

stor
CA1
EA679
93654
ENG

Storage
CA1 EA679 93654 ENG
Global market opportunities review
: geomatics. --
43267842
.b255656X (E)

Global Market Opportunities Review

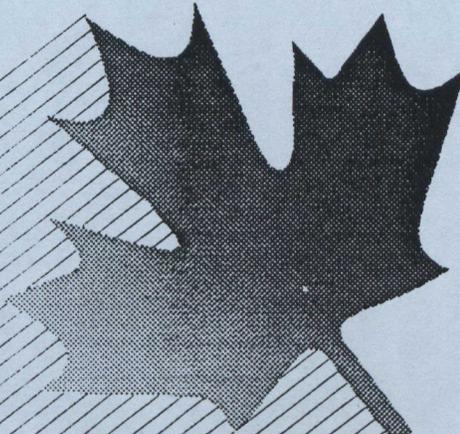
Dept. of External Affairs
Min. des Affaires extérieures

JUN 27 1994

RETURN TO DEPARTMENTAL LIBRARY
RETOURNER A LA BIBLIOTHEQUE DU MINISTERE

InfoEx (MKI)
Database/Répertoire
Code - 154TA
1993

Geomatics



43-267-842

Canada

Dept. of External Affairs
Min. des Affaires extérieures
JUN 17 1994
RETURN TO DEPARTMENTAL LIBRARY
RETOURNER A LA BIBLIOTHÈQUE DU MINISTÈRE

DRAFT

INTERNATIONAL MARKETING STRATEGY

PRIORITY SECTOR: GEOMATICS

PURPOSE: To focus and enhance trade development in support of the remote sensing and GIS sector.

SECTOR DESCRIPTION:

- Ground Receiving Stations & Data Distribution
- Value Added Systems and Services
- Geographic Information Systems

Note: Remote Sensing Satellite Systems, Sub-systems and hardware are not within scope of this sector. Mapping and Surveying Sub-sectors are also not within the scope of this study.

Canada is a major supplier of Ground Receiving Stations. The other major players are France, Japan and the United States. The latter three countries are also major suppliers of satellite remote sensing data.

In this sub-sector the main strength of Canadian industry is its system integration capability, which allows our companies to compete in export markets. The majority of component parts of systems developed in Canada are sourced from abroad. These components are antennas, computer hardware and data storage hardware.

The other competitive offerings of Canadian firms include software for data assimilation and real-time extraction, high speed image processing and high capacity data storage systems.

Canada's contribution to global data acquisition, processing and distribution will undergo a significant change with the launch of Radarsat in 1994/95. Formation of Radarsat International Inc. has strengthened domestic capability in data links and has further contributed to making Canada a major player in world remote sensing community.

INTERNATIONAL MARKETING STRATEGY

PRIORITY SECTOR: GEOMATICS

PURPOSE: To focus and enhance trade development in support of the remote sensing and GIS sector.

SECTOR DESCRIPTION:

- Ground Receiving Stations & Data Distribution
- Value Added Systems and Services
- Geographic Information Systems

Note: Remote Sensing Satellite Systems, Sub-systems and hardware are not within scope of this sector. Mapping and Surveying Sub-sectors are also not within the scope of this study.

Canada is a major supplier of Ground Receiving Stations. The other major players are France, Japan and the United States. The latter three countries are also major suppliers of satellite remote sensing data.

In this sub-sector the main strength of Canadian industry is its system integration capability, which allows our companies to compete in export markets. The majority of component parts of systems integrated in Canada are sourced from abroad. These components are: antennas, computer hardware and data storage hardware.

The other competitive offerings of Canadian firms include software for data assimilation and information extraction, high speed image processing and high capacity data storage equipment.

Canada's contribution to global data acquisition, processing and distribution will undergo a significant change with the launch of Radarsat in 1994/95. Formation of Radarsat International Inc. has strengthened domestic capability in these fields and has further contributed to making Canada a major player in world remote sensing community.

The leading companies in this sub-sector are: Macdonald Dettwiler & Associates, Spar Aerospace Ltd., SED Systems Ltd. and Array Computing Systems Ltd. and MPB Technologies Inc.

Value Added Systems and Services

The services provided by this sub-sector include image processing and analysis (software packages and image interpretation equipment), plotting and data acquisition, topographic mapping, thematic mapping, map updating and custom R&D projects, consulting services and training programs for the end-user.

There are over 120 Canadian firms active in the sector. Over 40 are also suppliers to foreign customers and their main competitors are US, French, British and Australian based private companies and government owned, or heavily subsidized, corporations such as CNES of France, ITC of Holland, various Australian government agencies and others.

Generally speaking Canadian suppliers enjoy good reputation abroad, are price competitive and usually offer the latest technologies in their respective fields.

