Canada Commerce

February 1976

Metric Packaging
$145 Billion Five Year Plan
Export Development Corporation
Building a Better Canoe


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New seabed exploration technique from Huntec

Huntec ('70) Limited of Scarborough, Ontario, has launched major promotion of what a company spokesman called a "technological break-through in geotechnical exploration of the sea bed." The company has prepared a film on the new invention and intends to exhibit the equipment at the Offshore Technical Conference in Houston, the International Petroleum Show in Tulsa, and International Offshore in Stavanger, Norway.

R.M. Watts, Huntec Vice-President, told *Canada Commerce* the new sea-bed mapping technology was developed through a program initiated by the company that received support from the Bedford Institute of Oceanography in Nova Scotia, and the federal government. Mr. Watts called it an example of how "government and industry can pool resources to tackle major technological problems."

The new development, known as the Huntec DEEP-TOW System (DTS), is a high-resolution seismic profiler designed to accurately measure the depth and physical nature of the strata under the seabed. A major feature of the equipment is that, unlike conventional gear, the active components are towed well beneath the surface to allow operations in heavy weather.

Part of the development program was two years of field testing to ensure the reliability of DTS. The company foresees applications in deep-water pipeline building, deep-water anchoring, cable route surveys, sediment classification studies and resource mapping studies, in addition to other uses. For more information: R.M. Watts, P. Eng., Vice President, Huntec ('70) Limited, 25 Howden Road, Scarborough, Ontario

AIA: Where to find your money

The Automotive Industries Association of Canada is holding a series of cross-country seminars from now until mid-March. The association has chosen an interesting subject — money.

Canadian entrepreneurs often have difficulty obtaining funds for new projects. The AIA seminars have been developed to provide "as much factual information as possible in a short time." Topics include: stages of growth, characteristics of a successful entrepreneur, outside sources of funds, cash flow budgeting and how to approach sources. Seminar leaders are A. George Fells, President of SB Capital Corporation Ltd., a Toronto-based venture capital investment company, and Mitchell J. Kostuch, of the same firm. Mr. Kostuch is also editor of *Sources of Funds Index*.

For more information: Peter D. Balogh, Program Director, Automotive Industries Association of Canada, 1306 Wellington Street, Ottawa, Ontario K1Y 3B2; 613 - 728-5821.

Canadian clothing promotion

A multi-million dollar European market for Canadian clothing will be pursued this year in a fall promotion by the Canadian clothing industry in co-operation with a European retail store chain and the Department of Industry, Trade and Commerce.

The promotion will be financed jointly by C&A (a 200-store fashion clothing retailer with outlets in Belgium, Britain, France, Germany, Switzerland and The Netherlands), IT&C and Canadian clothing manufacturers.

C&A will send 90 buyers from Europe at various times during the year to purchase men's, women's and children's clothing. The promotion will be supported by advertising in various media and special merchandising programs on a Canadian theme in all C&A stores.

C&A has built a reputation for fashion, styling and quality since the organization was founded by the brothers Clemens and August Brenninkmeyer in The Netherlands in 1841. The firm sends teams of fashion buyers on regular tours of the world seeking the newest in styles, fabrics and merchandise.

C&A first looked to Canada as a source of supply 15 years ago and, with increasing consumer acceptance of Canadian products, opened a resident buying office in Montreal in 1973. Mondial Canada Limited is the first such permanent office to be opened by a European retailer in Canada. The proposed promotion was developed in recognition of the competitiveness of Canadian merchandise in Europe. Canadian manufacturers have established an international reputation in clothing, particularly winter clothing.

IT&C Annual Report Available

In the past, the Department of Industry, Trade and Commerce has distributed its annual review through the Canada Commerce **mailing list. This year will be different. A copy of the IT&C annual report will be available to those persons requesting one from: Roger Dagenais, Chief, Printing and Distribution, Office of Information and Public Relations, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.**

Canada Commerce

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In This Issue

Editor	David Magee
French Language Editor	Martine Bugeaud-Pelletier
Design	Stephen Shewchuk

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Donald C. Jamieson, Minister
O.G. Stoner, Deputy Minister

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Saudi Arabia's Five Year Plan

J. PIERRE LEFEBVRE, Commercial Secretary, Jeddah

Mr. Lefebvre joined the Trade Commissioner Service in 1967. Previous postings included Kingston, Jamaica, and Beirut, Lebanon. He holds a B.A. from Laval University and a M. Comm. from Université de Montréal. In this article he discusses the main points of Saudi Arabia's new Five-Year Plan, which involves expenditures of $145 billion and has as its goals: "development of the physical infrastructure of the country; reduction of economic dependence on crude oil exports; development of human resources by education, training and improved health standards; and the increased well-being of all groups in society".

Backed by some of the world's largest proven oil reserves, Saudi Arabia is launching its second development plan. The first goal is an immense leap forward by development of the infrastructure.

What can one do without water, without a ground transportation network? Not only are these crucial basic needs to a large degree still to be satisfied, but the country must also increase its electrical generating capacity, build an integrated system of telecommunications and provide essential services in its municipalities.

No diplomatic face-saving device, this plan acknowledges the backwardness of the physical infrastructure and the planners are determined to meet the challenge by buying the latest technology, both in equipment and services.

PART I
"Development of the infrastructure."

Water and electricity — Water will no longer be allowed to evaporate in the wadis; at least 50 dams are to be built. New deep-water wells will be drilled to supply more than 200,000 cubic metres of water. Twenty new desalination plants will quench the country's thirst for an additional 1.4 million cubic metres of water a day. Possible new sources of water will be investigated.

Desalination plants also offer the possibility of cheap electricity. Programs under consideration are to contribute 825 of the additional 3,282 Mw required in the next five years. New transmission lines (3,540 km) will distribute the electricity generated.

Roads, harbours, airports and railways — The planners intend to complete a comprehensive road network during the next five years. Funds are allocated for study and design of 5,704 kilometres of main roads, 7,000 km of secondary and tertiary bitumen-surface roads, and 10,000 km of dirt-surface roads. Some 13,000 km of main secondary and paved feeder roads, and another 10,250 km of dirt-surface roads are scheduled for completion.

The brunt of the increased economic activity will be felt by the ports. Consequently, development of ports on the Red Sea and the Gulf is given top priority. For the Red Sea, 20 new berths are to be designed, built and equipped in Jeddah; 14 in Yanbo; and two in Jizan. Five small fishing ports will be expanded and improved. On the Gulf, authorities will contract for 16 new berths with equipment, warehouses and bunkering facilities in Dammam; for a modern integrated port for the Jubail industrial centre; and improvements to five fishing ports.

Geographic considerations require also an extensive network of airports. Construction of the billion-dollar Jeddah international airport will be followed by a project of similar dimensions in Riyadh. Seven new domestic airports or terminals are to be constructed and extensions to three already in operation are contemplated. A number of third-level carrier terminals will be designed and built. The Civil Aviation Department has also budgeted for significant investments in electronic hardware for air traffic control, navigational and ground aids, meteorological stations and general communications facilities. Emphasis is also placed on firefighting, rescue and protection services.

The future of the railway system (just 579 km of track at present) is to be determined by studies currently underway. There is a possibility rail and road services will be integrated, leading to a major expansion of the railway system.

Telecommunications and postal service — Communicating across 875,000 square miles of sparsely-populated territory is a challenge. The Kingdom is ready to meet it by spending $1.5 billion on telecommunications projects alone. The objective is to provide a complete system of local, intra-kingdom and international telecommunications by installing half a million new telephone lines, thousands of miles of microwave, coaxial and submarine cable, and earth satellite stations. The possibility of a domestic or regional satellite is being studied.

Postal services need improvement and an investment of $300 million is considered necessary to raise the standards to that of developed countries. Modern mechanical equipment will be installed in the existing postal centres and 20 new main exchange offices, and more than 100 branches and village post offices will be built.

Municipal works — If money budgeted is a criterion of importance, the Department of Municipalities is, with a budget of over $15 billion, a priority agency. The department's aim is healthier cities, towns and villages, and efficiency in municipal services.

Some 77 communities will be given municipality status and provided with services appropriate to that status. Nine major urban centres will expand their water distribution systems and additional water distribution networks will be designed and built in 55 other large towns.

New water drainage systems are planned, to serve approximately 377,000 houses. This project will consist of complete or partial drainage systems for 18 major cities, major systems for 12 municipalities with acute flooding problems and smaller systems for 31 other municipalities.

The new sewage disposal systems are to connect more than 440,000 houses. Eighteen municipalities with acute disposal problems will be given special consideration. Some 700 tanker trucks for sewage removal are to fill the gap, pending completion of the above projects. More than 500 garbage trucks will also be purchased.

A portion of the budget has been allocated for 2,337 km of street lighting and asphalting in addition to 7,768 km of temporary asphalting. Municipalities will be provided with 46 asphalting plants and street maintenance units.

No mention has been made above of the municipal offices, public toilets, slaughter houses, warehouses, markets, cultural centres and others which will be housed in a total of 1,162 new municipal buildings. Public transportation will be established in 17 cities; there will be some 70 sq. km. of "green belt", 657 hectares of parks — and two zoos will be created.

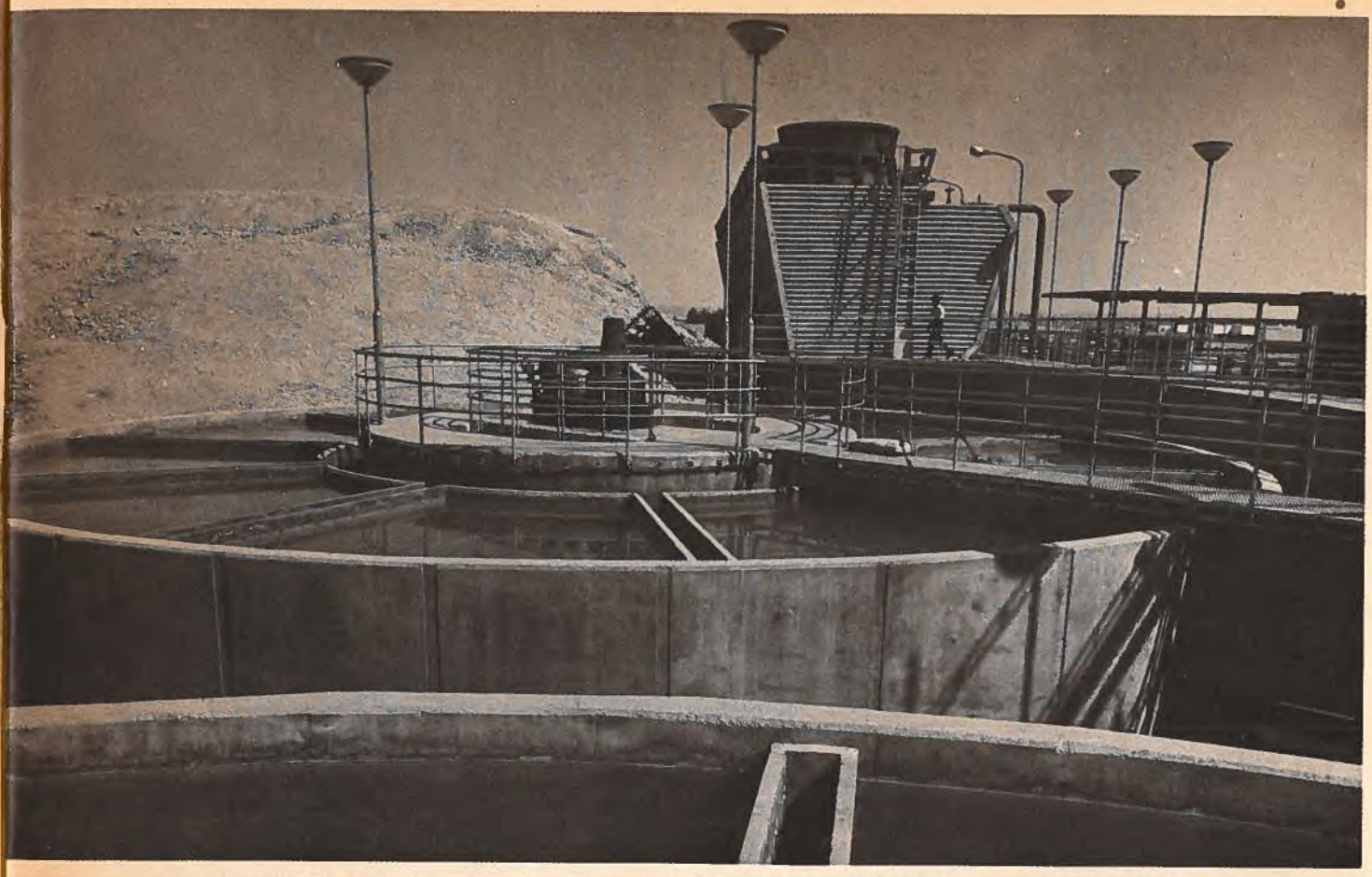
Saudi Arabia will need foreign consultants, contractors and manufacturers to carry out these projects. Several firms have offices here already, but the scope of the work greatly exceeds their capabilities. Competition is severe but limited to non-Communist countries and positive results are directly related to persistence.

