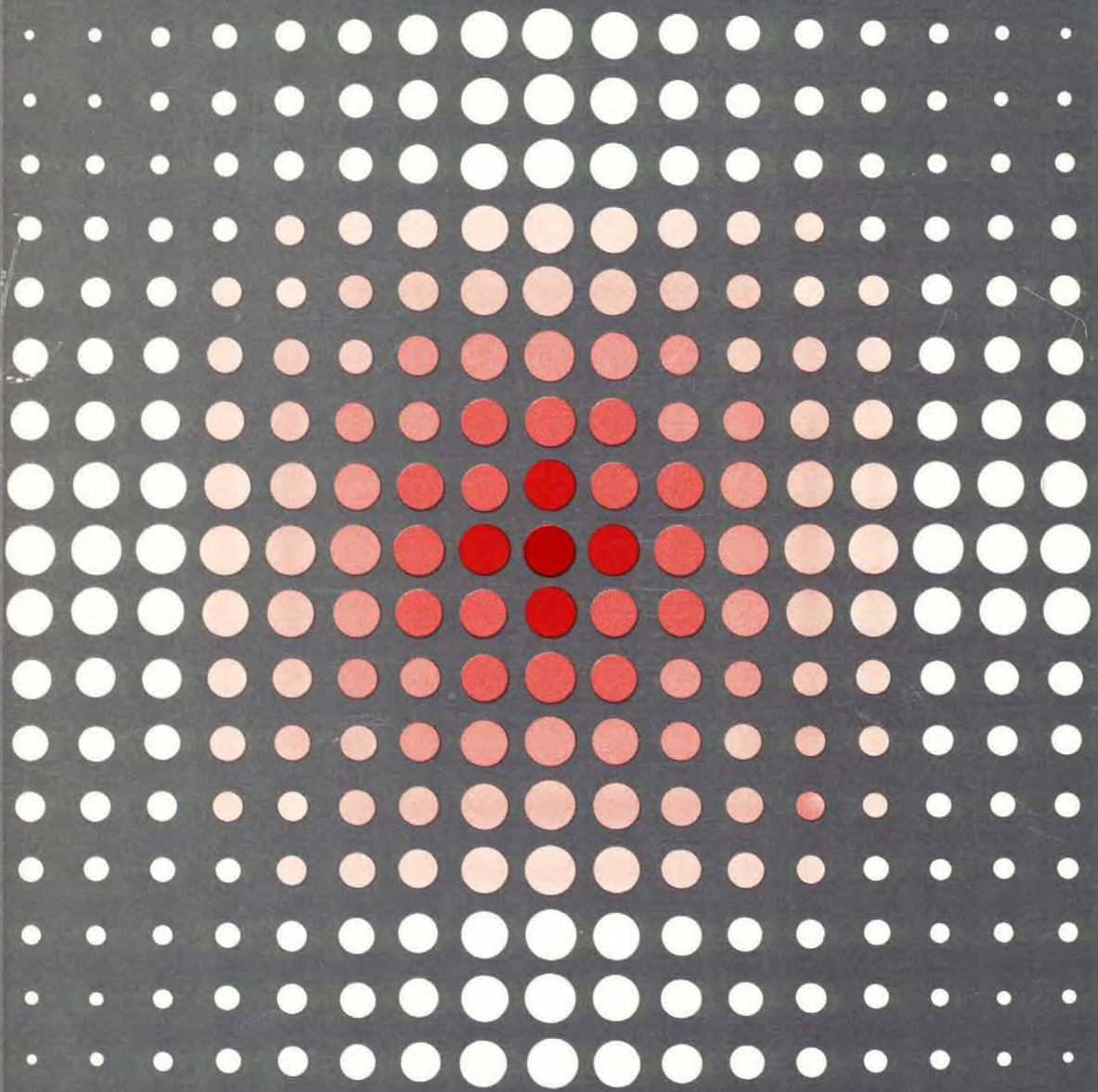
LEADING THE COMPETITION

A Forum to Develop a Trade Strategy
for Canada's Advanced Technology Sector

PROCEEDINGS



Canadian
Advanced
Technology
Association

MOSST
Ministry
of State
for Science
and Technology

LEADING THE COMPETITION

A Forum to Develop a Trade Strategy for
Canada's Advanced Technology Sector

A Project of:

The Canadian Advanced Technology Association
and
The Ministry of State for Science and Technology

