to increase costs and hinder the growth of the service sector.

As a step in dealing with the problem, he suggested that, once a suitable definition has been arrived at, information flow between various sections of the same corporation in different countries would be a good candidate for study.

If such information is to flow freely and unrestricted, there will have to be agreement on access to data — and a clear understanding of the conditions under which a nation could interrupt such flows. Privacy principles will have to be agreed upon, and participating countries might have to adjust related

legislation. There would have to be a mechanism for resolution of disputes, and other safeguards.

Such a narrow agreement between Canada and the U.S., he contended, could be a blueprint for a later multinational agreement, and would serve to open up discussion on other types of services which could be discussed and measured against the same principles.

In promoting these discussions, Mr. Frazee encouraged the participation of the private sector in the deliberations and was, in turn, encouraged by the signs that both governments have and are moving to set up more such advisory groups or task forces.

Hugh Donaghue, vice-president, government programs and international trade relations of Control Data Corporation, agreed with Mr. Frazee that dialogue and understanding would be easier if restricted to smaller specific areas of the overall question of transborder data flow.

As chairman of the U.S. State Department's Advisory Committee on International Investment, Technology and Development which studies issues on transborder data flows being addressed by the Organization for Economic Co-operation and Development (OECD), Mr. Donaghue has had a long exposure to the complicated and prolonged discussions taking place in the U.S. and among OECD countries.

A major factor in these negotiations, he said, was the perception on the part of one party of the motives of the other party. Often these perceptions added to the problem, even if they were not misleading. Part of this problem is further compounded by the fact that there are no agreed on principles that would provide guidance to both parties.

He then outlined a set of principles developed by his task force which was recommended to the U.S. government in late March this year.

An agreement between Canada and the U.S. on transborder data flow could be a blueprint for a multinational agreement.

"In order to promote the growth and competitiveness of the telecommunications and information industries, as well as the telecommunication-dependent industries, the following principles should apply:

"• Open international marketing of information processing and telecommunications equipment should be encouraged on a fair and competitive basis without restrictive trade barriers.

"• Users should have freedom to choose from competitive suppliers, including telecommunications agencies, for supply, installation and maintenance of their customer premises equipment.

"• There should be an unrestricted and competitive international market for value-added (enhanced) telecommunications services.

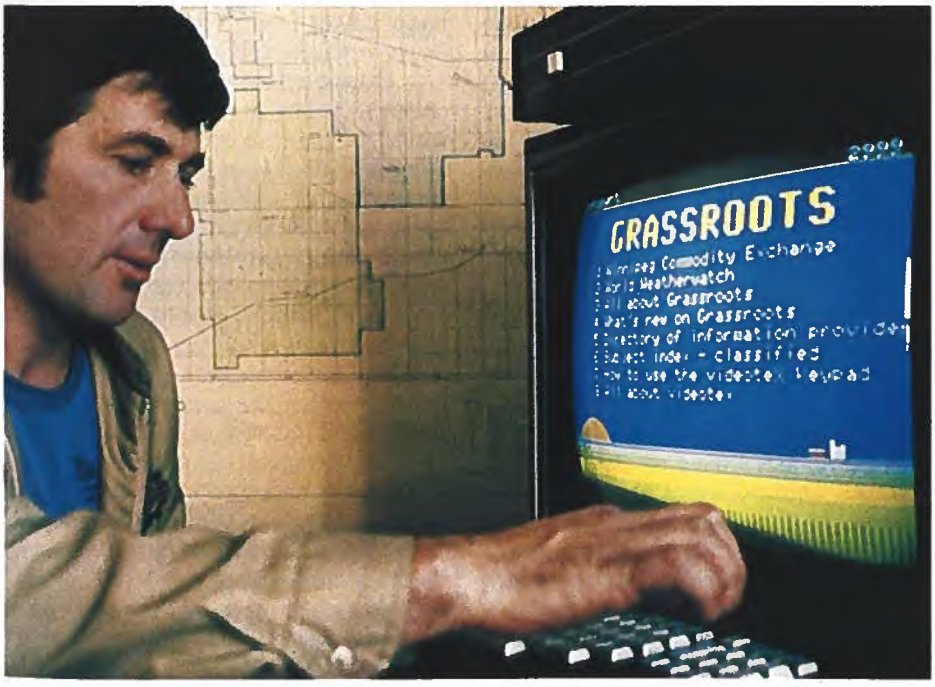
"• The encouragement of innovation in and development application of new services should be through competitive market forces.

"• To provide maximum interconnectability between national telecommunications services, reasonable basic standards should be established on an international basis with users' and suppliers' participation.

"• Users should continue to have the freedom to choose from available transmission services; included among such services should be "transparent" services, such as full-period leased circuits, which provide users with the greatest flexibility and ease of use.

"• Prices charged for basic telecommunications services should be established on a cost-based structure.

"• While attention should be paid to the protection of individual privacy and national security, the general and traditional free flow of information among nations should be preserved in the interests of the advancement of the world economy."



While Mr. Donaghue stressed that these principles were developed from an American perspective and are still at the discussion stage in the U.S., he felt they might be a basis for further dialogue between Canada and the U.S. and eventually on a worldwide basis.