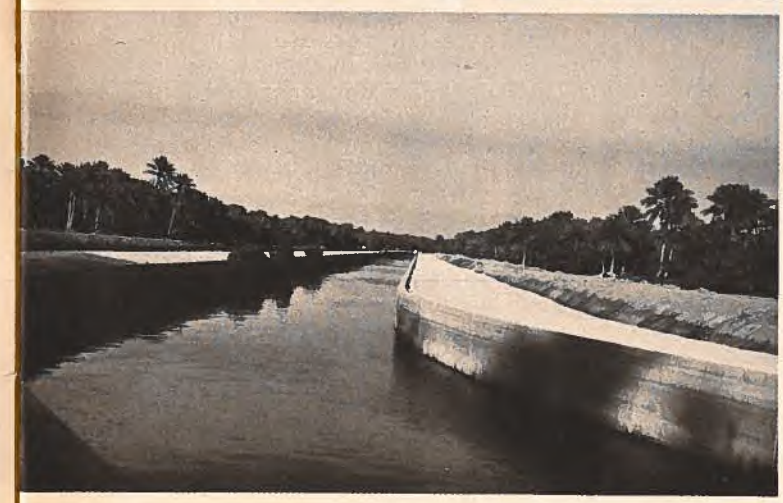
PART II
"Increasing well-being and developing human resources"

There is no simple formula for achieving these goals. But a good start will be made with a $21.8 billion investment in education and vocational training, $4 billion in public health and $5.6 billion in housing projects.

The following paragraphs will cover health, education and housing but Saudi Arabia also is allocating funds for social security and insurance, youth welfare, Bedouin nomads, cultural affairs, and information services. For example, more than $800 million is to be spent on a score of radio and TV transmission systems, expansion of existing production facilities and erection of medium-wave and re-broadcasting stations, as well as the introduction of colour television (SECAM system).

Health — Preliminary studies show that 11,500 more general hospital beds are required, in addition to more than 200 community dispensaries (preventive and curative services), 40 upgraded health centres





in small villages and 46 polyclinics in urban areas. Furthermore, the country needs 185 specialized health facilities, including tuberculosis clinics, chest disease treatment dispensaries, mother and child welfare clinics, dental clinics, rehabilitation centres and the like.

Standardized designs are to be used for some of the facilities. Other clinics, particularly in remote areas, will be prefabricated structures. Turn-key contracts are being considered for major hospitals. Regional medical supply centres and a number of stores will be established to facilitate distribution. Here again, there will be as much standardization as possible.

Education — Social and cultural traditions dictate independent facilities for male and female students at the primary, secondary, high school and university levels. From a practical point of view, providing segregated facilities throughout the educational system is an additional challenge for the Saudi planners to meet.

At the elementary level, 1,552 new schools will be established. These schools will provide 9,400 more classrooms and an additional 6,075 classrooms will be added to existing facilities. In the first years of the plan, some of these schools will be prefabricated to cope with the most urgent needs; later, prefabricated units may be reserved for more remote parts of the country as a standard design is approved and the local construction industry becomes geared to handle the load.

Some 364 intermediate schools for boys and girls will be built and hundreds of classrooms added to existing schools. At the secondary level, the number of classrooms will be more than doubled with the construction of an additional 1,975 rooms — most of them distributed among 68 new schools.

Special schools for the blind, deaf and retarded are planned and the same for religious education. Adult education and literacy centres will be built all across the country. Educational television will be implemented, an audio system for the Arabic language will be developed and 450 portable language laboratories for teaching English will be purchased. The Ministry of Education is also considering establishing its own centre for the development of technology to meet the country's unique requirements.

The teachers needed for these new institutions will come mainly from neighbouring Arab countries but the Kingdom has ambitious plans to train its own nationals as teachers. Ten new secondary-school teacher-training colleges and four specialized institutions will be established for this purpose.

Considerable attention will be given by the education authorities to the health of students. Independent from, but in consultation with, the Ministry of Health, six student hospitals will be built in addition to 125 clinics for general medical treatment, dental and eye care, and other purposes. Peripheral projects also include more than 20 stadiums, 14 student hostels, 387 playgrounds, and 24 scout centres.

Technical and industrial training is particularly the responsibility of the Ministry of Labour. Nevertheless, a total of 17 schools are planned by the Ministry of Education for the industrial and higher industrial program as well as commercial training and home economics.

For its part, the Vocational Training Department of the Ministry of Labour plans to expand and upgrade its six existing centres. In addition, 15 new centres will be built, as well as 10 small "mobile centres" each having a capacity of 20 students. An instructor-training centre with a capacity of 400 will be set up in the capital.

Study and design contracts have already been awarded for the new campus of the Riyadh University and eight colleges will be built for these disciplines: agriculture, science, arts, pharmacy, commerce, medicine, education and engineering. Ancillary facilities such as campus housing, a mosque, a library, dining halls, an auditorium and administration building will be included.

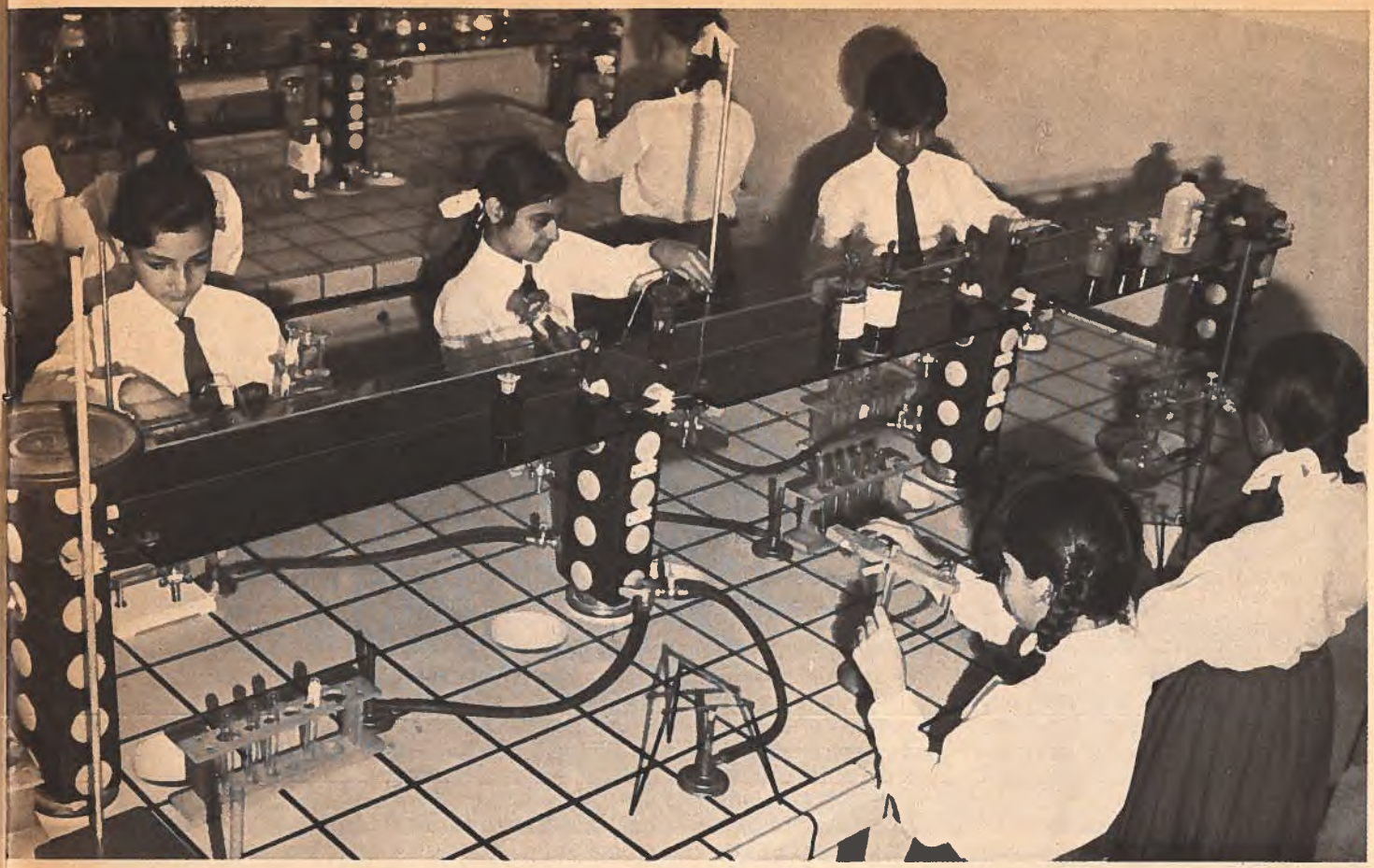
The King Abdul Aziz University in Jeddah will complete its transition from a small private college to a comprehensive higher education institution with colleges in Jeddah and Mecca. The existing colleges of science, education and engineering will be expanded, and new buildings and expansion will also be carried out for the colleges of arts, justice, medicine, economics and business administration. (*The master planning and design for most of this project has been entrusted to a Canadian firm.*)

The King Faisal University in Dhahran, formerly the College of Petroleum and Minerals, is the newest of the Saudi higher education institutes. Its aim is to prepare professionals for the petroleum and mineral industry of the Kingdom. Existing buildings already house the faculties of petroleum engineering, systems engineering, industrial management, geophysics, geology and related sciences.

Just over $300 million — rather small compared to the budget for other universities — is budgeted for the next five years. The bulk of this money is to be spent on the proposed research institute, with divisions in petroleum, geology and minerals, environment and water resources, energy, meteorology and standards research.

In describing the Saudi drive towards higher education we should mention the Islamic University and Imam Mohammad Ibn Saud University. These are basically religious institutes specializing in the study of the Holy Book, Islamic law, literature and language. Approximately $1 billion will be spent on building new teaching facilities and student residences for these two institutions.

Housing — One way of measuring the well-being of a population is the availability of individual residential units. The plan estimates that 270,000 housing units are required.



The target for private sector construction is 122,100 units; the rest should be provided by the government. In addition, the government will require contractors to construct 51,000 temporary housing units for the labour required to implement this project.

Visit a must — A list of equipment and materials the Kingdom will have to import for its social program is left to you to compile. Limit yourself to an exhaustive list of what you can supply, and proceed. The Commercial Division of the Canadian Embassy in Jeddah may help in suggesting agents to represent you in the market. But this is merely a start.

A visit to the market is essential. Potential agents are flooded with letters of enquiries and rarely bother to reply. They give priority to the most aggressive exporters, the ones who call on them and provide sales support. In some cases — particularly if you are selling a technical product — agents may not have the competence nor the interest needed to sell your line. You must go at it the hard way by knocking on doors of ministries and explaining to officials the advantages of your goods or services and making repeated trips. The first order is usually costly. The next ones are easier to obtain and much more profitable, if you have persevered.

PART III
Hedging the country's future

The production of crude oil contributes approximately 70 percent of the gross domestic product and oil revenue makes up more than 90 percent of government income. This situation is deemed unhealthy in the long term and one of the plan's main purposes is to change this pattern.

Vertical integration of the petrochemical and energy-intensive industries, exploitation of the mineral sector and manufacturing and agricultural developments are to give the Kingdom a wider industrial base.

Heavy industry — The key to this ambitious industrial program is the tapping of the 4 billion cubic feet of gas which is now flared every day. A $5 billion allocation should give Saudi Arabia a complete gas-gathering and liquefaction system by 1977. A new network of oil and gas pipelines across the country will feed the raw material to Yanbo on the Red Sea and Jubail on the Gulf, where two new cities of several hundred thousand people are being designed to be the centres of Saudi heavy industry.

The Kingdom has opted for the partnership route to implement its industrialization programs. Already private jets carry executives from Shell, Dow Chemical, ICI, BHP, Nippon Steel, Marconi, Hoechst, Mobil and others to Saudi Arabia to negotiate billion-dollar joint ventures.

Refineries will be built for the processing of by-products (naptha, aromatics, heating oil, jet fuel) to be exported; others will supply the feedstock for the petrochemical industry to cover the entire range from polyethylene to styrene, vinylchloride, ethylene, and the like. Fertilizer plants and associated urea and ammonia plants are on the drawing board.

By 1979, a minimum of 2 million tons of methanol should be exported every year. One aluminum smelter will be in production and a 3-million-ton gas-reduction steel mill is to supply the local market and export a substantial quantity of pellets, sponge iron and construction steel.

Agriculture — This sector is lagging behind in the overall development of the country. This is a situation officials plan to correct by providing the private sector with specialized studies to solve existing problems, and by building the infrastructure to render less hostile prevailing natural conditions.

Detailed regional development studies are to be commissioned to formulate agricultural development programs. Feasibility studies and, when appropriate, detailed designs will be contracted for rainfall storage and flood retention projects, irrigation schemes, and water distribution networks. Foreign expertise will be hired for hydrological, soil classification, assessment of water resources, optimum land utilization and related projects.