March 25, 1986
Skyline Hotel
Ottawa, Ontario

PROCEEDINGS - Ottawa Forum

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PURPOSE

LEADING THE COMPETITION

A Forum to Develop a Trade Strategy for
Canada's Advanced Technology Sector

PURPOSE

The purpose of this Forum was to bring together the expertise of industry executives engaged in the development and marketing of advanced technology goods and services and government officials involved with trade policy issues, in order to:

- contribute to the evolution of public and private policy responses, strategies and initiatives affecting the future development and success of Canada's advanced technology companies;
- advise federal negotiators and others of preferred approaches for ensuring secure and improved market access through bilateral and multilateral trade talks; and,
- identify issue areas where industry and government can work together for mutual benefit to enhance the trade performance of the industry.

The format and agenda were designed to facilitate discussion and enable participants to achieve these objectives.

The proceedings of the day's discussion, the consensus on the issues examined and priorities for action will become part of the national discussion on how the public and private sectors can work together to develop a more vigorous advanced technology industry in Canada.

SUMMARY OF

DISCUSSION AND

RECOMMENDATIONS

LEADING THE COMPETITION

A Forum to Develop a Trade Strategy for
Canada's Advanced Technology Sector

SUMMARY OF DISCUSSION AND RECOMMENDATIONS

BACKGROUND

The project was initiated to assist with the development of briefing information for current trade negotiations. Participants in the day-long seminar included corporate executives and senior federal government representatives involved in the advanced technology sector.

ORGANIZATION

Keynote presentations defined the issues and challenges associated with freer trade for the advanced technology sector. Participants then assembled in three workshops to address the implications of freer trade in relation to international market trends and characteristics; the removal of barriers to trade (particularly NTB's in the Canada-U.S. context); and, the longer term ability of Canada to attract investment in research, development and the commercial production of advanced technology products and services.

ISSUE DEFINITION

The keynote talks concentrated on the growing trade deficit in advanced technology products (an estimated $12.5 billion*), along with Canada's relatively poor performance in the area of R&D. The view was held that a continuation of past trends would see Canada slip in the rankings of economically advanced countries.

*(Note: Estimates are based on Statistics Canada methodology for reporting import/export figures. That methodology is being reviewed by the Department of Regional Industrial Expansion in cooperation with CBEMA and the Institute for Research on Public Policy. CATA attaches considerable importance to the development of an accurate information base for the advanced technology sector.

The need for Canada's advanced technology community to make its position known with respect to freer trade and the many issues addressed therein was emphasized. Concern was expressed that the forthcoming bilateral and multilateral trade talks will be dominated by traditional, economic sector interests rather than the interests and views of industrial sectors that will be expected to contribute proportionately more to Canada's future economic growth.

WORKSHOP REPORTS

1. Industry Characteristics and Trends

It was felt that freer trade will make it even more imperative that Canadian industry be responsive to market characteristics and trends, including the rapid pace of technological change.

Features of the Canadian Industry and Market

- $12.5 billion deficit and growing
- generally open access to domestic markets
- restrictions affect market access of several products and services
- small, domestic market requires an export orientation (particularly to the U.S. market)
- companies organized to exploit niche markets
- increasing number of joint ventures to secure market access
- Canadian sector marked by competition rather than co-operation among Canadian firms for market opportunities.

International Market Trends

- increased integration of technologies, (i.e. horizontal markets)
- custom/customer designed technology more prevalent
- markets "automating" to maximize use of technology and information

- industry standards as a key to future market definition and opportunity
- technology is expanding and differentiating markets across all economic sectors
- marketing strength and responsiveness determines success as opposed to production orientation or technological capability
- Newly Industrialized Countries are growing in importance; the timeframes to establish advanced technology supply capability are shortening and the role of technology transfer is increasing
- coordinated national strategies are driving technological innovation (i.e. linking industry, government and university resources to create critical mass of effort in strategic R&D in order to derive national advantage in downstream markets)
- barter trade becoming more prevalent

2. Existing Barriers to Trade

There was a tendency to focus on Canada/U.S. relations. The consensus was that there are more constraints to trade on the U.S. side and that Canada has more to gain than the U.S. from dismantling these protectionist barriers.