The integration of Remote Sensing with GIS is proving to be an important element in increasing the application of remotely sensed data.

A number of non-profit agencies are also involved in the value added work in Canada. These include universities and government agencies, both provincial and federal. Foremost among these is the Canada Centre for Remote Sensing (CCRS), which concentrates primarily on the development of new applications for remotely sensed data, but also offer data acquisition, distribution and consulting services. The centre cooperates closely with private companies through technology licensing and joint R&D projects.

Geographic Information Systems

The computer revolution and fast changes in information technologies have led to the development of GIS. After the images from space are corrected and digitized the data can be integrated with conventional information. A computerized technology that permits the digital storage, processing and display of data simultaneously with their geographic location is known as GIS.

The integration of remote sensing with GIS has been an important step in increasing the applications for the remotely sensed data. The successful integration of image processing systems with GIS is at present a primary problem in value added services sector. An efficient and cost-effective integration will result in a much larger market for value added software and services.

The predicted high growth rate of GIS related revenues (approx. 40% annually) will also expand the demand for traditional geomatics services (mapping and surveying) into such new areas as geographically based social and economic data for financial institutions, health care organizations, transport companies and many others.

The entire concept of GIS was conceived in the Department of Environment some twenty years ago. The commercial development of GIS in Canada did not immediately follow from that early lead which originated in the public sector. The commercial exploitation was initiated by corporate entities in the USA such as Intergraph and ESRI. These two players still enjoy domination of the markets. In parallel to the developments south of the border, a number of Canadian companies developed niche products and more recently have pioneered the use of personal computers in GIS applications.

There are now more than fifty Canadian companies active in this field with about half of them of them present in offshore markets. These companies are well positioned to take advantage of the new business opportunities because, in general, they enjoy a good reputation for quality, possess leading edge technologies and are competitive on a large proportion of projects.

GIS applications include: map updates, mining and fossil fuels explorations, environmental protection, crop assessment, soil conditions and rainfall patterns, forest inventories, determination of pipeline and powerline routing, land management and urban planning, water supplies, flood control, etc.

Global Markets and the Canadian Share

There are only a few sources of quantitative information and statistics pertaining to this sector.

The total world market in 1991 for Remote Sensing/GIS sector was estimated to be in the range of \$US 2.5 to \$3.0 billion. The same market is predicted to grow to \$US 8.5 billion for 1992. Revenues of Canadian Remote Sensing/GIS sector are between \$250 and \$300 million per annum. They constitute roughly 30% of the billings of the entire Geomatics sector, which includes Mapping and Surveying Sub-sector. 70% of sales of Canadian RS/GIS sector have been directed to export markets.

The export markets (rated by market size) are the US, Europe, SE Asia and Latin America. Based on the current feedback from the Posts and the Industry it would appear that the markets with highest potential for Canadian companies are SE Asia and Latin America. Overall market penetration has been highest in SE Asia. For the last 5 to 6 years it has been estimated at 35 to 40%.

Canada's technological leadership and world market share has been particularly strong in satellite receiving stations (50%), in the digital image analysis (25% of world markets) and in airborne SAR (Synthetic Aperture Radar) about 90% of global market, excluding the United States. On the other hand Canada's share of US market thus far has been less than 2%.

MARKET PROSPECTS:

The following markets, grouped by region, represent a synopsis of global market potential for remote sensing and GIS. Each individual market within the region has not been identified, as this assessment is principally structured to reflect the trade plans submitted by posts abroad. Each noted market is rated in accordance with current marketing intelligence on the overall potential of this market compared to other markets within the region and also against other regions. These brief summaries are intended to provide a framework describing the overall environment, and allows a comparison of markets based upon their relative merits, i.e. attractiveness as direct export opportunities. Known success of Canadian companies within a specific market, market access difficulties, funding availability and infrastructure development are also factored into the overall market assessment. The markets are categorized as follows:

Tier A: Cash Market in most cases; clearly defined market access procedures with few restrictions; interest and success of Canadian companies at a high level; an established infrastructure; a proven, relatively stable, market growth potential. TAE fully supports POST activities. Financing is not a consideration.

Tier B: Emerging markets with proven interest in Canadian products; some degree of Canadian success; evolving infrastructure with capability to deal with large development projects; generally moderate-to-high level of interest from Canadian companies. TAE generally supportive of post plans. Concessionary or commercially attractive financing often a necessary factor for Canadian success.

Tier C: A combination of all or some of the following factors: complete dependency upon concessionary financing; long decision cycles; frequent corruption; intellectual property violations; lacking necessary infrastructure to adequately support development projects; not a high priority for most Canadian companies. TAE frequently questions post priorities in these sectors.