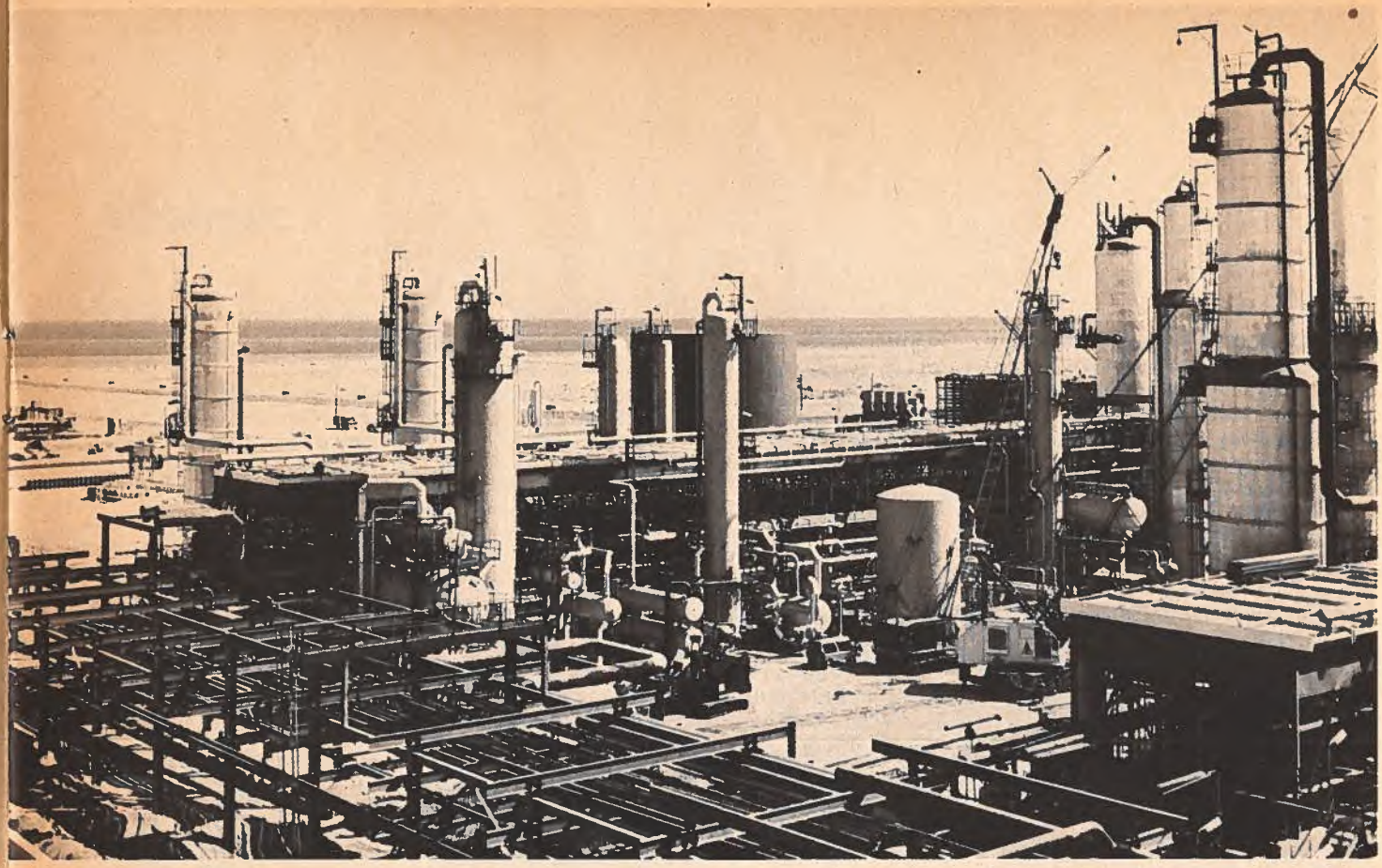
Emphasis will be placed on the development of livestock and dairy industries as well as certain cereals, to satisfy local demand. The government is carrying out the necessary research and giving interest-free loans, as well as subsidies, to farmers as incentives to development of a viable industry.

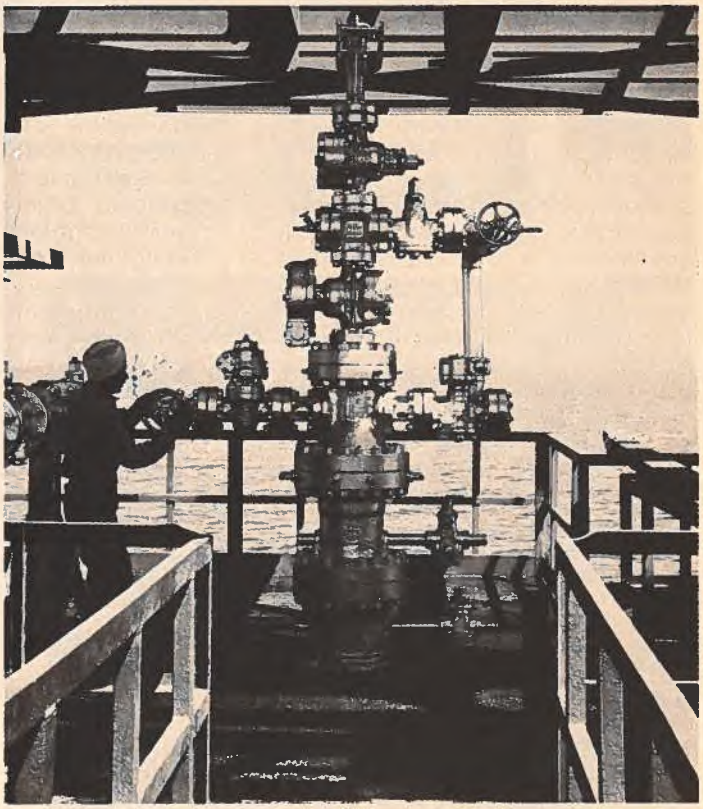
In forestry, Saudi Arabia will rely on foreign expertise to develop a reforestation program — the goal is to increase timber production on the Red Sea ranges, and facilitate soil and wild life conservation.

Manufacturing — Saudi society has no experience with activities in the secondary sector. To change this, the government is determined to create the proper environmental conditions and to offer enough incentives to guarantee the success of new entrepreneurs.

The shortage of people makes it necessary in many cases to rely on foreign competence to establish a base for secondary industry. The government wants to offer local businessmen well-located industrial parks and feasibility studies for manufacturing consumer items that are now imported. New industrial incentives legislation should help achieve this by encouraging foreign firms to establish Saudi Arabian subsidiaries.

Mining — Mineral resources may represent for Saudi Arabia a long-term potential almost as important as that of petroleum. So far, the surface, literally, has been barely scratched, with only four concessionaires operating in the country. Diversification efforts will include the mineral sector and large sums of money will be plowed into its development.





Once again, Saudi Arabia will depend on outside assistance to meet its goals — money is nearly limitless but talent is scarce. Large-scale general and derived geological mapping is an important part of the program. Specialized studies in stratigraphy, geomorphic development and construction of analytical models figure prominently. State-conducted mineral exploration of the Western Precambrian shield for radioactive and other metallic and non-metallic minerals will be initiated.

But the policy decision of most interest to Canadian mining companies is the one to reassess the mining code and other regulations governing mining operations. Incentives now extended to private firms for developing known deposits are to be modified to conform to international standards.

The $25 billion to be invested directly in heavy industry — leaving aside the contributions of joint-venture partners — could buy quantities of Canadian equipment and services. The expertise of Canadian consultants could assist the Saudi government in the development of the agricultural sector. Financial incentives to set up joint manufacturing facilities are worthy of consideration — even by smaller manufacturers. For a minimum capital outlay, a firm could secure an exclusive market while fabricating some components in the parent plant. As for mining — Saudi Arabian plans may interest only a few Canadian companies but they should be investigated by those few.

SAUDI DEVELOPMENT AND FINANCING AGENCIES

Saudi Agricultural Bank

Provides loan and credit facilities required for the development and promotion of agriculture and related activities.

General Investment Fund

Finances investment in industrial projects pertaining to government or government-related associations, by loans or equity participation. The Fund may buy shares and re-sell such shares at their nominal price and under easy terms to individuals of low-income brackets if any of the industrial projects financed proved to be profitable.

Real Estate Development Fund

Grants low-interest or interest-free loans to individuals or organizations for real estate projects of private or commercial use, including hotels. Depending on the individual case, 50 percent or 70 percent of the construction costs can be covered. The fund may participate directly in housing developments.

Saudi Industrial Development Fund

Provides medium and long-term interest-free loans to the private sector (joint ventures included) for new or existing industrial establishments for expanding their activities or replacing and modernizing their equipment. The loan is to be redeemed within 15 years and should not exceed 50 percent of the financing and development of the project.

INDUSTRIAL INCENTIVES LEGISLATION

A Saudi company (25 percent of the equity, or more, held by a Saudi citizen) is eligible for interest-free loans up to 50 percent of its fixed assets and working capital. On certain projects, venture organization and operational assistance as well as feasibility studies, are provided by the government. Other incentives include:

- Tariff exemptions on imported materials and equipment;
- Tax holiday for the company and foreign staff;
- Procurement preferences for government purchases (up to 10 percent price differential);
- Tariff protection from imported products;
- Provision, at nominal rental, of land for factories and industrial housing on industrial estates;
- Training subsidies for Saudi manpower;
- Utilities at a subsidized price;
- Exporting assistance.

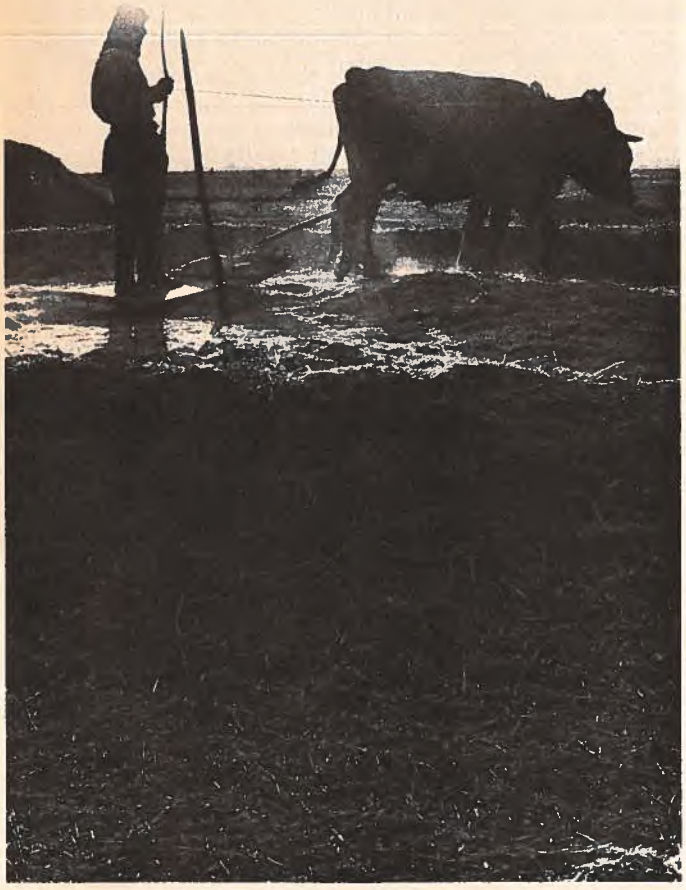
Contractors' Financing Program

Grants interest-free loans to Saudi contracting firms for financing direct purchase of the basic materials required and provides necessary credit facilities in the form of short or medium-term loans.

Changes

Until further notice, IT&C's Trade Commissioner in Beirut will be responsible for trade matters in the following countries: Lebanon, Syria, Jordan and the People's Democratic Republic of Yemen. The Trade Commissioner in Tehran, Iran, will be responsible for the following countries: Iran, Kuwait, Bahrain, Qatar, Oman, United Arab Emirates and Muscat.

New Address — Until further notice, all mail intended for IT&C's Beirut office should be addressed to: D.J. Browne, Commercial Counsellor, PO Box 437 (BRT), Ottawa, Ontario K1N 8V5. Mail sent to this address will be forwarded to Beirut at regular intervals. Any persons who have written directly to the Beirut office since September 1 should send copies of correspondence to the above box number as it is unlikely any letters posted since September 1 have been delivered.



Metric packaging: You must get it right

JOHN D. BUCHANAN, Research Specialist, Department of Consumer and Corporate Affairs, Ottawa

As metrication in Canada moves toward the implementation stage, many producers and their design consultants are grappling with the problem of expressing metric units in the correct manner. The Canadian Standards Association has published a *Metric Practice Guide* (CAN-3-001-02-73) but this comprehensive document is rather formidable for companies not generally involved with such technical units as "magnetic flux density" or "molar entropy".

The legal basis of measurement in Canada is the Weights and Measures Act, the schedules of which define the units to be used in trade. The Consumer Packaging and Labelling Act also imposes some restrictions on the labelling of pre-packaged products sold at the retail level. These include the conditions for the exclusive use of metric units, (i.e., without adding a conversion in traditional units) as well as regulations indicating the number of figures to be used when expressing the net quantity in metric units. This article is a condensation of those features of the *Metric Practice Guide* and the *Consumer Packaging and Labelling Act* that are particularly relevant to producers of packaged goods.

METRIC UNITS

A summary of Schedule 1 of the Weights and Measures Act is reproduced below and gives the more important metric units and their symbols. All metric symbols are written without periods:

Base units		
metre	m	unit of length
kilogram	kg	unit of mass
second	s	unit of time
ampere	A	unit of electric current
Derived units		
newton	N	unit of force
joule	J	unit of work
watt	W	unit of power
hertz	Hz	unit of frequency
Customary units		
minute	min	60 seconds
hour	h	60 minutes
litre	ℓ	0.001 cubic metre
metric ton (tonne)	t	1000 kilograms

Some prefixes for Multiples and Sub-multiples

Multiples	**Symbol**	**Multiplying factor**
mega	M	10^6
kilo	k	10^3
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}

The most frequently used units in packaging are: grams (g) and kilograms (kg); millimetres (mm), centimetres (cm) and metres (m); millilitres (ml) and litres(ℓ)

Many prefixes are only rarely used and it is advisable to stick to the basic units or the prefixes "kilo" and "milli" ("kilo" should not be used as an abbreviation for kilogram). The centimetre is likely to be the most usual unit for measuring clothing sizes and also for some houseware items. The usual cubic measures will be cubic centimetres, cubic decimetres, and cubic metres. The correct symbols for these are cm^3, dm^3 and m^3.

The symbol for litres is "ℓ" because the letter "1" on many typewriters and in some type faces is identical to the numeral "1". If the units follow the numerals without a space, "141" could mean 14 litres, or the number 141. It may sometimes be preferable to write the word "litres" in full. This confusion does not exist with millilitres (symbol: ml).

Rules for writing metric quantities

When writing quantities in metric units it is best to use symbols. Metric symbols should be written in upright type and most of these used on packages are in lower case. The only exceptions are those of units named after historical persons:

Unit	**Symbol**
metre	m
gram	g
watt	W
volt	V
degree Celsius	°C
Correct	**Wrong**
250 g	250G
100 ml	100 ML
60 W	60 w
20 C°	20 C

When written out, only the word "Celsius" is capitalized and all other units have lower case initial letters. The degree character (°) is used with Celsius to distinguish it from "C" which is the symbol for the unit of electrical quantity, the coulomb. The plural -s is *never* used with metric symbols, and correct metric symbols are written without a period.