"Examples of U.S. NTB's"

- barriers to the movement of people back and forth across the border
- countervailing duties and cumbersome adjudication processes, particularly in the context of protectionist sentiment in the U.S.
- "Buy America Act"
- congressional/regional concerns for job protection
- small business and minority set asides
- security regulations (e.g. COCOM) and security clearances required to access critical technologies
- surface transportation act
- restrictive requirements for communications and other licences
- standards, as a major area of concern notably for newer technologies not yet identified or classified in customs codes in Canada/U.S. trade and the newly adopted Harmonized System (HS) of tariff classification (e.g. advanced materials, biotechnology, etc.).*
- emerging trend towards protection of intellectual property rights/constraints on technology transfer.

*
(Note: Standards vary in relation to health and quality assurance requirements for products being exported. The U.S. is the leading source of new standards for most advanced technology products.)

"Canadian Barriers to Trade"

- interprovincial trade impediments
- custom regulations re bringing equipment back into Canada for servicing
- immigration and other policies that hinder movement of people across borders
- "negative" attitude to technology capability
- application of COCOM and other U.S. security regulations more demanding in Canada
- communications regulations with respect to the transfer of information
- "Think Canadian" program
- government procurement (federal-provincial preferences/major projects)
- Canadian Standards Association/Underwriters Laboratories activities
- higher mail and communications (satellite particularly) rates in Canada

"Multilateral Constraints"

- LDC's requirements for offset purchases, technology transfer agreements or counter-trade
- Europe and Japan: standards; EEC is a second level barrier; otherwise constraints are similar to the U.S.

The effects of moving towards freer trade will eliminate many, but not all, of these barriers (e.g. military and security concerns will be difficult to remove).

3. Investment Incentives (Why do R&D or Invest in Commercial Production in Canada)

The workshops identified a broad range of reasons for investing in R&D and technological innovation in Canada. These include government procurement, joint venture arrangements, the ability to launch products in the resource sectors, historical factors, convenience, availability of skilled people, quality of life, competitive investment incentives, and political stability. Offsetting factors include higher risk/reward ratios, a more conservative investment community, and the absence of both a strong technology "culture" and entrepreneurial instincts among the general population. As well, the advanced technology community in Canada is already subject to pressures to locate at least some R&D and production closer to major markets, notably in the U.S.

It is not entirely clear if this latter trend is a response to U.S. protectionist sentiment or if it reflects cost factors and the benefits of being more effectively integrated into larger R&D centres.

On balance, it was felt there is now no special advantage offered by existing investment incentives and the availability of capital and human resources in Canada.

The effects of freer trade would eliminate the existence of protectionist biases in the U.S. that encourage otherwise unwarranted investment south of the border. At the same time, however, it could weaken some Canadian government-provided investment incentives, while opening up Canadian investment decision-making more fully to the pull of major market areas.

"Areas of Concern"

- need to maintain relative appeal of Canadian investment incentives, particularly for R&D
- high tech industry cannot be built on protectionist factors: investment decisions must reflect market realities
- companies now producing in Canada only for the domestic market will be under intense pressure if freer trade is negotiated
- appropriate safeguards and adjustment timeframes required for strategic sectors and segments of the market
- governments will lose leverage on non-rationalized MNE's to encourage expansion of investment activity in Canada. For rationalized MNE's, free trade may enhance their ability to conduct R&D and build production capability

GENERAL CONCLUSIONS

- There was a consensus to support "freer trade" negotiations, albeit with appropriate safeguards, adjustment mechanisms and timeframes. Companies considered "freer trade" pivotal to the growth of international markets for advanced technology and that this will increase opportunities for Canadian companies. There was a general feeling that most Canadian companies would be able to compete successfully in a more open market environment.
- Notwithstanding, there was opinion expressed that Canada must be careful to protect existing advantages. With freer trade, there will be pressures for corporate amalgamations. Exchange rate, labour and transportation charges could influence investment location decisions significantly.

- Providing equal access to Canadian government procurement could affect the competitiveness of certain Canadian firms. While the use of Canadian government procurement policy to foster Canadian-based technology development was regarded by some

participants as critical to commercial success in emerging technology fields, it was stressed that improved access to U.S. government markets could increase this market area tenfold.

- The workshops were not able to adequately judge the possible effects of freer trade on Canada's balance of trade. However, the probability is that access to larger and more rapidly growing international markets will be of greater benefit to Canadian industry than any losses that may accrue to companies not now competing internationally.