Assessment by Region

TIER A:

United States

A recently published study on "U.S. Market Prospects for the Canadian Geomatics Industry" funded by EAITC indicated that the U.S. market presents a significant opportunity for Canadian firms with interest in GIS and Digital Mapping and to a lesser extent in Remote Sensing.

Most of the Canadian export sales have been in the past directed to developing countries which enjoyed financial assistance from such agencies as CIDA, EDC and the World Bank. Fewer than 20% of export contracts have been in the U.S. The relatively low penetration of the U.S. market can be ascribed to such factors as the competitive nature of American business environments, perceived parochial contracting practices and institutional licensing restrictions affecting aerial photography and cadastral surveying.

The partial dependence of the sector on third world projects may diminish as the governments of developed countries curtail their foreign aid assistance. This of necessity would prompt Canadian companies to intensify their efforts south of the border.

The US market is on the threshold of major developments which will generate a significant demand for services such as data acquisition ranging from cadastral surveys to remote sensing, digital conversion of existing hard copy data and consulting services.

The U.S. market growth is currently funded by the rapid and widespread adoption of GIS (geographic information systems) technology throughout all sectors of U.S. economy. Estimates indicate that approximately U.S. \$1.2 billion in GIS services and related expenditures has been incurred in 1989 and that these expenditures will grow 20% annually over the next five years.

It is estimated that total US market for Remote Sensing/GIS is in the range of \$1.2 billion and that it accounts for about 40% of the world market.

The Municipal/County Governments and Federal Agencies hold particular promise for Canadian firms. This is especially true because of Canadian expertise in parcel land rural/registry systems. Another area of particular interest to Canadian firms is the digital base mapping and GIS applications for federal resource departments (agriculture, forestry). Of secondary importance as potential clients are the US public utilities (power, gas) and large industrials (mining, transportation, construction).

Increased activity in this sector is expected to take place in all States. The geographic markets of greatest promise are the North East, South East and South West.

The Geomatics Industry Association of Canada (GIAC) which embraces GIS Remote Sensing and Mapping Surveying firms will play an important role in assisting its members to penetrate the U.S. market. The Association in conjunction with UTI (U.S. Trade and Investment Division of External Affairs and International Trade Canada) has organized two trade missions to the U.S., in early 1991 (Washington, D.C. and Los Angeles). The Canadian industry will need the continuing support of this Department to expand its share of the largest single market in the world.

South East Asia

A total of thirty Canadian companies have been introduced to Malaysia, Indonesia, Philippines and Thailand since 1986 and it is estimated that as that as a direct result of this intensive promotion, Canadian remote sensing and GIS firms have secured between \$70-80 million in contracts in that part of the world i.e. in the four countries mentioned above.

The equipment and services sold included earth stations for LANDSAT and meteorological data acquisition, radar mapping for cartography and mineral explorations, image analysis systems and geographical information systems (GIS).

Three Canadian companies MDA, Intera Tydac and the Bercha Group have set up corporate sales and services facilities in South East Asia.

Approximately \$120 million in potential short-term business has been identified in South East Asia. Longer term hydrographic charting and associated mapping and GIS projects in Indonesia amounting to \$160 million, and \$60 million in the Philippines have been identified. There is in the area a continuing demand for airborne radar surveying, GIS and image analysis systems.

The Asian Development Bank has been putting increasing emphasis on the use of GIS and related remote sensing techniques. The recent approval of a \$57 million loan to Indonesia for its second Land Resource Evaluation and Planning project underlines this interest.

The Department of Energy, Mines and Resources (EMR) and more specifically the Canada Centre for Remote Sensing (CCRS) and the Office of External Relations have made a significant contribution to the success of Canadian industry in this market. This was achieved mostly through the forum of technical/scientific liaison, MOUs with foreign counterparts, training of foreign scientists in Canada and participation in outgoing and incoming missions organized and funded by EAITC.

The industry is looking for a long-term commitment of other federal government agencies (Energy, Mines and Resources, Environment Canada) to the expansion and strengthening of the Canadian Remote Sensing sector.

Middle East

EMR and a number of exporting companies have been active in the area for a number of years. Government to government bilateral Memoranda of Understanding have been concluded with Kuwait and Saudi Arabia.

Commercial opportunities will materialize as the bilateral and multilateral developments identify and implement regional water supply, environmental and natural resource projects.

Priority countries for export promotion will be Kuwait, Saudi Arabia and Gulf States while Iran will be targeted for a longer term campaign to obtain a significant share of that market.

Unlike the majority of export markets, the countries in question usually fund their projects without borrowing.

TIER B:

These markets are considered secondary because the application of RS/GIS there is in its early development or because, until now, our industry was only marginally active in those areas.