A space should be left between figures and symbols:

Correct	Wrong
500 g	500g
120 mm	120mm

The preposition "per" is replaced by a diagonal stroke when writing symbols. Example: kilometres per hour is written symbolically as km/h. Only one prefix can be used at a time; example: 7 centi-decimetres is written as 7 millimetres (or 7 mm).

As far as possible, units should be chosen so that whole numbers in the range 1 to 1000 are used. If five or more numerals are used, they should be separated from the decimal marker by spaces in groups of three, and 11 000 g is better written as 11 kg. There may be occasions when it is necessary to use numbers smaller than one. In these cases decimals should be used — avoid vulgar fractions whenever possible; example; 55 cm may be written as 5.5 cm or even 0.055 m but not 5½ cm. A zero must precede the decimal point if the quantity is less than one unit:

Correct	Acceptable
500 mg	0.5 g
37.5 cm	0.375 m

Wrong
.5 g or ½ g
1375 m, 3/8 m or 37½ cm

An accuracy of three figures is sufficient for most consumer products and for certain net quantities the Consumer Packaging and Labelling Regulations permit an accuracy of only two figures. If four figures are given, this implies measurement more accurate than one part in 1000, which is beyond the capability of most packagers:

Adequate	Excessive
91.4 cm	91.44 cm (1 yard)
568 ml	568.2 ml (1 pint)

When round metric packages are produced, a similar three-figure accuracy is sufficient for the conversion to traditional units, if such a conversion is to be given:

Adequate	Excessive
1.76 pints	1.7598 pints (1 litre)
8.82 oz.	8.818 oz. (250 g)

The various rules stated above can be summarized for the most usual quantity markings as follows:

Weight — If the product weight is less than 100 g (3.5 oz.) express the metric weight in grams to two figures. If the product weight is between 100 g and 1 kg (2.20 lb.) express the metric weight in grams to three figures. If the product weight is greater than 1 kg, express the metric weight in kilograms to three figures.

Length — If the product length is less than 100 cm (39.4 in.), express the metric length in centimetres to two figures. If the product length is greater than 1 m, express the metric length in metres to three figures.

Area — If the product area is less than 100 cm^2 (15.5 sq. in.) express the metric area in square centimetres to two figures. If the product area is between 100 cm^2 and 1 m (10.8 sq. ft.) express the metric area in square centimetres to three figures. If the product area is greater than 1 m^2, express the metric area in square metres to three figures.

Volume/capacity liquid or viscous products — If the product capacity is less than 100 ml (3.5 fl. oz.) express the metric capacity in millilitres to two figures. If the product capacity is between 100 ml and 1 litre (1.75 pints), express the metric capacity in millilitres to three figures. If the product capacity is more than 1 litre, express the metric capacity in litres to three figures.

Volume of solids — If the product volume is less than 100 cm^3 (6.1 cu. in.), express the metric volume in cubic centimetres to two figures. If the product volume is between 100 cm^3 and 1 dm^3 (61.0 cu. in.), express the metric volume in cubic centimetres to three figures. If the product volume is between 1 dm^3 and 1 m^3 (35.3 cu. ft.), express the metric volume in cubic decimetres to three figures. If the product volume is greater than 1 m^3, express the metric volume in cubic metres to three figures.

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Many companies are already producing promotional material such as conversion charts or slide rules. Any demand for these is expected to decline when people become used to thinking metric. In most cases, it will be more useful to produce tables so that the round numbers are in metric and the conversions are in more awkward traditional units:

km/h	0	10	20	30	40	50	60	70	80	90	100
mph	0	6.2	12.4	18.6	24.9	31.1	37.3	43.5	49.7	55.9	62.1

The Metric Commission is responsible for the co-ordination of the changeover and before undertaking any conversion or promotional activities, it is advisable to ensure that there is no conflict in content or timing with the plans being developed for the various economic sectors. The metric symbol is available to anybody employing correct metric usage, subject to the permission of the Metric Commission.

Further information

For copies of the *Metric Practic Guide*, write to Canadian Standards Association, 178 Rexdale Boulevard, Rexdale, Ontario M9W 1R3. Copies of the Weights and Measures Act or the Consumer Packaging and Labelling Act can be obtained from Information Canada and for clarification of specific sections, write to the Department of Consumer and Corporate Affairs, Ottawa/Hull, K1A 0C9. Further information on metric conversion as it affects your production is available from the Metric Commission, Box 4000, Ottawa, Ontario.

Marketing food products in New England

B.D. DAVIS, Commercial Officer, Boston

This article is aimed at persons in the food processing industry who may be interested in breaking into the New England market. However, it provides a great deal of information that may prove valuable to people in other industries.

Historically, the New England food market is unique in its buying and eating habits, and provides a $6.9 billion grocery market. This market can best be viewed by a look at the table:

NEW ENGLAND FOOD SALES: 1975

	No. Chain Stores	Chain Sales ($) and Market Share (%)	No. Independents	Independents' Sales ($)
Massachusetts	500	2,069,579,000 (63.6)	4,511	1,185,485,000
Connecticut	259	1,064,460,000 (60.2)	2,901	703,826,000
Maine	89	204,468,000 (32.2)	1,443	430,899,000
Rhode Island	88	360,968,000 (77.8)	1,189	102,852,000
New Hampshire	74	231,976,000 (43.8)	1,233	300,866,000
Vermont	62	113,846,000 (39.5)	613	173,678,000
TOTAL SALES: $6,942,903,000				

Manufacturers entering the United States market for the first time are often awed by its size and believe products can be sold in it only through a great expenditure of money. This would be true if a firm attempted to sell the entire national market at one time but a market should be developed one area (such as New England) at a time.

The manufacturer or processor obviously should pick an area in which he feels he can successfully compete. Due to the close proximity of many Canadian manufacturers to the Eastern Seaboard, New England will offer the logical place for their initial efforts.

Every manufacturer interested in exporting must shape a marketing program suited to his product, his customers and his resources. To do this a manufacturer should know the fundamentals of creating a good product, maintaining a high standard of quality, developing a good package and selecting a name which will help sell the product.

The selection of the right channel or channels of distribution can be done intelligently only after a close study of the product and the marketing factors involved. Distribution costs can represent over half the final price of an item, while transportation costs alone represent approximately 7 percent of the total cost of any product. Generally, it is best to direct distribution as nearly as possible into existing and well-established trade channels.

In the New England food industry, these channels are fairly well defined for a manufacturer. In all but a few cases the manufacturer who chooses a good broker to represent him is most successful. Many of the large US manufacturers, because of cost factors, are appointing brokers instead of operating their own sales force. In a few cases, smaller manufacturers may choose to bypass the broker and sell to a distributor in a certain area but this will limit a product's distribution to a much smaller market. A good broker has salesmen who calls on all areas of the food industry — which includes chain stores, distributors, manufacturers and food service suppliers.

Locating, appointing and working with an agent probably is the single most important factor in the success of a manufacturer in any

market and it is essential that a prospective agent's qualifications be carefully examined:

1) Sales Record — It is important to get information relative to the agent's sales record, the volume and type of goods sold, and the number of years associated with those lines. This will provide an indication of the type of trade the agent covers and the possibility of his introducing and developing the line under consideration.

2) Stability — The agent's length of service in business and the number of years he has retained specified lines is a good measure of stability. His loyalty to his principals is important. Unfortunately, some agents are guilty of opportunistic practices; selling lines as long as the going is good, but dropping them once the business falls off and competition becomes too keen. Attempt to determine whether the agent shifts from line to line, thereby losing the confidence of the customers.

3) Other principals — Discreet inquiries can be made concerning other lines the agent handles and how he does with them. Possibly some of these firms would object to the agent assuming a new line.

4) Customers — Make inquiries of several of the agent's regular customers to ascertain his standing with them. Ask their opinion, with the understanding that he is being considered for the representation of a new line.

5) Capital — while the manufacturer's agent generally operates on a commission basis and does not ordinarily function as a distributor for his own account, he should possess sufficient working capital to finance his activities without having to fall back on the manufacturer for support of his expenses during the missionary period.

6) Facilities — The physical aspects of the agent's selling organization should be taken into account. Some agents operate from the nearest telephone booth, while others have modern, alert organizations with branch establishments and merchandise display rooms. If the nature of the line which is to be introduced requires some market research work, the agent will need proper facilities to carry out these activities.

After a decision has been made as to the choice of an agent, a clear and concise agreement should be drawn up and should cover some of of these basic points:

1) Territory — Describe the territory to be served by the agent and if the agency is to be an exclusive one, confirm that in writing.

2) Products — Give a clear description of the products to be sold by the agent. A notation should be made whereby the agent shall refrain from representing or selling competing lines.

3) Prices — The suggested prices at which the products are to be sold and the discount allowed will form the basis of the price clause. Any authority granted to the agent to alter the prices or discounts should be stated, as well as reservations made by the manufacturer with regard to notice given of price changes and stock protection.

4) Compensation — The rate of commission or the amount of renumeration payable to the agent, as well as the dates or occasions on which such payments are to be made, should be shown.

5) Expenses — Make provision for the agent's expense allowances, if any, and their type and extent, as well as the manufacturer's liability in this connection.

6) Advertising — If the agent is to bear part of the advertising expenses, set forth his degree of participation and his authority in this regard. If the manufacturer is to provide advertising in the agent's territory, let him know the type and extent of such advertising.

7) Authority — Provide a clear and concise statement of authority to clarify to what extent he can act for his principal and bind him legally.

8) Terms of agreement — Stipulate methods of terminating the contract, amount of notice to be given by one party to the others, and the form in which such notice shall be transmitted.

Communication

More important than the agency agreement is the feeling of mutual assistance and friendly co-operation which at all times should exist between the manufacturer and his agent. Many times agents have commented about lack of communication with their Canadian principals. The agent cannot be expected to do it all. In some instances where the use of agents has resulted in little or no sales, the fault is a manufacturer's lack of effective co-operation.

Friendly neighbour

The New England market, as I mentioned in my opening paragraph, is unique but no more so than comparable areas in Canada. The expected reluctance in some areas to buy imported products does not extend itself to Canada, as New Englanders look upon Canada as a friendly neighbor. To summarize, New England offers an excellent opportunity for any Canadian food manufacturer and processor who can enter the market with competitive selling price, product quality and constant supply.

If these three conditions can be met, and our approach guidelines are followed, we feel that there should be no limit to the success of a Canadian firm anywhere in the United States. Success in New England should guide a firm, working through local agents, brokers or distributors to success in other areas. If you are a manufacturer thinking about exporting, your IT&C office in Boston will be pleased to assist you in locating reputable agents or distributors. For further information, why not write the Consul & Senior Trade Commissioner, Canadian Consulate General, 500 Boylston Street, Boston, Massachusetts 02116; telephone 617 - 363-3760.

Light at the end of the tunnel

The Philadelphia area has a new growth industry. With the demise of ACF-Brill which, until the Fifties, was a major producer of buses and trackless trolleys, Philadelphia lost its position as the leader in the public transportation business. But the revival of urban transit and railroad passenger systems has enabled the Budd Company and the Vertol Division of the Boeing Company to restore Philadelphia to its former position of stature in this field.

These two firms have rail and transit contracts that are currently sustaining 1400 production jobs with the end not in sight. Budd's Red Lion plant and Vertol's Transit Division have impressive backlogs of orders.

It is ironic that the Budd Company, a firm which as recently as four years ago almost withdrew from the rail business, now has orders from AMTRAK for about 500 railroad cars.

The future for Vertol in the transportation field appears to be very bright. Not only are they building 475 subway and streetcars for Boston, Chicago and San Francisco, but the company also has R&D contracts from the US Department of Transport for both "state of the art" and "advanced concept" vehicles.

With ever-increasing federal support for this long neglected mode of transportation, the Philadelphia area appears to be on the right "track" for economic revival (for more on Philadelphia and area, see the January issue of *Canada Commerce*).

Electrovert in France

Equipment built by Electrovert Manufacturing Co. Limited, of Montreal, has gone into service at a new plant in Orelle, France. The plant is a rural one operated by ARS, a regional agency supported by the French government which is attempting to stem migration from the mountainous regions of Savoie by creating jobs in those areas.

These plants operate in a number of villages, and the work involves assembly and mounting of electronic components under sub-contracts from such large companies as Schlumberger, Télémécanique, Elipson and Electronique Aérospatiale. ARS selected Electrovert to provide an automatic wavesoldering machine and a machine to clean printed circuits. The Montreal firm's equipment has received high praise from French officials and a company spokesman said it is hoped Electrovert will land contracts to supply other regional plants now being contemplated.

French plan Canadian visit

One result of the visit of IT&C Minister Donald Jamieson to Europe was the announced intention of a group of French businessmen and financiers to visit Canada this year. Mr. Jamieson met with French industrialists in Lyons and with French government officials in Paris. The delegation to Canada will inspect potential factory sites and investigate joint-venture possibilities.

COSTPRO / NCITD: Co-operation on trade facilitation

The Canadian Organization for the Simplification of Trade Procedures (COSTPRO) has been holding meetings with its American counterpart, the National Committee on International Trade Documentation (NCITD), representatives of US Customs and the Department of Transport, in order to exchange information on all aspects of trade facilitation. These meetings will continue from time to time and one is being held this month in Washington, DC.

The Export Department of the Canadian Manufacturers' Association has been collecting information from its members on behalf of COSTPRO and recently surveyed members on the six most critical problems encountered in exporting to the United States. While the deadline for submissions has passed, CMA is still interested in receiving opinions from Canadian firms. Write: H. Duplitza, Export Department, Canadian Manufacturers' Association, One Yonge Street, Toronto, Ontario M5E 1J9.