- Similarly, it was felt that the implications for longer term investment in R&D and commercial production in Canada would be at worst neutral, with most participants tending to think that overall, private sector research and investment in Canada would be stimulated.

- There is a need to negotiate freer trade arrangements in the context of a more coherent national technology and trade strategy. Freer trade will be of most benefit to countries that are relatively more sophisticated in the development and use of technology. There are signs that Canada is slipping behind the world's technology leaders. Thus, for Canada to reap the full benefits of freer trade, the nation, as a whole, must become more technology driven. This will require closer links and increased cooperation between government, industry, academia and labour.

- There is a particular challenge facing almost all small and medium-sized companies with respect to upgrading their market development and sales capabilities.

- There are a lot of unanswered questions with respect to the implications of freer trade for emerging technologies (e.g. advanced materials, advanced manufacturing equipment, biotechnology, etc).

- There was general concern that the attitude and mind set brought to bear on trade negotiations will inadequately reflect the interests of high technology industries.

RECOMMENDATIONS

1. Given the strategic importance of science and technology based industries in Canada's economic future, a separate SAGIT should be established for the advanced technology sector. Present SAGIT groupings should also include increased representation from the high tech community. A research budget should be allocated to each of the SAGIT groups.

2. Commercial Officers

   Industry input should be sought in the designation and geographic locations of the trade counsellor service. Political-social reporting should be converted to business-economics reporting.

3. Co-Ordination of Data Banks

Existing information and data systems need to be co-ordinated in order to provide information on export market opportunities in a cost effective and expeditious way.

4. Public Awareness and Image

A consistent, unified and positive image of Canadian high technology, as a world class competitor, needs to be promoted abroad.

U.S. press briefing through the offices of External Affairs, promotional programs using exports awards, and the designation of "high tech weeks" should be supported fully.

5. Linkages

Co-operation between Canadian companies is essential to exploit market opportunity. To this end, information exchange and technology awareness need to be encouraged by, for example, national trade associations and government. The initiative of the Canadian Advanced Technology and Mining Associations exemplifies the benefits of such an approach to develop markets for high technology in the resource sector (May 7,8, 1986 in Sudbury). These efforts should be extended to Transportation and other key sectors.

6. Tariff and Non-Tariff Barriers

A strong organized effort should continue to press for improved and more secure access for Canadian high tech equipment, services and processes, including the removal or reduction of non-tariff barriers bilaterally and through the GATT.

- COCOM rules should be opened and reviewed more frequently because of rapid changes in technology.

- the flow of service personnel and equipment should not be hindered in any way.

- open and early access to bidding information, including non-classified technical conferences is essential to market development.

- the relaxation of national security restrictions, and encouragement to open access to DoD procurement and R&D contracts should be sought.

7. Domestic Business Climate

The definition of research should be interpreted more broadly to include innovation or industrial R&D. Canada should ensure that government will still be able to support the incubation of Canadian technology.

PROGRAM AGENDA

AGENDA

LEADING THE COMPETITION

Skyline Hotel, Ottawa, 25 March 1986

08:00	**Registration & Coffee**	(Convention Level Lobby)
09:25	**Purpose of the Forum**	(La Chaudiere Room)
	Michael Potter President, Cognos Inc.	
09:30	**Minister's Remarks**	
	Hon. Frank Oberle Minister of State for Science & Technology	
09:45	**Overview - Key Issues and Concerns**	
	Moderator: Roy M. Woodbridge President, Canadian Advanced Technology Association	
	Speakers: Stuart Smith Chairman, Science Council of Canada	
	Dwayne Wright Senior Advisor and Coordinator, Trade Advisory Secretariat Department of External Affairs	
	Bill Hutchison President, William G. Hutchison & Company Ltd.	
10:30	**Question Period & Coffee**	
11:00	**Minister's Remarks**	
	Hon. James Kelleher Minister of State for International Trade	
12:00	**Luncheon**	(Stop 26)
	Working groups assigned.	
01:15	**Concurrent Working Groups**	(Laurentian, York & Seigniory)
	Participants meet in smaller groups to discuss issues raised in the presentations and themes described in the source book. The objective is the development of a briefing note on the technology dimension of international trade.	
04:00	**Coffee**	(Convention Level Lobby)
04:15	**Plenary and Closing**	(La Chaudiere Room)
	Workshop spokespersons present reports.	