Latin America

Meetings and discussions with senior government scientists and officials of Venezuela and Mexico which took place in 1991, as well as with representatives of private companies has resulted in the identification of concrete projects as well as national plans to establish technical facilities and to increase the awareness of RS/GIS applications.

Mexico has been seeking advice and assistance from CCRS in setting up their national remote sensing centre. The Mexican Institute of Statistics and Geographic Information (INEGI) will shortly call for proposals on a \$25.0 million modernization of facilities project.

Venezuela, Brazil and Chile will become more attractive in the next year or so as the application of GIS in the areas of agriculture, forestry, waste and pollution tracking and mineral exploration becomes more widespread. Information acquired from missions to these areas revealed a high level of interest by both government agencies and private corporations in these applications.

There have been some sales in the past to Colombia, Equador and Argentina.

It is very likely that significant orders will be secured in Latin America within 18 to 24 months and that in 2 to 3 years that continent will become a priority market for the sector.

Western Europe

Information acquired by our trade posts in France, Holland and Austria indicate a good opportunity for work in these areas through cooperation between Canadian companies and potential European partners. Formation of joint ventures, teaming arrangements and technology exchanges hold promise for entering this market region as local companies are well established and competition would be fierce for direct sales. Partnerships with European companies would give Canadian companies a better insight into the workings of and customer-client relationships prevailing in Europe and help in assessing business potential. Holland could be the best initial venue and entry point to European Community markets, although this country is also a major competitor world-wide.

Australia

Recently obtained market intelligence indicates a high degree of potential in future cooperation between Canada and Australia. This applies to both the private sectors and the government agencies of both countries. It would entail all types of cooperative agreements including joint bids for major projects in Southeast Asia and the Middle East. Although in many areas the two sectors compete directly, in many others they would complement each other, such as in technological expertise and direct territorial marketing experience in many areas of the world. Canadian experience in space, remote sensing and GIS is used by Australian governments, both federal and state, as models for future growth and development of their own industry and public policies. Preparation of a dedicated marketing/industrial cooperation plan for Canada-Australia involving Canadian government and companies should be given a high priority.

TIER 3:

These markets are considered secondary because the application of RS/GIS there is in its early development or because, until now, our industry was only marginally active in these areas.

Latin America

Meetings and discussions with senior government scientists and officials of Venezuela and Mexico which took place in 1991, as well as with representatives of private companies has resulted in the identification of numerous projects as well as national plans to establish technical facilities and to increase the awareness of RS/GIS applications.

Geomatics Products and Related Services

Priority Analysis - 1992/93

	Post	TAE	Country Desk	CCRS (EMR)	3-Year CDN Export Potential*
ABIDJAN, Cote d'Ivoire	-	2	1	3	
ALGIERS, Algeria	3	3	3	3/2	
AMMAN, Jordan	3	3	-	2	
CAIRO, Egypt	3	3	3	1	
DAR ES SALAAM, Tanzania	3	3	2	3	
HARARE, Zimbabwe	-	3	1	1	
KINSHASA, Zaire	-	-	-	3	
KINSHASA, Zaire	1	1	1	1	
KUWAIT, Kuwait	3	2	2	1	
LAGOS, Nigeria	-	-	-	-	
LIBREVILLE, Gabon	3	3	3	3	
NAIROBI, Kenya	-	2	2	1	
PRETORIA, South Africa	3	3	3	3	
RABAT, Morocco	1	1	1	1	
RIYADH, Saudi Arabia	3	3	3	1	
TEHRAN, Iran	3	3	3	2	
TEL AVIV, Israel	3	3	3	3	
TUNIS, Tunisia	-	3	3	?	
WINDHOEK, Namibia	-	-	-	-	
YAOUNDE, Cameroon	-	-	-	-	
BOGOTA, Colombia	3	2	2	1	
BRASILIA, Brazil	1	1	1	1	
BRIDGETOWN, Barbados	3	3	2	3	
BUENOS AIRES, Argentina	3	1	2	2	
CARACAS, Venezuela	3	1	1	1	
GUATEMALA, Guatemala	3	2	2	2	
HAVANA, Cuba	3	3	3	3	
KINGSTON, Jamaica	3	2	2	3	
LIMA, Peru	3	2	2	2	
MEXICO, Mexico	3	1	1	1	
PORT-OF-SPAIN, Trinidad	3	1	2	3	
SAN JOSE, Costa Rica	3	2	2	1	
SANTIAGO, Chile	3	1	1	1	
SAO PAULO, Brazil	1	1	1	1	
BEIJING, China	3	2	-	2/1	
HONG KONG, Hong Kong	3	3	3	3	
SEOUL, Korea	3	1	3	3	
SHANGHAI, China	3	2	3	3	
TAIPEI, Taiwan	3	2	3	2	
OSAKA, Japan	3	1	3	3	
TOKYO, Japan	3	1	2	3	