Swedish forestry: Canadians may do well with joint ventures

P. ORJAN HOLM, Commercial Officer, Stockholm

Sweden's area is roughly twice that of Britain's and slightly more than half of it is covered by forest. Sweden's total productive forest land amounts to about 60 million acres — around 13 percent of Canada's total. Traditionally, less than 80 percent of each year's new timber growth has been harvested but now Sweden harvests more than the annual growth. Slightly more than 50 percent of this annual cut goes to pulp production, with the rest becoming sawn timber.

In Sweden, almost all types of equipment are used. Most requirements are supplied by Swedish manufacturers or by firms in other European countries, but opportunities for Canadian manufacturers appear to exist in some specific product areas such as mobile whole-tree chippers, fellers, limber-buckers and forwarders.

Although Swedish manufacturers of these products now dominate the market, several lines are imported. Forwarders, for example, are now imported from Lokomo and Valmet in Finland, and the Swedish market for imported limber-buckers and fellers also seems promising. Moreover, whole-tree chippers will be used increasingly in the near future and not many models have yet been introduced.

Most forest harvesting in Sweden is by the short-wood method (85 percent), with 10 percent done by the tree-length method and the remaining 5 percent by whole-tree method. In 1970, clear cutting was used for felling and thinning, and it is expected that clear cutting will increase as greater mechanization is introduced.

The largest Swedish forest harvesting machinery manufacturers are Kockum, BM-Volvo and ÖSA, and there are about 15 smaller manufacturers (50-150 employees). The three largest firms produce processing and forwarding machines while the smaller firms concentrate on forest transport equipment.

According to surveys carried out by the Swedish Logging Research Foundation, fellers will be much in demand during the Seventies while the demand for feller limbers and feller limber-buckers is expected to be relatively low. According to the foundation, limbers likely will be sold at a rate of 10 to 50 a year, while sales of limber-buckers should increase to about 200 units a year and remain more or less constant thereafter. The higher-capacity hydraulic-bunk skidders will partly replace the choker skidders now used.

Demand for forwarders is expected to be constant at about 700 units a year until the end of the decade. The foundation predicts the total annual expenditure on forest machinery will amount to about $50 million — $36 million of that being spent on short-distance transport machinery (forwarders and skidders), and $14 million on forest-processing equipment such as debarkers, limbers, buckers and slashers.

The Swedish chain saw manufacturers (Husqvarna Vapenfabrik, Jonsereds Fabrikers AB and AB Partner) produced 137,000 units in 1970. Only a small number of complete units are imported — just 7,000 units in 1971, of which 5,000 came from West Germany. The market for chain saws should decline during the Seventies as the use of mechanical harvesting increases.

Probably the best opportunities for Canadian manufacturers would be the licensing of Canadian products for manufacture in Sweden or involvement in joint venture projects with Swedish manufacturers. The joint venture between Finnish Lokomo and Swedish ÖSA, for example, has had good results. The main reason for such joint ventures includes the need to overcome transport problems and, in some cases, the need to adapt to different forest conditions, local worker protection regulations, and so on.

The customs duty for most imported forest harvesting products such as tractors, trucks, and other towing and forwarding vehicles, as well as trailers and machinery or processing equipment attached to a tractor ranges from 5 to 8 percent. Sweden is not a member of the EEC but virtual free trade exists between Sweden and nearly all Western European countries in industrial equipment.

Approximately 70 percent of equipment sales are handled by dealerships owned by Swedish or foreign, mainly Finnish, manufacturers. Of course these dealers carry out service and repair work. There are also about 10 large importers of forestry equipment, heavy vehicles, earth moving machinery and road building ma-

chines. These companies mainly handle sales, service and repairs of American, German, French and Japanese makes. But some of the large private and government companies buy direct from Swedish manufacturers at lower prices, on condition that the buyer takes care of its own service and repair.

Swedish sawmilling industry

According to the Swedish Sawmills Association, the total number of sawmills has dropped rapidly since 1950, when there were 8,000. Most mill closures occurred in the Sixties and by 1969, there were only just over 3,000. But the number of employees decreased by only about 10 percent, from 29,000 to 26,000.

The structure of the Swedish sawmilling industry is changing rapidly. The number of large sawmills (more than 30,000 standards a year) is increasing and by 1980 more than 90 percent of total production will come from mills with an annual production of 1,000 standards or more (1 standard = 1980 bd.ft.).

Swedish sawnwood production comes mainly from privately-owned sawmills. About 60 percent of the total output of sawnwood is produced by a large number of independent medium-sized and small sawmills. About 6 percent comes from state-owned sawmills, and less than 10 percent of the total is turned out by sawmills belonging to various forest owners' associations. The remaining 25 percent is produced by a limited number of private forest companies.

The growing size of the sawmills has been reflected in changes in their equipment: the sawing machinery has improved and the number of multiple circular saws, as well as the speed and capacity of frame and band saws have increased. The last few years have seen the installation of a number of band saws with a considerably higher output per man-hour. In addition, a few log lathes recently have been put into use. Band saws still account for a negligible proportion of total output (only 5 percent according to the last official survey of the sawmill industry in 1965), whereas about 60 percent came from frame saws and the rest from circular saws. The latter, however, make up about 85 percent of the number of saws. The increased size of the mills has also made possible a greater use of various types of accessory equipment such as barking and chipping machines, length sorting and wood packaging machines and drying plants.

The production of sawn softwood in Sweden was 13,400,000 cubic metres in 1973 (11,200,000 in 1969 and 12,100,000 in 1970), but the 1975 total will be much lower, at about 9,000,000 cubic metres. However, 1976 production should be about the same as 1973 and should show a steady increase through the rest of the decade.

The capacity of the sawmilling industry is not fully known, but it is estimated that during the last few years the utilization of the "technically available" capacity has been well above 85 percent. On the other hand, it is assumed that there is a considerable "hidden" reserve capacity. An increase in production of about 50 percent should, in theory, be possible — even with a largely unchanged production set-up.

Sawmill equipment market

Currently, sawmill machinery is mostly supplied by domestic manufacturers with some imports from other European countries, particularly West Germany:

Barkers — By far the most common method of barking is the Swedish "cambio process" which is used all over the world. But it is very expensive and there should be a good market for lower-priced equipment. Cambio and a Finnish machine from Valon-Kone Oy are, to date, the only systems used in Swedish sawmills. Kockums Soderhamn AB dominates the Swedish market for reducers but some equipment is imported from Germany.

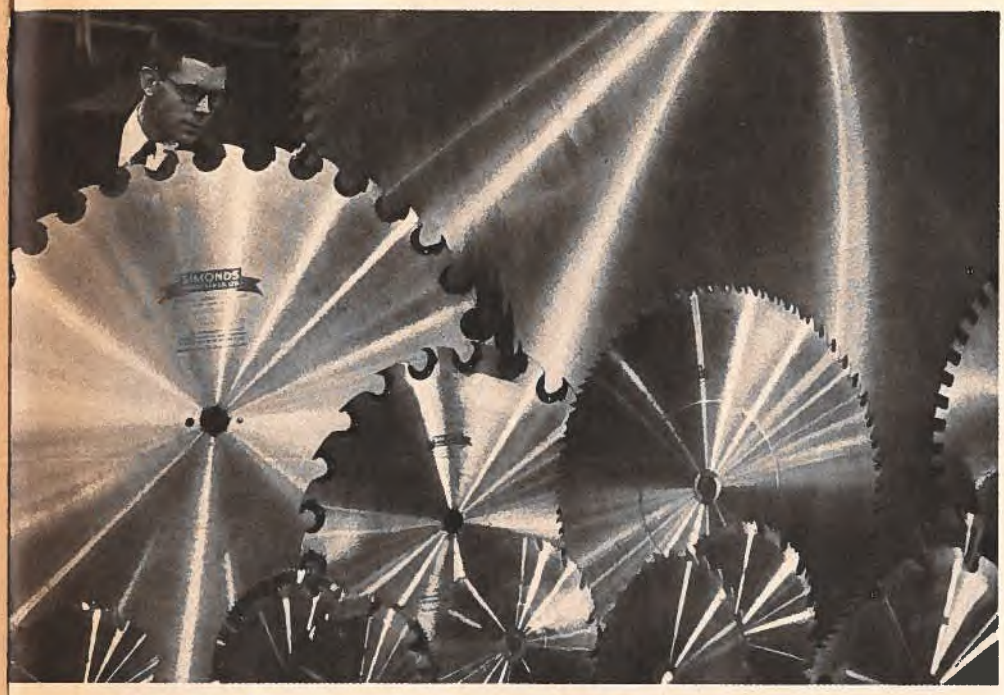
Saws — Four different kinds of saws are used in the Swedish sawmills: bank, circular, edge, and frame. The trend is to a growing use of double-bank saws and circular saws and there are a few domestic manufacturers of these. A substantial number are also imported from Britain and Finland. Swedish saw millers require a thinner blade than is usual in Canada, thus Canadian blade manufacturers may have difficulty entering the market.

Drying equipment — While satisfactory drying equipment is manufactured in Sweden, there have been few new designs in recent years and Swedish companies have expressed interest in manufacturing Canadian-designed equipment under licence.

Maintenance equipment — There is also a very large market for equipment to maintain, adjust and repair saws and other sawmill machinery which is at present being supplied mainly be West Germany. German firms also dominate the large import market for software such as control equipment, X-ray apparatus and computers.

Planing, etc — One of the main bottle-necks in sawmills now is final processing, i.e. the planing, banding and packing of sawn lumber. Some Swedish sawmill officials have expressed dissatisfaction with their present equipment and interest in receiving offers for faster machinery.

Equipment and tools — Most of the equipment and tools used by the Swedish woodworking industry are imported from West Germany but there are three domestic manufacturers (Jonsereds Fabrikers AB, AB Sigfrid Stenberg and Waco AB). As most of the equipment now used is of old design, and is slow and rather expensive, and present suppliers seldom meet much competition, there should be openings for additional imported machinery such as planing machines, saws, milling cutters, drilling machines, mortising machines, lathes, buffing/polishing machines, drying plants and glue presses.



Our office is in regular contact with several Swedish importers and agents dealing in forest harvesting machinery and sawmill equipment. Also, we cover a variety of Swedish fairs exhibiting these products, i.e. the annual Elmia forming and forestry equipment show in Jonkoping, in the beginning of June. An increasing number of inquiries concerning manufacturing under licence and other joint venture projects also prove the Swedes' interest in co-operating on equipment and techniques. You are most welcome to write direct to our office to obtain assistance in establishing a market for your products in Sweden: Canadian Embassy, Commercial Division, PO Box 16129, S-10323 Stockholm 16.

Timberjack is a good example of how Canadian forestry machinery can be introduced to the Swedish market. The company's Model 404 has been selected by the Stockholm agent Bygg & Transekonomi AB, as the one most suitable for Sweden. It is equipped with a special cab and air-conditioned according to Swedish standards. Five hundred Timberjack skidders have been sold in Sweden since introduction in the mid-Sixties.

SASOL:
A name to remember

G.A. McGREGOR, Vice Consul & Assistant Trade Commissioner, Johannesburg

Mr. McGregor holds a B.Sc. and a PhD. from the University of Manitoba. He joined the Trade Commissioner Service in 1971 and has been in Johannesburg since 1973.

In May of this year, South Africa was visited by a Canadian technical mission organized through the efforts of the Department of Energy, Mines and Natural Resources, in cooperation with the Johannesburg Consulate General of IT&C. Its area of interest was the South African coal industry and included members of various provincial and federal government bodies. But the majority of mission members were from the private sector and were sufficiently interested in the mission's goal to travel at their own expense.

Just what was it that proved interesting enough to entice a number of senior people away from the pressing activities of their respective companies? A one-word answer would be — SASOL. But that needs some explanation.

SASOL is the South African Coal, Oil and Gas Corporation Ltd. (Suid-Afrikaanse Steenkool, Olie-en Gas Gorporasie). It is unique because it is the only company in the world producing oil from coal on a significant scale. The original SASOL plant came on stream in the mid-Fifties and the corporation now has 20 years operational experience in synthetic oil production.

Certain aspects of the SASOL story are relevant to Canada's current concern with energy supplies. Both countries have been well supplied with natural resources, the exploitation of which has proven to be a driving force in each country's development. Unlike Canada, with abundant hydro-electric power and substantial oil deposits, South Africa has always had to rely on its vast coal deposits as its main source of energy. By an accident of geology, South Africa at present has no exploitable oil and next to no natural gas.

As a result, the South Africans have based their entire economy on coal in a fashion which, until 1973, would have been described as archaic. Almost all its electricity is generated by thermal power stations, many of which are situated right at the pit head. As for rail transport, coal-fired steam locomotives also can be seen on many of South Africa's secondary rail lines. Large scale electrification of the main railway lines ultimately depends on coal as the energy source.

During the period of relatively cheap oil, South Africa was increasing its dependence on imported oil. Most of this oil was refined into gasoline to keep a heavily-mechanized society mobile. A petrochemical industry was also being built up. Even now, South Africa supplies only 21 percent of its energy needs from imported crude oil.

Various actions by OPEC countries have resulted in a serious attempt by South Africa to decrease dependency on imported oil. These measures have included restrictions on speed limits, restricted hours of sale of petroleum products and market increases in the retail price of oil-derived products. A more positive step was the decision, based on the experience with SASOL, to build a second oil-from-coal plant of even greater size. Early in 1975 it was announced that SASOL II would be built in the Eastern Transvaal. This plant will be several times larger than the SASOL I complex and is expected to be completed by 1981.