BACKGROUND PAPERS AND NOTES

NOTES FOR AN ADDRESS BY

THE HONOURABLE FRANK OBERLE

MINISTER OF STATE FOR SCIENCE AND TECHNOLOGY

Ladies and Gentlemen:

Welcome to the CATA Seminar on Canada - U.S. trade issues. I would like to congratulate the people who organized this seminar on our behalf. This occasion is a unique opportunity for the exchange of ideas and opinions between industry and government on the issue of free trade with the United States.

Canada faces an enormous challenge. The future of this country is being decided now, and that future depends on how we develop and manage science and technology over the next ten years.

Despite what you have read in recent media reports, I would like to assure you that the Mulroney government places the highest priority on research and development. Although we don't have a lot of money to throw at problems, we have come up with some innovative solutions for dealing with the issues that have plagued the S&T sector for years. Evidence shows modest success.

This government has put the emphasis back on the private sector, on the small, innovative firm that is the engine of industrial growth in Canada. We believe that the private sector is the best judge of what is best for business in this country.

Our biggest challenge is a high technology trade deficit that has soared from $1.5 billion in 1970 to $12 billion in 1984. This deficit is the worst among European Summit countries. Other indicators confirm this disturbing story. Canada's expenditures on industrial R&D ranked seventh in 1981 among OECD nations. We were eighth in terms of market share of OECD exports of R&D intensive products and that market share is slipping.

The resource-based industries - the economic backbone of our country - have seen their market share slip due to increasingly heavy competition from the large volume, low-labour cost approach of the newly-industrialized countries. Canada has been slow to adopt new technologies that will enhance our trade in agriculture, wood, fish and minerals.

Canada depends on trade more than most other OECD countries. For example, 27% of our products are exported, while Germany exports 28%. We can compare this to 14% for Japan and 21% for Great Britain. There has been much discussion lately about the merits of free trade versus protectionism. Basically, protectionism works in favour of those countries with something to protect. Canada, for example, has a very limited domestic market compared to the large, self-contained domestic market in the U.S. Thus, the Americans are motivated to try to protect their markets, while we Canadians are eager to penetrate those markets and to increase our share of them.

Free trade works in favour of nations with something to sell beyond their own limited markets. As Adam Smith said, the economic growth of a nation depends as much on its capacity to consume as it does on its ability to produce. And Canada does not have a large consumer market.

The prospect of enhanced Canada - U.S. trade offers us enormous potential for growth, and yet at the same time poses questions that must be resolved as soon as possible. We know that industry wants 'secure access' to U.S. markets. Some of the firms in your sector export up to 90% of their products to the U.S. 'Secure access' is essential to their survival. We also know that tariff barriers no longer concern your industry as much as non-tariff barriers do. We are here today to learn which of these non-tariff barriers are the worst obstacles, and to work out solutions to deal with them.

Of course, Canada faces challenges in the form of non-tariff barriers that cannot be resolved through discussion. Many non-tariff barriers are the result of intangible and entrenched attitudes. For example, our U.S. neighbours are proudly nationalistic, and usually prefer to 'Buy American' if it is a choice between two products of equal value. This is a challenge to Canada to work at changing that attitude and to come up with superior products that will leave no room for choice.

We also face difficulties in the area of institutional procurement. Many of you here today are trying to penetrate the U.S. market for defence goods, and some of you may have been frustrated by rigid non-tariff barriers and regulations. I would like to know what your problems are in this respect and your ideas on what we in government can do in our trade talks with the U.S. to abolish these barriers.

I see great opportunities for Canada in trading with the U.S. We have developed expertise in many unique areas, and must work to secure these 'niche' markets. I also see many areas of strategic importance to Canada where we have not developed an expertise. This is hurting us.

This country's rich resource base is the envy of many countries, and yet to a great extent we've ignored the strategic technologies needed to manage these resources. Canadians are resourceful and innovative, but we have not profited fully from the opportunities we were blessed with. Instead - even though we are the biggest wood producer in the world - we import whole saw mills because we do not manufacture them here. We import mining equipment to tap some of the world's richest mineral deposits.

I am thinking here of how poorly or irresponsibly we have managed our resources. How little attention we paid bending our technologies to help us manage better and develop industrial technology. One thing is certain. We don't need freer trade with the United States to sell our natural resources - our forest products and minerals. Instead, we need to enhance our trade opportunities in the manufacturing sectors. While it is so important for us to compete effectively in pure high-tech products with Japan and the United States, it is equally important to begin developing more technology-enhanced products, to give a value-added component to our mineral and forest products and to open up market niches for ourselves in these areas.