1 = High Priority 2 = Medium Priority 3 = Low Priority

- = Unable to Obtain Desk Priority or No Plan Submitted

	Post	TAE	Country Desk	CCRS (EMR)	3-Year CDN Export Potential*
BANGKOK, Thailand	1	1	1	1	
BOMBAY, India	1	1	1	3	
CANBERRA, Australia	3	1	-	2	
COLOMBO, Sri Lanka	1	-	2	1	
DHAKA, Bangladesh	3	2	-	3	
ISLAMABAD, Pakistan	3	2	3	2	
JAKARTA, Indonesia	1	1	-	1	
KUALA LAMPUR, Malaysia	1	1	-	1	
MANILA, Philippines	3	1	-	1	
MELBOURNE, Australia	1	1	1	2/3	
NEW DELHI, India	1	1	1	1	
SINGAPORE, Singapore	3	3	-	3	
SYDNEY, Australia	3	1	2	2/3	
WELLINGTON, New Zealand	3	1	2	2	
BELGRADE, Yugoslavia	3	3	2	3	
BUCHAREST, Romania	3	2	3	2	
BUDAPEST, Hungary	3	2	3	2	
MOSCOW, Russia	3	2	1	2	
PRAGUE, Czechoslovakia	3	1	3	1	
WARSAW, Poland	-	1	2	2	
ANKARA, Turkey	1	1	1	1/2	
ATHENS, Greece	1	3	3	3	
BARCELONA, Spain	3	2	2	2	
BERLIN, Germany	-	3	3	3	
BERNE, Switzerland	3	3	3	3	
BONN, Germany	3	2	2	3	
BRUSSELS, Belgium	3	3	3	3	
BRUSSELS, NAC	3	3	-	3	
COPENHAGEN, Denmark	3	3	3	3	
DUBLIN, Ireland	3	3	1	2	
DUSSELDORF, Germany	3	2	2	3	
HAGUE, THE, Netherlands	3	1	2	3	
HELSINKI, Finland	3	1	3	3	
LISBON, Portugal	-	2	2	3	
LONDON, United Kingdom	3	2	3	3	
MADRID, Spain	1	1	2	2	
MILAN, Italy	3	2	3	3	
MUNICH, Germany	3	2	3	3	
OSLO, Norway	1	3	2	3	
PARIS, France	1	1	2	3	
ROME, Italy	3	2	3	3	
STOCKHOLM, Sweden	3	2	2	3	
VIENNA, Austria	1	1	2	3	

ATLANTA	3	2	3	3	Services
BOSTON	3	1	3	3	
BUFFALO	3	3	3	3	
CHICAGO	3	3	3	2	
CLEVELAND	3	3	3	3	
DALLAS	1	3	1	2	
DETROIT	1	3	1	3	
LOS ANGELES	3	1	3	3	
MINNEAPOLIS	3	3	3	3	
NEW YORK, Con.Gen.	3	3	3	3	
SAN FRANCISCO	3	3	3	3	
SEATTLE	3	2	3	2	
WASHINGTON	3	3	3	2	