The original SASOL complex was completed in 1954, but over the years additions have increased the number of plants within the original site to more than 30. Together, these plants make a wide range of products using coal as a basic material. Each year, the complex consumes more than four million tons of coal. Half of this amount provides energy for power and steam production. Out of the processed coal, SASOL produces about two million tons of saleable products every year. Half a million tons of liquid hydrocarbons (mostly gasoline) form the most important part of SASOL's annual production.

Besides oil and gasoline, the integrated series of process plants that form SASOL produce industrial gas, electricity, acids, fertilizers, asphalt, naphtha derivatives and a wide range of waxes and various

alcohols. What is more, the entire complex operates at a profit. While it is freely admitted that SASOL's oil is expensive to produce (slightly less than $13 a barrel), each rise in the price of conventional crude oil makes oil from coal more competitive.

SASOL I is to be expanded to increase the gasification plant's capacity by 40 percent. It is SASOL II, however, which has excited the most interest in the oil-from-coal scene. This totally new complex will have eight times the capacity of SASOL I. The interesting fact about SASOL II is that the technology upon which it is based will remain essentially that of SASOL I. Twenty years of operations have confirmed the practicality of using the Lurgi gasifier — originally a German design — coupled to a standardized synthesis plant. The new plant will be simpler and more efficient than the original SASOL and its capital cost is estimated at $1.5 billion (1974 dollars.).

Canada faces certain problems due to the changed world oil situation and these have stimulated intense interest in the South African experience. Coal, for many years a Cinderella mineral, has regained some of its attraction as a new economic reality due to expensive oil becoming a matter of national concern.

In this regard, SASOL has proven to be a first-rate "case study" for those with decisions to make in the Canadian energy field. The oil-from-coal aspect of the SASOL operation has traditionally received considerable attention from interested visitors. Understandably, many observers have been dubious about the economics of oil produced by this process. What is often overlooked is the role of SASOL in supplying gas to the Witwatersrand industrial complex and its importance as the main supplier of basic feedstock to South Africa's chemical industry.

Most foreign interest in the SASOL concept rapidly focuses on the coal gasification aspect of the operation. It is possible to construct a SASOL-type plant from which the major product is synthetic natural gas and this type of operation has potential interest for Canada, as our major coal fields are located thousands of miles away from our industrial heartland. The alternative of using SNG plants to supplement our supplies of natural gas has its advocates in Canada and the experience of the South Africans with SASOL II will be followed with keen interest in Canada.

The scale of SASOL II provides Canadians with yet another viewpoint from which to assess South Africa and its potential. Its level of economic development cannot but impress business visitors. Plants such as SASOL are built with an eye to the future and they have served as focal points for regional development. From an economy based on the production of raw materials, South Africa has become a diversified industrial nation which continues to be an important market for Canadian manufactured goods.

The size of various industrial projects undertaken in South Africa often results in a tremendous demand for imports of technology and equipment. This country simply cannot maintain its hopes for a high rate of growth without further capital intensive projects. Despite a traditional preference for European-designed equipment, good opportunities can often be found for the sale of process control equipment, specialized production machinery and consulting services.

Export Development Corporation: How it can work with you

The following is an edited version of an address given by John A. MacDonald, President and Chairman of EDC. He was speaking at a luncheon put on by the Kitchener Chamber of Commerce during an EDC monthly board meeting in that city.

What is EDC and what does it do? The Export Development Corporation is a Crown corporation established by parliament to facilitate and develop Canada's export trade by the provision of insurance, guarantees, loans and other financial facilities necessary to meet international credit competition.

The direction of EDC is in the hands of a 12-man board. To reflect the nature of a publicly-owned corporation involved with the Canadian business and banking community, the board consists of senior representatives of government, finance, and the Canadian private business sector, representing chiefly manufacturing and services industries from coast to coast.

Last year our net income was about $14 million. This year (1975), in May, we reached a milestone in our history when we became a billion-dollar corporation. That is, our accumulated assets were in excess of one billion dollars, made up largely of loan receivables by foreign buyers of Canadian goods and services. I might add it has taken us 30 years to reach this point, and although we are not in business to make a big profit we do prefer to stay out of the red.

Canadians depend on exports for their prosperity. We are relatively small in population, which means the domestic market alone cannot support the high level of industrial, resource and agricultural activity necessary to maintain and, indeed, improve our prosperity. We must, therefore, look to overseas markets as an outlet for our manufactured products as well as our raw materials.

In recent years more and more Canadians have become increasingly aware of the importance of exports to our economy, and today we are among the major trading nations of the world. We have increased our exports from 15 percent of our gross national product in the early Sixties, to about 25 percent — one of the highest rates among industrial nations. This compares, for instance, to 15 percent for Britain and 5 percent for the US. We have also successfully diversified our exports, particularly in the area of processing and manufacturing. Canadian skills and achievements in industrial growth, in design, technology and engineering, are recognized around the world.

To illustrate another facet of our operations, Babcock & Wilcox Canada Ltd. has, with EDC support, won international orders to supply foreign projects worth $68.5 million to the Canadian economy. The important thing to note about this latter type of transaction is that it doesn't refer to direct benefits for Babcock & Wilcox only, but for their scores of suppliers and sub-suppliers. The effects of such sales filter almost infinitely through the Canadian economy.

The need for export credit

One of the most pressing problems in today's highly competitive international trading system is the need for exporters to provide credit. It is often the deciding factor in who gets an order. The demand is always

growing on an exporter's line of credit: he requires not only credit to meet his day-to-day expenses, to maintain inventory and to cover his overhead, but he must also advance credit to meet the requirements of his customers. Exporting is not quite the same as selling in the domestic market, particularly where credit is involved. Not only is distance involved, but the necessity of assessing the normal commercial credit risks is complicated by such difficulties as political events which can prevent the exporter receiving payment even after his buyer had deposited local currency.

This is where EDC comes into the picture. It is our purpose to facilitate the expansion of Canadian export trade by the provision of financial facilities which will enable Canadian exporters to compete, in terms of credit, on an equal footing with their foreign competitors. Essentially, we seek to remove credit as an element in winning international orders, leaving the competitive tools of quality, price, delivery and service after delivery untouched.

We do this through insurance, guarantees and direct loans, in accordance with accepted international practices.

In our 30-year history we have supported some $9 billion worth of export business — half of it in the last five years. So, as you can see, the pace is accelerating. For instance, since we commenced operation in 1945, insurance underwritten to the end of the Sixties just about doubled every five years. In the last five-year period, the amount increased two-and-a-half times. Last year, exports insured totalled $778 million — this was a 44 percent increase over 1973.

I should emphasize that EDC support is not provided to "buy" foreign orders with cheap financing and long credit terms. We only ensure the Canadian exporter can match foreign competition. Thus, EDC facilities are for exporters who are thoroughly competitive on the commercial fundamentals of price, quality, delivery, and after-sales service.

Furthermore, EDC works with and involves traditional sources of financing in Canada — the chartered banks and other commercial lenders — in order to ensure the greatest possible support for Canadian exports. In this way over $500 million has been provided by the banks in participations in EDC loans.

Export credits insurance

Where financing is available through commercial lenders, we may insure Canadian exporters against non-payment when they sell consumer goods and general commodities abroad on short-term credit, usually up to 180 days, and capital goods sold on medium-term credit, usually up to five years. We can also issue policies to cover the export of services such as the supply of design engineering, construction, technological and marketing services, as well as "invisible" exports — for instance, the sale or licensing to a foreign customer of any rights in a patent trademark or copyright, advertising fees, fees to auditors, consultants and the like.

By far the greater part of EDC insurance covers generally repetitive trade in standard goods sold on short-term credit. EDC provides cover by issuing a policy which protects all a policyholder's export credit sales for a year, to all markets. This gives EDC maximum turnover and a broad spread of risk which permits it to maintain low premium rates which will add minimal costs to the policyholder's overhead.

Capital goods and heavy equipment such as combines, roadgraders, trucks, aircraft, plant machinery, sawmill equipment, etc. — as well as engineering, consulting and computer services sold on medium-term credit, are generally handled on a case-by-case basis. EDC issues a specific contract policy for each transaction.

EDC insurance covers those risks of loss over which neither the exporter nor his buyer have any control. This includes normal commercial credit risks such as insolvency or protracted default. We also cover risks of loss through political actions such as exchange transfer difficulties in importing countries, or losses caused by war or revolution. Insurance is issued on a co-insurance basis, with EDC taking 90 percent of the risk and the exporter carrying the remaining 10 percent.

Commercial lenders, as a rule, prefer to limit credit terms to five years or less. Thus, EDC insurance policies have value in securing bank financing, often at cheaper rates than normally available.

Long-term loans and guarantees

Where commercial credit is not readily available at rates which would enable the Canadian exporter to match financing available to his foreign competitors, we may make long-term loans directly to foreign borrowers, or guarantee private loans to such borrowers, to finance Canadian exports of capital equipment and services. The loans are provided on extended terms at internationally-competitive interest rates to permit the foreign borrower to pay cash to the Canadian exporter.

We started into the direct lending business in 1960 and during the Sixties, the total of signed loan agreements averaged about $50 million. Since then, there has been a dramatic climb. The average doubled in 1970, and more than quadrupled in 1971. In 1972 our lending reached $283 million; in 1973 it was $463 million and last year it was $502 million.

The figures given are for the account of the Corporation. This business is done at our own risk and out of our own resources. There is an account, in addition, which we administer on behalf of the Government of Canada. This account comes into play when our Board of Directors feels a transaction, because of its size or other factors, is too big for EDC. If the Minister of Industry, Trade and Commerce feels the transaction should be completed in the na-

tional interest, EDC may be instructed by Cabinet to insure, or finance, at government risk.

Our loans are extended as a "buyer credit". That is, we make funds available, if possible in conjunction with the banks or other commercial financing institutions, to the foreign borrower. The Canadian supplier is relieved of the responsibility of becoming involved in credit which could seriously inhibit his ability to pursue further business.

In the overall picture of Canada's total exports, EDC's contribution to industrial growth might seem relatively minor. Yet in certain areas our role is significant. Forty-one percent of our capital goods trade to countries other than the US (the area in which we have to expand) is supported by EDC loans or guarantees. In addition, certain industries are flourishing in Canada only because of the support given by EDC which enables them to compete internationally.

For instance, we have made loans in support of the shipbuilding industry totalling $343 million and are prepared to finance yet more. The Canadian locomotive industry has also prospered; we have provided support amounting to $172 million to back sales to Mexico, Cuba, Greece, Jamaica, and Yugoslavia — to name a few countries. We have supported sales of telecommunications and microwave equipment to the extent of $224 million. In total, we have made loans totalling over $2 billion to some 65 countries.

It is quite likely that if Canada were not to export such items as locomotives, aircraft, road graders and heavy electrical equipment, these industries would not have remained competitive, and would either have disappeared or, more likely, would have been very heavily protected by tariffs. Thus, the Canadian consumer benefits considerably in an indirect manner from the fact that these Canadian industries are competitive price-wise. This, in fact, has some beneficial influence in limiting price increases in these industries. In other words, these industries are encouraged to prosper in Canada through growth in their output and lower prices. This contrasts strikingly with some industries which are encouraged by high tariff duties to remain in Canada, which forces Canadian consumers to pay high prices.

The EDC lending program is very flexible. A recent development is the syndicate loan — that is, a loan in which EDC has undertaken to put together a package involving foreign lenders. This is what we did in the case of the nuclear power plant to Korea: EDC is supplying $300 million; $30 million will come from six Canadian banks; and $50 million from three British banks.

Another variation is demonstrated by our recent protocol with Russia, under which we have agreed to lend up to $500 million to assist Canadian exporters in selling Canadian capital goods and services to Russian purchasing agencies. We have similar understandings with Cuba for $100 million, and with Indonesia for $200 million. We also try to arrange loans to foreign national development banks — for re-lending in support of Canadian capital goods exports.

Foreign investments

Foreign investment guarantee contracts may or may not entail the export of goods or services, though they usually do. The program is designed to provide stability to Canadian business by ensuring that suppliers have access to markets which, for economic or political reasons, would otherwise be closed to them. Investments may vary widely, and include those in which a company carrying on business in Canada acquires the right to share in the assets of a business carried on in a foreign country; lends money to a person in a foreign country for the purpose of establishing a business in that country; acquires a right to management, technical services or royalty fees; or guarantees payment to another person who is investing in a foreign country.

The foreign investment guarantee program, which effectively commenced operations in 1971 has shown steady growth each year. As of September 30, we had signed contracts with a total maximum cover of $57 million for 32 transactions ranging in size from $45 thousand to $14 million in 18 countries.

To date, investments supported under the guarantee program will result in sales estimated at $78 million in Canadian machinery and equipment, $47 million in on-going sales of replacement parts, components and raw materials and $135 million in Canadian services and technical know-how. Including dividends and interest, this will be a $340-million positive contribution to the Canadian balance of payments. Thus, for every dollar of support by way of contingent liability given under this program there will be a net return to Canada of seven dollars.

Current considerations

A lot of the current problems facing Canada today are similar to those in other countries. There is the cost and scarcity of money for plant expansion in Canada and for credit accommodations abroad. Mounting inflationary costs threaten our competitive edge. There are other uncertainties.

Nevertheless from what I see I am hopeful — I'm more than hopeful — that governments will continue to take the steps necessary to improve the situation. It will be a slow business — the incredible complexity of inter-relationships will be unravelled only with great difficulty — but time after time I have seen what looked like the most impossible entanglements brought to happy resolution.

Operation Debriefing for Exports

YVON BUREAU, Office of Information and Public Relations, IT&C Ottawa

Last fall, the Montreal Regional Office of IT&C launched a new project aimed at facilitating and expanding Canadian exports. The launching site was a luncheon meeting of some 50 Quebec business people and consultants, and the project was called Operation Debriefing for Exports.