With a $12 billion high technology trade deficit, we should perhaps concentrate some of our energy on looking after our domestic market and enhancing our natural resource products. In this way, we might not find ourselves in as much of a head-on competition in high tech consumer products with the U.S. and Japan.

The philosophy of the federal government on the question of free trade follows the same lines we have proposed since we took office. Our main thrust has been to reorient the federal machinery to increase private sector investment and influence in the Canadian economy.

The Federal budget was notable because it addressed two urgent priorities. It took a hard look at the deficit and introduced measures to eliminate it. At the same time, it is increasing the private sector's influence in the economy and in the way government spends its R&D dollars.

The budget restored a very important principle that was first introduced by the Conservative government in 1979. It has established guaranteed funding to the university research granting councils over the next five years. In addition to stabilizing the granting councils' base budgets, we have introduced a new element which gives the private sector major influence over research conducted in the universities.

Three principles:

- stability in funding
- university-private sector linkage,
- instant diffusion of technology.

I have asked Canadian industry to commit itself to $370 million of university funding over the next five years. The full participation of the private sector would result in an increase of more than $1 billion in total resources available to the councils over the balance of this decade.

The government has set the policy framework which is built on important linkages between industry, the universities and government. It's now up to industry to act on that. The federal government is prepared to match, on a dollar for dollar basis, incremental private sector contributions up to six percent of each council's budget in the previous year. The councils need industry's commitment and investment if the five-year funding formula is to succeed.

The message I want to leave with you today is that the only way Canada is going to succeed is if we work together. Over the short-term, this means we are all going to have to put a little more in than we take out. That's basically the bottom line.

We have to as governments balance what we do for business with the other priorities we have. But just as you criticize us when we goof off - publicly - it would not hurt if you also spoke out publicly if you feel we are on the right track.

I would like to thank all of you for taking time out of your busy schedules to come here to give us your advice on the Canada-U.S. trade issue. This government is committed to consultation with the private sector. We need your ideas; we need to know about your problems and about how you think we can help solve them.

We are here today to explore ways of improving our access to foreign markets. One possibility you may wish to consider has been used effectively in Japan and some European countries. It involves encouraging joint ventures between groups of companies, possibly even including some foreign companies as partners, to do research and development.

- immigration laws
- patent act
- constraints on the venture capital market
- structural problems in securing HQ persons
- government procurement.

I hope you will take with you today the feeling that you have met with your partners instead of your adversaries. We are here to work with you to realize Canada's potential to the fullest. Free trade talks are about to begin and we want to know what your concerns are and what you think we can do to help. Again, thank you for coming. I know that this exercise will profit all of us.

NOTES FOR AN ADDRESS BY

THE HONOURABLE JAMES KELLEHER

MINISTER FOR INTERNATIONAL TRADE

Thank you, Mr. Chairman. I can assure you that it is my pleasure to be here.

I think what you'd like to hear from me this morning is an update on our two sets of trade negotiations -- with the U.S. and with GATT -- and an attempt to put these negotiations in the context of advanced technology and science. So that's what I'm going to give you.

First, the update. These two sets of negotiations are complementary in nature, and the structure we have put in place to conduct them reflects this fact.

As you know, the Prime Minister has given Simon Reisman overall responsibility for both negotiations and Ambassador Reisman has established a single Trade Negotiations Office to prepare both exercises. This makes good sense, because most of the data and analysis that is being assembled, and much of the consultative process with the provinces and the private sector, will apply to both negotiations.

I can also tell you that we have gone to considerable pains to assure that all interested constituencies in Canada -- and that means the private sector and the provinces -- will have every opportunity to make their views known as the negotiations proceed.

In our opinion, your active input is essential to the success of this exercise. We want a continuing two-way information flow with the private sector, and we have established a permanent consultative mechanism to make sure we get it. There are really two mechanisms. One is the International Trade Advisory Committee (or ITAC) headed by Walter Light, and the other is the various Sectoral Advisory Groups on International Trade (the SAGITS). Their formation, by the way, is unprecedented in the history of Canadian international trade negotiations. We have consulted CATA on the membership of the sectoral committees on Communications and Computer Equipment and Services and on Automobiles and Aerospace. I believe Duane Wright has already spoken to you about this.