HANOI, Vietnam	1	1	1	1	OSAKA, on Lines
KINSHASA, Zaire	1	1	1	1	DHAKA, Bangladesh
KUWAIT, Kuwait	1	1	1	1	ISLAMABAD, Pakistan
LAGOS, Nigeria	1	1	1	1	JAKARTA, Indonesia
LIBREVILLE, Gabon	1	1	1	1	KUALA LUMPUR, Malaysia
Nairobi, Kenya	1	1	1	1	MANILA, Philippines
PRETORIA, South Africa	1	1	1	1	MELBOURNE, Australia
RABAT, Morocco	1	1	1	1	NEW DELHI, India
RIYADH, Saudi Arabia	1	1	1	1	SINGAPORE, Singapore
TEHRAN, Iran	1	1	1	1	TYBEE, Atlanta
TEL AVIV, Israel	1	1	1	1	WELLINGTON, New Zealand
TIENJIN, Tientsin	1	1	1	1	
WINDHOEK, Namibia	1	1	1	1	BELGRADE, Yugoslavia
YAOUNDE, Cameroon	1	1	1	1	BUCHAREST, Romania
					BUDAPEST, Hungary
BOGOTA, Colombia	1	1	1	1	MOSCOW, Russia
BRASILIA, Brazil	1	1	1	1	PRAGUE, Czechoslovakia
BRIDGETOWN, Barbados	1	1	1	1	WARSAW, Poland
BRISBANE, Queensland	1	1	1	1	
CARACAS, Venezuela	1	1	1	1	ANKARA, Turkey
GUATEMALA, Guatemala	1	1	1	1	ATHENS, Greece
HAVANA, Cuba	1	1	1	1	BARCELONA, Spain
JMIRASTON, Jamaica	1	1	1	1	BERLIN, Germany
LIJA, Peru	1	1	1	1	BERN, Switzerland
MEXICO, Mexico	1	1	1	1	BONN, Germany
PORT OF SPAIN, Trinidad	1	1	1	1	BRUSSELS, Belgium
SAN JOSE, Costa Rica	1	1	1	1	BRUSSELS, NAC
SANTIAGO, Chile	1	1	1	1	COPENHAGEN, Denmark
SAO PAULO, Brazil	1	1	1	1	DUBLIN, Ireland
					DUISSDORF, Germany
BEIJING, China	1	1	1	1	HAGUE, THE Netherlands
HONG KONG, Hong Kong	1	1	1	1	HELSINKI, Finland
SEOUL, Korea	1	1	1	1	LISBON, Portugal
SHANGHAI, China	1	1	1	1	LONDON, United Kingdom
TAIPEI, Taiwan	1	1	1	1	MADRID, Spain
					MIAMI, Italy
					MUNICH, Germany
					OSLO, Norway
					PARIS, France
					ROME, Italy
					STOCKHOLM, Sweden
					VIENNA, Austria

CANADIAN COMPETITIVE STRENGTHS:

Canada's Remote Sensing and GIS industry sector is, in general, competitive with the rest of the world. This includes product quality, reputation for offering state-of-the-art technologies, efficient after-sales service, on time deliveries, good training programs for end-user personnel and willingness to enter into joint ventures with foreign firms.

In the technical sense the sector excels in radar surveying, both airborne and satellite, ground receiving stations, development of optical sensors, image analysis and interpretation and GIS.

The sector, in general, is less competitive on prices and on financing terms it can offer the end-user.

This industry is one of the three truly competitive Canadian advanced technology sectors. To a large extent this favourable position was achieved through a successful partnership between government and private sector over the last 25 years or so.

Remote Sensing and GIS are synergistic in the export markets. Expertise and goods and services in these two fields may be used to secure orders in other areas of geomatics, such as Surveying and Mapping.

SECTORAL MARKETING PROBLEMS:

Majority of the companies in the sector, especially those in GIS, have annual revenues below \$5.0 million per annum. They lack necessary financial and human resources to collect market intelligence, to prepare bids and execute large projects overseas.

These shortcomings on the international scene could be minimised somewhat by a trade association mandated to exercise an effective promotional role on behalf of its membership in export markets.

An obvious disadvantage of the sector is the recent significant increase in competitiveness of foreign firms who have benefited from direct national governments subsidies and tying in of projects to foreign aid policies and programs. This is especially true of France. Most of the success stories of French industry in export markets can be attributed to a variety of modalities of direct government support.

The Canadian firms on the other hand have been experiencing shrinking government involvement in their well-being.

The industry is of the opinion that Canada is under-represented at such influential institutions as the World Bank, ADB, UN, FAO, ESCAP and others. It is very important for the sector to have full time Canadian experts in Remote Sensing and GIS employed by these agencies. Asia and Pacific Rim markets alone are forecast to generate from \$250 to \$400 million in projects over the next five to eight years. A majority of these projects will be financed by the organizations listed above.

To some extent the industry is confused and demoralised by the uncoordinated, overlapping and sometimes contradictory export promotion programs exercised on their behalf by several federal departments and provincial governments. This often results in a given company being encouraged to participate in promotional projects, such as trade fairs and trade missions, with conflicting dates or marginal benefits to Canadian firms.

EXPORT MARKETING STRATEGY:

It would not be practical to come up with an universal, all-encompassing strategy for this sector. Due to rapid technological changes, which create entirely new markets and opportunities at a fairly brisk rate, emergence of new companies, corporate mergers and consolidations, economic recessions, shifts in government spending patterns and many other variables, an overall sector strategy, including all pertinent aspects of export marketing may become obsolete before its perfected and finalized.

Instead, it was decided to concentrate initially on a few pressing issues which, to a degree, can be influenced and controlled by government policies and practices.

- i) Commission a study by a qualified consultant to focus on a high priority market such as SE Asia. The study would define governmental role in assisting the industry in achieving its business objectives in that market. The study could become apart of a Strategic International Plan prepared by the relevant trade association, in this case GIAC.