In view of the fact that the service sector is the fastest growing "industry" in the developed world and even now is estimated to embrace 50 per cent of all trade, it is certain to be a subject of much debate both nationally and internationally in the months and years ahead.

As a world leader in many facets of this new technology such as telecommunications, information (Telidon) and data, it is certain that Canada will have an increasingly important role to play in the preparation and development of a set of international principles and regulations governing information technology.

Conference Underlines High Profile of Canada/U.S. Economic Relations

Brookings Institution is a non-profit, non-partisan corporation in Washington, D.C., devoted to public service through research and training in economics and government. Its prime function is to make social science research available to leaders in business, labour, the professions and government. No contract research is undertaken for private clients and government contracts are accepted only if they can be published. A major function of the institution's Advanced Studies Program is to communicate important new research and to bring together major experts through conferences.

Brookings Institution has earned wide respect for the soundness of its studies and its absolute independence. In addition to having a research staff of 220, the institution awards fellowships to conduct pre-doctoral and post-doctoral research at its facilities.

Indicative of the high profile now being accorded U.S./Canada economic relations, and in particular sectoral free trade, was the recent Brookings Institution conference on the topic in Washington, D.C. Brookings brought to the conference some of the most knowledgeable people on the subject from both countries.

While most of these highly placed panelists and 100 or so participants from the upper echelons of Canadian and American industry and government were in agreement with the ideas of broader free trade between the two countries, there was little unanimity on the methods proposed to meet this goal.

Mitchell Sharp, former Canadian cabinet minister both of Finance and of External Affairs and, prior to that, a top civil servant, warned against excessive enthusiasm for free trade.

"To enter into a free trade area arrangement with the United States," he said, "is to alter fundamentally the direction of Canadian policy, not so much in economic terms as in political terms and I do not think Canadians are prepared to do so."

He noted further that such a move would be irreversible and that, while it would protect Canada against U.S. trade policy, it would not do so against U.S. domestic policy. He suggested that there should be a more systematic, coherent approach to Canada/U.S. relations with periodic and regular consultation on economic matters and a once-a-year review of the whole spectrum of issues.

Simon Reisman, the Canadian deputy minister of Finance when the U.S.-Canada Auto Pact was signed and one of its main architects, took an opposing view.

While Mr. Sharp stressed the traditional caution of Canadians with respect to free trade, Mr. Reisman sketched out the history of free trade discussions between the two countries to show that Canadians have been recurrently lured by free trade with their larger and richer neighbor.

On the other hand, he pointed out that the different rythms of the two countries made such agreements impossible at the present time. When times are tough, Canadians long for free trade. In similar conditions, the United States reverts to protectionism.

As a result, Mr. Reisman called the present studies "puny" and said that it was in Canada's best interest to opt for a bilateral arrangement for total free trade with the United States. He argued that the liberalization would call for upgrading Canadian competitive capacity and, hence, for transitional adjustment assistance.

He indicated that, since countervail, anti-dumping and other such measures are more favourable to the larger market, it would require the application of full national treatment to all, a far broader definition of "free trade" than simply the removal of tariff barriers.

To remove fears of manufacturers, particularly Canadian, Mr. Reisman also suggested the establishment of an insurance fund to guard against the abrogation of a free trade deal by future governments.

This program would be funded initially in proportion to the respective importance of each country's free trade flows with the other.

Exporters would pay cheap insurance premiums to the fund and claims would be paid according to the actual damage caused by governments in contravention of the trade liberalization agreements. Replenishment of the fund would be the responsibility of the country initiating the restrictive trade measures which would provide a deterrent.

The insurance plan could be established whether the sectoral or broader free trade approach is taken.

Mr. Reisman's insurance proposal was heartily endorsed by Myer Rashish, former American Under-Secretary of State for Economic Affairs. While he favoured a broad approach to Canada/U.S. free trade, he would settle for what he called a functional approach rather than a sectoral one.

Brookings conference agrees that sectoral and functional approaches to Canada/U.S. free trade could be pursued simultaneously.

He suggested that this functional approach would be aimed at non-tariff barriers and claimed that the benefits, from a Canadian point of view, would be reduced U.S. flexibility to apply restraints against Canadian products at will. "Buy-America", safeguards, dumping and countervail should all be subject to discussion and, hopefully, agreement, he believed.

In Mr. Rashish's view, it would be difficult to justify the sectoral approach under the General Agreement on Tariffs and Trade (GATT) whereas his functional approach would be compatible with both the spirit and letter of GATT.

In subsequent discussions during the Brookings conference, it was felt that the two approaches, sectoral and functional, were not mutually exclusive and could be pursued simultaneously.

William Brock, senior foreign trade official of the U.S. government, has attended several recent meetings on U.S./Canada trade, of which the Brookings Institution conference was the latest.

As he has at several meetings officially and informally in forums, Mr. Brock stated that, while the U.S. favoured a broad free trade arrangement, it was prepared to proceed at the pace set by the Canadian government.