The basic idea stemmed from the fact that the Montreal office often receives from travelling representatives of Canadian firms tid-bits of information about foreign capital projects or commercial opportunities (as do the other regional offices). Such information is volunteered freely because firms are naturally anxious to give the regional office any information that will help the office to help them in their efforts abroad. But often the information concerns projects beyond the capabilities of one firm or perhaps outside a particular company's area of interest.

This is what got the people in Montreal thinking about Operation Debriefing. The regional office already had a vast store of commercial and technical information on many kinds of firms operating out of Quebec and, for that matter, elsewhere in Canada. The regional officers were obviously in a position to pinpoint companies best qualified to provide goods or services for projects abroad. They could also serve to put in contact two more companies that might be interested in forming either temporary or permanent partnerships for carrying out foreign projects. Once the partnership was established the regional office could step back to allow the partners to complete operating freedom.

This was the concept introduced to the group of 50 at that luncheon. And the group was assured that the regional office would protect all confidences so as to safeguard the interests of each party to the utmost.

Operation Debriefing in practice

IT&C recently completed a survey of Canadian exports of services which revealed that the value of such exports would amount to about $100,000,000 in 1975. This figure represented a considerable increase over previous years. But exports of goods did not show a similar increase; in fact, there were some significant declines. It was also found that while many countries are seeking assistance in carrying out turn-key projects, Canada's performance in that area is not as good as it might be.

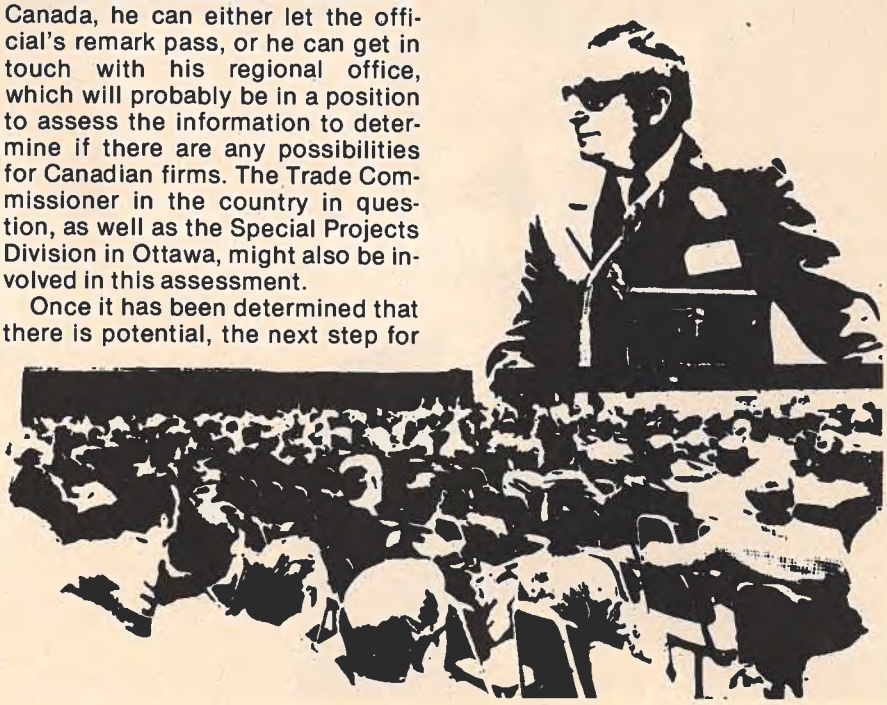
Operation Debriefing aims to gather information that will assist Canadian firms in taking on specific projects. Let us take a hypothetical example to illustrate how the system works:

Let us say a mining consulting engineer carries out research work, including some geological surveys, in Africa. During his stay he happens to meet a senior African government official who, while chatting, hints that his country is thinking about building a technical school.

When our consultant returns to Canada, he can either let the official's remark pass, or he can get in touch with his regional office, which will probably be in a position to assess the information to determine if there are any possibilities for Canadian firms. The Trade Commissioner in the country in question, as well as the Special Projects Division in Ottawa, might also be involved in this assessment.

Once it has been determined that there is potential, the next step for the regional office is to draw up a confidential list of firms that might, with the mining consultant's firm, form a joint venture to pursue the project. If the consultants say they are not interested, the regional office could then approach other companies. If all this work results in a partnership, the regional office would always be available as a neutral meeting ground or to provide information regarding IT&C's programs and services. But that would be the extent of the office's involvement in the actual project. The idea is for the regional office to be a highly-qualified go-between.

If this concept interests you, please get in touch with one of the following people: Paul Audette, Roland Fortier, Marc de Saint-Hilaire, or Robert Bourbeau at the Montreal Regional Office, Department of Industry, Trade and Commerce, Room 2124, Place Victoria, PO Box 257, Tour de la Bourse, Montreal, Quebec, H4Z 1J5; telephone 514-283-6254.



SERVINTER
Serving Canadians in Brazil

Martine Bugeaud-Pelletier, French Language Editor

"Our international competitors are establishing their presence in Brazil and are succeeding in making sales there which Canadian producers could just as well be securing."

It was not all that long ago that Claude Meunier of Montreal was Canadian president of AIESEC (International Association of Students of Economics and Commerce). His contacts with that organization led him to join a consulting engineers' agency in Rio de Janeiro and it was only a short time before he began thinking about starting a firm to assist Canadians in doing business in Brazil.

What resulted was SERVINTER Limited, which recently opened its doors in Sao Paulo. The purpose of SERVINTER, for one thing, is to identify for Canadian firms the Brazilian companies likely to be most interested in their products and to put them in touch with the purchasing officers of these companies. Mr. Meunier's firm also provides information about potential competitors of Canadian companies.

Brazilians are becoming increasingly interested in purchasing technology to manufacture goods previously imported. Here again, SERVINTER can help by assisting in setting up licensing arrangements. In addition, Mr. Meunier's firm can assist on joint venture projects.

Some of SERVINTER's services are offered in conjunction with INTERGROUP (Inter-allied Development and Management Group Ltd.), a consortium of service companies. SERVINTER specializes in the mining, transportation, communications, forestry and hydro power sectors.

"Of all the developing countries," Mr. Meunier told *Canada Commerce,* "Brazil offers the most opportunities for foreign investors." He said that some experts predict Brazil will occupy fifth position in the world economy by the year 2000 and that Sao Paulo will be the largest and most-densely populated urban centre in the world by that time. He said Canadians are not taking full advantage of the potential (see January's *Canada Commerce* for a report on Sao Paulo State).

Mr. Meunier speaks fluent Portuguese and is currently finishing a Master's thesis on Brazilian housing policy. SERVINTER Limited is a member of the Brazil/Canada Chamber of Commerce and the Sao Paulo address is: Rua Heitor de Moraes, 978, Pacaemby, Sao Paulo SP, Brazil 01237.

Claude Meunier

Building a better canoe

From Canadian Press

Raymond Bernard started out hoping to improve his chances in an annual river race by building a more competitive canoe and ended up with a thriving manufacturing company. After one year in operation, Abenakis Plastics expects during the next 12 months to gross $700,000 in sales of fibreglass sporting and freight canoes produced at its plant on the Becancour Indian Reserve near Trois-Rivieres, about 80 miles northeast of Montreal.

The canoe-building went from a sideline activity for Mr. Bernard, to ownership of a full-scale manufacturing concern, with the help of a low-interest loan from the economic development fund established by Indian Affairs to aid Indian business.

Company officers were in Ottawa last fall to promote two newly-designed freight canoes at a boat dealers' show. The freight canoes were also demonstrated for the press on the Ottawa River behind Parliament Hill.

Mr. Bernard had competed for many years in the annual 100-mile race down the St. Maurice River, near Trois-Rivieres. He decided that an adequate canoe for the race was not available and, about a dozen years ago, built his own, using skills gained by working for fibreglass companies.

Within several years, Mr. Bernard was building a majority of the canoes used in the race. As a sideline, he began building up to 70 canoes a year on a custom basis. Then, with the loan from Indian Affairs, Mr. Bernard built and equipped a plant that began production in August, 1974, employing a dozen natives on the small Becancour Reserve.

Uncertain of what it could sell the following spring and summer, the company operated off-and-on during the winter. About 2,000 fibreglass sport canoes were produced and sold rapidly to dealers in Ontario and Quebec. Production capacity was increased during the summer, and the company is now working full-time to fill orders for almost all of the 4,000 sport canoes it plans to build in the coming year. "We've got a market now — we'll never stop (production) again," says John Letch, the company's General Manager and only non-native involved. Mr. Bernard is in charge of production, and Mr. Letch runs the business and sales end of the company.

In the 10 days following the demonstration of the company's new freight canoes in Ottawa, 30 orders were received and this aspect of the business is expected to grow rapidly. Developed over the last year, the freight canoes, measuring 22 and 25 feet in length, have capacities of at least 5,000 and 7,000 pounds. Built of solid fibreglass, five sixteenths of an inch thick, they are reinforced with fibreglass ribs, with flotation material built into the ribs and walls. They can be powered by outboard, inboard-outboard or jet drive motors with power ratings from 10 to 150 horsepower and can be equipped with removable cabins.

The company says they have passed extensive trials in all weather and ice conditions in Ungava Bay, in Northern Quebec, and are designed to operate on large bodies of water and large, shallow rivers. Abenakis Plastics is hoping to find a major market for the canoes, particularly in the Arctic, as transport vessels for construction and mining exploration equipment, and use as commercial fishing and excursion boats.

The company is also hoping for an export market, describing the canoes as ideal for use on large rivers, particularly in Latin American and Africa.

Spotlight on Design

Co-op's SP 550

Collaboration with an industrial designer has helped Co-operative Implements Limited of Winnipeg, Manitoba, bring an improved grain cutter onto the international market. Thomas Faul, working on an IDAP grant from Industry, Trade and Commerce, started out intending to revamp the design of Co-op's existing 18-foot swather but company officials, in the words of Walter Dressel, research and development manager, "decided to go all out to produce a smart-looking machine that would incorporate a lot of new features."

What resulted was the Co-op SP 550 featuring, among other things, the ability to cut both grain and hay; a header designed to cut on uneven or sloping land; wheels driven by belts and planetary gears, rather than chains; and easier maintenance due to simplified mechanical design; as well as improved operator protection and comfort.

The SP 550 is attracting enthusiastic attention from Canadian Prairie farmers and for the first time Co-op plans to export to US grain-producing areas. The machine won a Manitoba Design Institute Award of Excellence last year.

Update

Wanted Manufacturers
Foreign Tariffs and Trade Regulations
Export Opportunities
New world trade centre

Wanted Manufacturers

This information is intended to promote additional manufacturing in Canada and is re-printed from the New Products Bulletin, **published by the Industrial and Trade Enquiries Division of the Department. Further material on items listed is for Canadian manufacturers only and no responsibility is assumed for claims or statements made. Address inquiries, quoting item numbers, to: Industrial and Trade Enquiries Division, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.**

Cast-in-place concrete pile system
American company is offering the Canadian manufacturing rights to its cast-in-place caseless concrete pile system. The system employs a pile driving rig, a steel-tipped mandrel, and a hopper, it forms a cavity which is filled with concrete until the desired height for the pile is reached. The mandrel is then withdrawn from the pile shaft leaving the steel tip at the bottom. Claimed advantages of the system include high capacity piles for loads up to 160 tons for a 12 inch diameter pile, low vibration level, high uplift resistance, and easy driving. Literature available. **Item 3280**

Industrial doors
Swedish firm seeks to licence a Canadian company to manufacture its folding industrial doors which operate vertically. The doors are constructed of fabric-reinforced plastic sheet which is strong but flexible. Mounted on transverse aluminum rods, the doors fold compactly all the way up into the actual opening. The doors can be built in sizes up to 30 metres in width and 20 metres in height. The frame takes up very little space as does the machinery which consists of an electric motor and cables. The doors are claimed to provide good heat insulation and to work perfectly at temperatures from -30oC to —70oC. Literature available. **Item 3281**

Cartop camper
Danish firm seeks a licensing arrangement with a Canadian company for the manufacture of its cartop camper. This cnvas is mounted on the car like a roof rack. Folded, it is protected by a cover, and has ample space for a foam mattress as well as bed linen and blankets for four persons. It is claimed that the unit can be deployed in less than a minute by one person. Easy access to the cabin is provided by a hinged ladder. Literature available. **Item 3282**

Folding container pack
British firm is offering the Canadian manufacturing rights to its folding container with attached wooden pallet. Made from heavy-duty twin-fluted corrugated board, the container pack when not in use forms a flat protected unit, readily stackable and easy and light to handle and to transport. When required for use, the lid is removed and the folded walls are opened out in position. The standard container will take a load of 2,000 lbs.; special reinforced containers can be supplied for high density loading. The containers are claimed to be cheap enough to throw away after use but are reusable. Literature available. **Item 3283**

Anchoring cartridges
French firm wishes to establish a joint venture or conclude an agreement with a Canadian company to manufacture under licence polyester resin sealing charges that can be used in roof support for underground workings. The charge consists of a double cylindrical paper envelope, the centre of which contains a resin mixed with a fast-acting mineral charge while the space between the envelopes holds a catalyst. The rod is driven into the anchoring hole with a rotary movement which ensures that the envelope is torn and the resin mixed with the catalyst. This process permits speedy polymerization and allows the anchoring rod to be sealed the full length of the hole. The technique is claimed to be less costly than anchoring with expansion bolts while providing proper roof support and great safety. Literature available. **Item 3284**

Hot air cupola furnaces
Italian inventor offers for manufacture under licence in Canada his hot air cupola furnace system which is designed for inexpensive melting of all qualities of cast iron. The supola furnace operates with self-heated air from the latent and sensitive heat of its own fumes. It is claimed that the amount of coke charge required is 30 percent less than for conventional cupolas and that the system recovers approximately 70 percent of the stack fly ash produced. The heat exchangers are practically maintenance-free. Literature available. **Item 3285**

Wood processing machinery
Finnish firm offers under licence the Canadian manufacturing rights to its range of veneer and particle board processing machinery. Included are veneer dryers, both roller and mat types, materials handling equipment, chip bunks, and drum type waste hogs. The working widths of the veneer conveyors range from maximums of 1250 mm to 2750 mm, while the range of working widths for veneer dryers extends to 4000 mm. Literature available. **Item 3286**

Craft pottery equipment
British firm seeks to licence a Canadian company to manufacture a range of craft and hobby pottery equipment for the educational, craft, studio and hobby markets. The products offered include a full range of pottery wheels with mills, screens and associated equipment. This equipment is claimed to be well-designed, simple to use, easy to maintain, and to have built-in safety features. The licensor will provide complete design and know-how backing as well as certain specialized components. Literature available. **Item 3287**

Perforated steel ribbon material
German firm offers under licence the Canadian manufacturing rights to its technique for combining perforated rolled steel with a polymer. This technique utilizes a special perforated steel ribbon which when coated on one or both sides with various plastics is claimed to provide a material which can be used wherever mechanical strength and high corrosion-resistance are required. Examples include pipes, profile shapes for window and door sills, stairs and handrails; numerous elements for the building and housing industry, etc. The licensee will be required to undertake the manufacture of the stress-free perforated steel ribbon which is the key component in these products. Literature available. **Item 3288**

INVENTIONS

The following manufacturing opportunities represent products and processes that have not been commercially proven. In some cases, prototypes have been developed.