The departmental "starter" study would will address the following points:

► Concise Industry Sector profile, incorporating:

- sales and export statistics
- employment
- regional distribution of companies
- classification of firms by products and services
- classification of firms by total sales and export sales
- strengths and weaknesses of the sector in the international competitiveness sense.
- technological trends

► Canada's past and present Activities in the Market.

- summarise Canadian past efforts and current position as a supplier to the market.
- list major projects awarded in the last three years, identify winners and evaluate their competitive advantages.
- identify leading foreign competitors
- provide figures on aggregate Canadian sales in the last three years on a per product line basis
- name Canadian companies with established sales/service facilities in the area
- name joint ventures entered into by Canadian firms
- list promotional projects carried out by EAITC in the last ten years such as trade fairs, Canadian solo shows, technical seminars and trade missions.

► Market Research

Visit the market in question for the purpose of:

- interviewing Canadian Trade Commissioners
- meeting key end user agencies and companies
- interviewing major agents/distributors and all of those who represent Canadian firms
- ascertaining plans of locally based international financing institutions for major projects coming on stream
- calling on local sales/service facilities of Canadian companies

► Recommendations to Industry

- background
- appraisal of foreign and local competition
- general market assessment, quantitative and qualitative
- index of reputable local agents/distributors
- listing of forthcoming major projects
- listing of forthcoming trade fairs
- EAITC promotional projects for the area
- recommendations on the "sector at large" future promotional activities
- recommendations to individual Canadian firms regarding business potential
- recommendations on JVs and technology transfers, joint bids, etc.
- recommendations on export market consortia

- ii) EAITC as the government department responsible for international trade will continue to carry out its coordinating role of all matters under its mandate. A form of an interdepartmental advisory committee will be established, which will include representation from GIAC
- iii) Establish guidelines for Canadian participation in bidding on large projects. Consider optimum number of companies to pursue the same business opportunity. Avoid supporting too many Canadian firms competing against each other to the detriment of the sector. Encourage formation of Canadian consortia.
- iv) It is recommended that all Canadian government scientists attending symposia, conferences and participating in government to government technical/scientific activities be requested to engage in market intelligence and to disseminate pertinent information to industry.

- v) Creation of a training institute in geomatics along the lines of TEMIC would enhance the reputation of Canadian industry and make it known to foreign officials who could influence future orders. In this aspect of business we have to compete with other countries, especially with Holland. Their International Training Centre (ITC) has trained about 4000 Asian scientists in remote sensing and related disciplines. In addition ITC has established three sister institutes in China, India and Indonesia. This heavy investment in training provides Dutch industry with a significant advantage.
- vi) To increase its market share world-wide, Canadian industry would need continuing and strengthened departmental support and assistance in identification of major projects and in the development of regional strategic proposals.

CV 014 OPERATIONAL

09) Travel: - D.McGregor

1)	Geotechnica '93, combined with Int'l Cartographic Conference Cologne, Germany, May 03 - 08, 1993		
	Airfare approx:	\$1000 est	
	Hotel 6 days:	\$1800 est	
	Per diem 6 days:	\$350	
	Miscellaneous:	<u>\$100 est</u>	
	TOTAL	\$3250	3250

Purpose: 1) Network with Canadian companies and international contacts.
 2) Gather international market and sector intelligence. Geotechnica
 is where the world shops, and the ICC is concurrent and adjacent.

2)	Sherbrooke Remote Sensing Symposium (7-10 June'93) <u>OR</u> Montreal GEOMATICS IV (4-5 Nov'93) <u>OR BOTH.</u>		
	Car mileage / gas :	\$80 - \$200 est	
	Hotel 2-6 days:	\$150 - \$450 est	
	Per diem 2-6 days:	\$90 - \$270	
	Miscellaneous:	<u>\$100 - \$200</u>	
	TOTAL	\$430 - \$1100	1100

Purpose: 1) Network with Canadian Companies (especially Quebec) to
 improve contacts and gather market intelligence. (These events are
 regional ones which are not "Where the World Shops", although
 both will have considerable international attendance.)

3)	ATLANTA URISA '93 Conference. 25-29 July'93		
	Airfare approx:	\$800 est	
	Hotel 3 days:	\$500 est	
	Per diem 3 days:	\$150	
	Miscellaneous:	<u>\$100 est</u>	
	TOTAL	\$1550	1550

Purpose: This conference will be Where the World Shops for Municipal GIS
 in '93. Many Canadian Companies will be there, as well as the major buyers and
 competitors. Working with UTO to publicise Canadian participation to possible
 visitors from abroad.

TOTAL THIS PAGE \$5900

CV 14 OPERATIONAL (cont'd)
09 TRAVEL Company Liaison Visits:

Purpose: Keep close to company capabilities, international marketing needs, and promote EAITC programs and Global Market Opportunity Reviews, etc.