He stressed balance and a broadening of the approach and expressed concerns that the sectoral proposal would lead to doing only what was easy at the expense of the more difficult, thus losing a balance that was most important. He also suggested that the route to freer trade through tariff liberalization was almost exhausted and that further progress must be made through removal of non-tariff barriers.

Mr. Brock realized that protection is needed for smaller countries and suggested the establishment of settlement mechanisms to deal with problems that are not pure market phenomena but due to decisions made on the political level. He added that a system of rewards and penalties is in order to back up the rhetoric of free trade.

While he recognized that sectoral rationalization of North American industry was necessary for world competitiveness, Mr. Brock rejected the idea of developing a "Fortress North America" approach.

Allan Gotlieb, Canadian Ambassador to the United States, emphasized the need for mechanisms to deal with conflict avoidance and disputes which arise from valid democratic processes.

He pointed out that new areas of dispute included those involving extra-territoriality (for example, the application of American laws on subsidiary companies in another country); the growth of continent-wide services; deregulation; and debate on the equity and shares in the benefits of trade liberalization.

Although the jury is still out on the final resolution of the many problems facing the two countries in the matter of free trade, there appears to be a greater willingness on both sides to discuss and negotiate a satisfactory agreement. The three recent informal exchanges (Montréal; Provo, Utah; and Washington, D.C.) and the formal meetings between top trade officials of both countries over the past few months attest to this.

So You Want to Export

Perhaps the greatest stumbling block for small and medium-sized firms wishing to enter export markets is the lack of knowledgeable personnel. For most owner/managers of these firms, the thought of adding another portfolio — that of export manager — to their already heavy workload is a major deterrent. Some answers to this problem were addressed at a series of meetings in Toronto this spring, attended by Canada Commerce.

The first, held at Toronto's waterfront World Trade Centre and sponsored by the Ontario Ministry of Trade and Commerce, dealt primarily with U.S./Canada trade although many of the topics covered would apply equally to other export markets.

Hands Across the Border Dollars Across the Border

Explaining that while only 22 per cent of all Ontario manufacturers export, John W. Fulton, an international marketing consultant, and Ennio Vita-Finza, manager of the U.S. section of the Ontario ministry, pointed out that export trade between New York State and Ontario amounted to $8.2 billion a year and that exports to Michigan alone from the province were higher than those to Japan and Germany combined.

They suggested that exports could increase profits for most Ontario manufacturers without increasing capital input. This could be accomplished by using excess capacity or by putting on second or third shifts depending on the individual firm's circumstances.

But, they warned, the decision to export must be a total commitment and not a temporary measure designed to take the firm through the present economic downturn. To do otherwise would be a black mark against the firm and all Ontario exporters, proving them unreliable suppliers.

The U.S. market was an attractive starting point for the would be exporter, they claimed, due to proximity and language and business similarities. At the same time, it is a foreign market and there are a number of problems not faced on the domestic market. These include customs, export documentation and shipping as well as pricing which must take into consideration banking and foreign exchange costs.

The first step for the company looking to export would be an honest appraisal of the firm's capabilities in both plant and personnel.

Has the present product line the potential to meet the needs of the export market? Are there limitations due to licensing agreements or standards applying to the target market or again tariffs which would make it impossible to export at a profit?

Once these questions are answered, the next step involves a study of the target market to determine the extent of competition, the likelihood of market acceptance and the potential for profit. Help in answering these questions, Fulton and Vita-Finza continued, was available from the Ontario government and through such federal programs as the Program for Export Market Development and the Canadian consulates throughout the U.S. and around the world.

Even if the present product line is not suitable for export, a company may be able to take on new products or parts supply without expanding plant or personnel. While most companies in the small and medium-size range are not likely to have export marketing expertise on staff and most chief executive officers of such firms are now overloaded with responsibility, there are independent experts capable of removing many of the more specialized tasks facing the exporter.

These, according to the Ontario Ministry of Trade and Commerce, include the international banking facilities of local banks, customs brokers, forwarding specialists and a wide range of marketing agents, including trading companies and, of course, a good lawyer.

If a business intends to use one or several of these agencies it should be sure to get a legal, binding and written agreement between itself and the agency that is going to look after its business. It is better to spend some money on a lawyer at the contract signing stage than to have to spend a great deal more later on if disagreements arise.

Throughout all of these stages, of course, the would-be exporter must be aware of the most important point to the whole exercise — the establishment of a valid export price — according to Fulton and Vita-Finza. The exporter can lose sales if it is too high and its shirt if it is too low.

To assist the exporter in this important task, the Ontario ministry has developed a pricing procedure as well as other forms to assist in filling out the final costing sheet. These forms are available at the various ministry offices throughout the province.

Following the lively Ministry of Industry and Trade presentation, the delegates were given a number of presentations on Export Documentation and Shipping, U.S. Customs and International Finance by panels of experts from the private sector, the Buffalo Chamber of Commerce, and Canada's Department of External Affairs.

While assistance for potential exporters in Ontario may be obtained by writing to the Ontario Ministry of Industry and Trade, Queen's Park, Toronto M7A 2E1, or by calling (416) 963-2500 most of the other provinces offer similar assistance through their commercial departments.

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