Shrimp shelling machine

Dutch firm offers for manufacture under licence in Canada its automatic shrimp shelling machine. The machine has a production capacity of 72,000 shrimps per hour, with a net flesh yield of more than 30 percent. The automatic sheller is provided with 20 guide and shelling units, but the number can be increased or decreased. Each unit comprises a shrimp feed mechanism, a guide mechanism and a shelling unit, all of which are controlled from a central shaft via cams. Every component of the machine in contact with the product is made from stainless steel or high-grade plastic. Literature available. **Item 3289**

Attachment for barbers' clippers

American company is offering for sale the Canadian manufacturing rights for its vacuum attachment for barbers' clippers. The attachment consists of an interchangeable plastic nozzle, a hose and three different metal bracket mounts to fit the major brands of clippers. The hose fits practically all vacuum systems including home units. The purpose of this device is to immediately remove hair clippings as they occur. The nozzle is adjustable for different types of hair and skin. Literature available. **Item 3290**

Rock and mud protector

Canadian inventors offer under licence the Canadian manufacturing rights to their rock and mud protector for all types of trailers. The protector unit consists of two flaps mounted on a bracket and attached to the trailer hitch to provide protection against mud, stones and other debris thrown up by the towing vehicle. The assembly can be welded to the underside of the higch, if desired. This unit is constructed of rubber and aluminum and folds away when not required. Literature available. **Item 3291**

Parts cleaner

American inventor is offering for sale or licence the rights to his compact and inexpensive device for cleaning small objects, e.g. semiconductor wafers, machined parts, etc. The device uses a boiling solvent which is automatically drained and replenished in continuous cycles in order to provide constant cleaning and scrubbing action. This equipment has no moving parts and can be scaled to accommodate any size load. It is claimed to have several advantages over vapour degreasing and sequential bath methods. Literature available. **Item 3292**

Collapsible toy classroom

Canadian inventor is offering the outright sale of the patent rights to her collapsible toy classroom equipped with desks and a blackboard. Fashion dolls can be used as students. The aisle is wide enough to permit a child to walk through to teach her "class". The classroom folds up into its own 27" x 27" x 8" carrying case. Literature available. **Item 3293**

Foreign Tariffs and Trade Regulations

Brazil

The Customs Policy Council has announced the following tariff changes: *Resolution 2548* of September 16, 1975 exempts from duty for one year imports of iron or steel puddled bars and pilings, ingots, blocks, lumps and similar forms (tariff heading 73.06); blooms, billets, slabs and sheet bars (tariff heading 73.07); coils for re-rolling (tariff heading 73.08); universal plates (tariff heading 73.09); angles shapes and sections, sheet piling (tariff heading 73.11); hoop and strip (tariff heading 73.12); sheets and plates (tariff heading 73.13); alloy steel and high carbon steel in the forms described in tariff headings 73.06 to 73.13 (tariff heading 73.15) when imported by the following enterprises C.S.N., COSIPA, USIMINAS E ACESITA in accordance with provisions and conditions of CONCEX Resolution 98.

Resolution 2552 of September 16, 1975 exempts from duty for one year propionic acid (tariff item 29.14.19.01), propionic anhydride (tariff heading 29.14.19.02) and dichloroaniline (D.C.A. 93%) (tariff heading 29.22.99.00) when imported for use by the agricultural sector in accordance with Article 12 of Decree Law 37/66.

Resolution 2564 of October 10, 1975 increases the duty from 30% to 60% in stearic acid and its salts and esters (tariff heading 29.14.12.00).

Resolution 2565 of October 10, 1975 exempts from duty for 2 years non-sensitized polyester film for use in the manufacture of radiographic films (tariff heading 39.01.04.99).

Resolution 2566 of October 3, increases the duty from 55% to 85% on surgeons' gloves of rubber (tariff heading 40.13.02.00).

Resolution 2567 of October 3, reduces the duty from 145% to 45% on heat insulating bricks of diatomite (tariff heading 69.01.00.00).

Resolution 2568 of October 3 increases the duty from 15% to 45% on 6.etoxy-1, 2-dihydro-2, 2,4-trimethylquinol (etoxiquina) (tariff heading 29.35.99.00).

Resolution 2569 of October 3 increases the duty from 25% to 55% on liquid polypropylene glycol (tariff heading 38.19.27.00) and polyols, mixtures and derivatives thereof, for use in the manufacture of polyurethane foams of flexible, semi-rigid, rigid and elastomer types (tariff heading 38.19.99.00).

Resolution 2570 of October 3, increases the duty as follows: from 70% to 100% on F1 coils (sound and video) (tariff heading 85.01.18.01); from 55% to 85% on induction coils for exclusive use in electronics (tariff heading 85.01.90.04); from 55% to 85% on adjustable or variable capacitors (tariff heading 85.18.05.00); from 55% to 75% on parts of adjustable or variable capacitors (tariff heading 85.18.90.00); from 55% to 85% on switches for use in electronics (tariff heading 85.19.01.03) and from 45% to 75% on parts of switches for use in electronics (tariff headings 85.19.90.01 and 85.19.90.99).

Resolution 2571 of October 1 increases the duty from 30% to 50% on moulding powders of urea formaldehyde resins and from 30% to 60% on moulding powders of melamine formaldehyde resins

(tariff heading 39.01.02.03).

Resolution 2573 of October 1, 1975 exempts from duty for one year: potatoes for sowing (tariff heading 07.01.07.01); peas for sowing (tariff heading 07.05.01.01); wheat unhusked (tariff heading 10.01.01.00); barley in the grain, unhusked (tariff heading 10.03.01.00); oats in the grain, unhusked (tariff heading 10.04.01.00); millet (tariff heading 10.07.02.00); and grain sorghum (tariff heading 10.07.04.00) with seed certificates and subject to authorization from the Ministry of Agriculture.

Resolution 2574 of October 1, 1975 extends for two years the exemption from duty established by Resolution 1805 on certain silos, farm machinery, tractors, farm wagons and aircraft parts for agricultural use classified under the following: tariff headings 73.22.00.00; 84.21.01.00; 84.24.10.00; 84.24.11.00; 84.24.99.00; 84.25.01.01; 84.25.01.99; 84.25.04.01; 84.25.05.00; 84.25.99.00; 84.47.01.00; 84.49.90.99; 87.01.04.00; 87.01.07.00; 87.02.03.00; 87.14.06.99; 87.14.99.00; and 88.03.00.00.

Argentina

The Ministry of Economy issued new regulations concerning exchange rates applicable on imports effective November 18. Products included in List A-1 which were being negotiated at a mixed rate of 55% of the commercial rate and 45% at the financial rate and the rest of the products included in List A which were being negotiated at a mixed rate of 75% of the commercial rate and 25% of the financial rate will now be settled at the financial rate which is 50.50 pesos to the U.S. dollar. This represents an indirect devaluation of 12.08 percent for products included in List A-1 and of 16.48 percent for other products on List A. As compared to October 26 and prior to creation of mixed rates when the rate of exchange for all imports was 37.70 pesos to the U.S. dollar the total devaluation amounts to 25.35 percent. With introduction of the new regulations all imports are now being settled at the financial rate. It is expected that a special rate will be announced shortly for non essential imports of Lists B and C.

- The Argentine Central Bank has exempted imports of newsprint from the obligatory exchange insurance requirements. The exchange insurance (100% f.o.b. value prior deposits) for these products in now optional. The payment terms are still the mandatory 180 days from the date of shipment. The payment terms for newsprint already imported (with or without exchange insurance), have been further extended for 180 days.
- The Economy Ministry has issued through Resolution 276 / 75 the main guidelines for imports during the first six months of 1976. Importers were to present between November 3 and 21, forms corresponding to sworn statements of import needs as approved by the Secretariat for Foreign Trade and International Affairs. Applications are to be limited strictly to essential needs for the carrying on of normal activity.

West Malaysia

Importers in West Malaysia have been notified that with effect from October 23, 1975, the importation of the below classified goods into the principal customs area of the States of Malaya and into Penang Island from all countries is subjected to specific licensing and quantitative restriction:

Heading No.	Description of goods	Country
73.29 100	Transmission chains for pedal cycles, of not more than 114 links	All countries
84.61 210	Bib cocks, stop cocks and pillar taps	All countries
84.06	Internal combustion piston engines:	
292	piston and cylinder liners for diesel engines	All countries
392	piston and cylinder liners for other than diesel engines	All countries

Export Opportunities

The inquiries listed below come from several sources, including various Branches of the Department in Ottawa and the Trade Commissioner Service abroad. Exporters should correspond directly with the companies or agencies mentioned, using the addresses given, and should send copies of the correspondence to the Trade Commissioner for follow-up. The Department of Industry, Trade and Commerce cannot assume any responsibility for trade negotiations that exporters may enter into with these firms, not can it vouch for their commercial standing.

Electrical and Electronic

INDIA — 6 GHz wide-band microwave equipment for Calcutta-Assam routes. Tenders close April 1, 1976, and Trade Commissioner in New Delhi will obtain tender documents: Counsellor (Development and Commercial), Canadian High Commission, P.O. Box 5208, Shanti Path, Chanakyapuri, New Delhi 21, India.

UNITED STATES — Philadelphia firm interested in representing Canadian manufacturers of electrical cables: Consul and Senior Trade Commissioner, Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

Equipment and Machinery

GREECE — Greek agent seeks Canadian manufacturers of veneer-making machinery: Costas S. Philis, 40 Sifnou Street, Athens 817.

INDIA — Supply of 400 KV air-blast circuit breakers and compressed air equipment required for Beas Project. For tender documents: Purchase Officer/IDA, Beas Purchase Organization, Kothi, No. 60, Sector No. 27-A, Chandigarh, India; copy to Trade Commissioner in New Delhi.

UNITED STATES — Philadelphia firm interested in representing Canadian manufacturers of mining equipment, primarily coal, but other types also of interest: Consul and Senior Trade Commissioner, Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

JOINT VENTURES

West German manufacturer of chemical materials used in construction industry — i.e.: artificial resin plaster — wishes to enter a joint venture with Canadian partner for manufacturing the products in Canada. German firm holds several patents and first estimates of potential Canadian output are 1,000 tons a year, employing 20 to 30 persons: Canadian-German Chamber of Industry and Commerce Inc. 2015 Peel Street, Yale Building, Suite 1110, Montreal, Québec.

- West German manufacturer specializing in steel spindle staircases is looking for Canadian firm active in related field for a joint venture or licensing arrangement. Patents are held in Europe, United States and Canada. See above address.

Toronto to have world trade centre

The Toronto Harbour Commission plans to renovate its six-story main office building on the waterfront and convert it into the Toronto World Trade Centre, at a cost of $1.5 million. Work on the 60-year-old building, designated as an historical site by the City of Toronto, will start in about a month and is expected to take a year.

"The exterior of the building will not be touched," said Ernest B. Griffith, general manager of the Toronto Harbour Commission. "The interior will be modernized so that we will be able to offer prestige office space to international traders".

The chief aim of the World Trade Centers Association, whose head office is in New York, is to encourage expansion of world trade, promote international business relationships and understanding among nations, and foster increased participation in world trade by developing nations. World trade centres normally house all facilities and services necessary to transact international business. This includes a concentration of many government and commercial agencies.

"The development of the world trade centre concept around the globe has been dramatic," said Mr. Griffith.

"When the association was founded in New Orleans," he pointed out, "there were only three centres in existence."

By 1975, there were 16 centres in operation and seven more under construction. The association has grown to 90 organizations in 40 countries. Of the top 20 trading nations, 17 are represented through association membership. Recent figures show that 80 percent of the value of the world's international commerce comes from countries with members in the association.

Olympic spirit in Africa

Personnel stationed at the Canadian High Commission in Tanzania and Kenya got the Olympic year under way in their own inimitable fashion by climbing Mount Kilimanjaro and unfurling the Canadian and Olympic flags at the summit. From left to right in the photo: unidentified Tanzanian guide; Maj. Paul Charles of Red Deer Alberta; Dick Ballhaorn, Red Deer; Al Lukie of Grandview, Manitoba; Wayne Hammond of Owen Sound, Ontario; Paul Trueman of Toronto, Ontario; Don Campbell of Drayton, Ontario; and sitting in the foreground, Zen Burianyk of Vancouver, British Columbia.

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