1) Winnipeg/Regina/Saskatoon	July/August	
Airfare approx:	\$900	
Hotel 4 days:	\$300	
Per diem 4 days:	\$180	
Miscellaneous:	<u>\$120</u>	
TOTAL	\$1500	1500
2) Calgary/Edmonton/Vancouver:	Sept/October	
Airfare approx:	\$1200	
Hotel 4 days:	\$300	
Per diem 4 days:	\$180	
Miscellaneous:	<u>\$120</u>	
TOTAL	\$1800	1800
3) Toronto Area	October	
Airfare approx:	\$350	
Hotel 4 days:	\$300	
Per diem 4 days:	\$180	
Miscellaneous:	<u>\$120</u>	
TOTAL	\$950	950
4) Eastern Canada (incl Quebec)	(Feb'94)	
Airfare approx:	\$900	
Hotel 4 days:	\$300	
Per diem 4 days:	\$180	
Miscellaneous:	<u>\$120</u>	
TOTAL	\$1500	1500

Travel fund for trips to appropriate domestic events est 2000

TOTAL THIS PAGE \$7750

CV14 OPERATIONAL

17) COMMUNICATIONS: Publications:

1) Electronics and Process Control/Instrumentation

A) Contract an inhouse assistant to update WIN Directories with back log of changes, mail out questionnaires for update of data, source new companies to add to databases. (see temp help below)

B) Contract programmer to extract Data from WIN Directories and prepare master diskette. Not to exceed \$3,000 probably around \$1,000

1000

C) Contract to produce diskettes (Combination XGEO/XELECT/XINST) est \$8000 for design and duplication. 8000

2) Sector Overviews:

A) Develop a series of promotional sector overview videos for each sector. This should be developed for normal distribution to Posts and all shows. Estimated cost of a video: \$40K, to be shared with ISTC/OGDs/Associations/Companies. (Proposed TAE contribution to project: \$10K per video). Nota: Geomatics Industry is pushing for a video for FY 92/93.

est: 5K-30K

CV 14 OPERATIONAL: 21 Temporary Contract Help:

WIN Directories:

1) Instrumentation/Process Control & Electronics - As the TAE databases are converted to WIN Directories a data entry clerk will be required to catch up with the backload of changes, additions etc.

2) - A data entry clerk/telemarketer will be required to canvass new addition to the WIN Directories and to mail out existing profiles for update. TPP may help here - they do it regularly.

Suggest this exercise start in mid-summer. Same individual can probably handle both jobs. Est four to six weeks effort per update. 50 days at est \$200/day = \$10,000

10000

TOTAL THIS PAGE: 24K-49K

CV 14 OPERATIONAL

36 MATERIALS AND SUPPLIES

SECTORAL MARKET REPORTS: Good ones are available from private sector sources that, at \$300-\$2000 each, may save us a consulting project. We should allow ourselves the freedom to investigate (= "buy") these items when the needs arise, before hiring a consultant to come up with a duplicate product.

MAGAZINE SUBSCRIPTIONS: TAE could do with a great many more sector-specific trade magazines. The majority would be free, while some would cost. (This may be an excellent orientation project for our new officer before he gets into other projects. If not, I would be happy to pursue it, trading off other projects.)

Following are some useful publications that I know of. I have not investigated whether anyone else in the building yet receives them, nor whether they cost anything.

Canadian Biotech News	Future Technology Strategic Markets
Canadian Business	GEO Info Systems
Canadian Datasystems	GIS World
Canadian Electronics	GPS World
Canadian Manager	IEEE Spectrum
Canadian R&D Manager	Industrial Marketing Management
CanMet Technology Focus	InnovationS (N.Scotia technology Mag, we get sometimes)
Computerworld	New Equipment News (NEN)
Computing Canada	New Technology Week
Database Canada	Ontario Technologist
Earth Observation Magazine	PE&RS (Photogram. Engg & Remote Sensing)
Electronic Equipment News (EEN)	Quebec Science
Electronics News	R&D (the Alberta Research Council Newsletter)
Electronics World	Recherche et espace
Electronics Week	Software Digest
Export News (a CEA Publication)	SPARK Technology (BC technology magazine)
Foreign Technology	Technology review (MIT publication)
Fusion Canada (National Fusion Program, Chalk River)	Technology Source
	Technology Update (Predicast)

Suggestion: Set ourselves a \$\$ budget of \$500/year, and fill it with the most important per each officer. The free publications we should pursue if we have an interest.

\$500

=====

TOTAL ALL PAGES: \$38-63K

LIBRARY E A/BIBLIOTHEQUE A E



3 5036 20017518 3

Storage

CA1 EA679 93654 ENG

Global market opportunities review
: geomatics. --

43267842