We are also working closely with the provinces. Work is continuing on the development of a common data base, as was agreed at the Fist Ministers Conference in Halifax last year. Provincial officials are making their views and concerns known on an ongoing basis at meetings of the Continuing Committee on Trade Negotiations. And federal Ministers are holding further consultations with our provincial colleagues on the nature and modalities of provincial participation in the negotiating process.

There has also been forward movement on the U.S. side. The Congressional committees responsible for international trade must act within one month if they intend to reject President Reagan's proposal to enter into negotiations. If the committees take no action, the White House will have the mandate it needs to go ahead.

The indications are that it's going to get that mandate. Neither the House nor the Senate has called for hearings on this issue and it appears unlikely that they will. Instead, both committees have asked for written comments. The White House, and many influential Congressmen as well, want a "clean start" to these negotiations -- that is, no reservations and no pre-conditions.

So, if all goes as expected, preliminary discussions on the negotiating agenda should open within the next two months, and serious bargaining will get underway this fall.

In the meantime, we are also preparing for the upcoming GATT round of multilateral negotiations. That will probably also start in the fall.

So much for the process.. Let's turn to how the negotiations might affect science and technology. I have heard from time to time certain criticisms of this government's performance in Science and Technology, especially in its support of R&D. I know that my colleague, Frank Oberle, can quote chapter and verse much better than I, but let me mention just one of the programs that demonstrate this government's commitment -- not just to R&D but to the kind of R&D that reflects the title of this Forum, "Leading the Competition".

I'm sure you are aware that Canada has recently committed itself to spending some $800 million on our participation in the U.S. Space Station project. We will, with some of the companies present here, be developing a crucial part of the Space Station -- the Mobile Servicing Centre. It is our expectation that the development of the robotics and artificial intelligence technologies required will have major spin-offs in other sectors, that the payback will far exceed the investment.

On the more specific issue of technology and trade, let me phrase my comments in the form of questions -- to which we in the government don't pretend to have all the answers. It is because we don't that forums like this are so important.

We see these trade negotiations as an opportunity, not a threat, and this is particularly true in the high tech sectors, where we now have a 12 billion dollar deficit.

At the most general level the question is what, in your view, are the main barriers to Canadian high tech firms doing business in the United States? I'm not talking about the barriers that generally apply to exports of Canadian manufactured products, although these should be identified to help us decide whether to tackle them sector by sector or on an across the board basis. What I am asking about are the unique barriers that confront the high tech sector.

One issue that comes to mind is the Buy America policies that exist both at the federal and state level. On the other side of the coin are our own government procurement policies, at both federal and provincial levels. Where do you, the participants in this forum, think the balance of our interest lies?

Another crucial question relates to R&D. Will more open borders increase Canadian industry's investment in R&D to develop new products and services? I think it will, but opinions are divided. There are those who think R&D will move even more strongly south of the border. What are your views?

A third question relates to Canada's access to technology. For obvious reasons, we account for less than three percent of the world research effort. We are over 90% dependent on technology developed elsewhere. What barriers do we face to accessing the technology -- the knowledge required to keep us at the leading edge? What I want to know is if you have been denied access to technology for other than legitimate business reasons -- and what if any solutions you see to these situations?

Many of you are aware of the restrictions the U.S. has placed on

access to unclassified strategic technologies. My Government has already taken steps to reduce their impact on Canadian industry.

In December of last year, a Memorandum of Understanding concerning Strategic Technology Exchange was established between the two governments. This M.O.U. is intended to facilitate access by contractors of both countries to the unclassified strategic technical data held by the two defence departments. Canada and the United States also pledged to establish effective and appropriate controls on such data. In pursuit of the MOU's objectives, Technical Data Control Regulations have been drafted under the Defence Production Act. The regulations will provide a means to certify Canadian contractors so that they can become eligible to receive strategic technical data.

The U.S. Department of Defense has also identified 15 specific categories of unclassified strategic technical data which will enjoy special safeguards with regard to their disclosure or dissemination. With regard to these special measures, the U.S. will take its first step by establishing a "VHSIC Technology Security Program". Vee-Sic, by the way, means "Very High Speed Integrated Circuits". As soon as the U.S. finalizes its program, my department in collaboration with others will consider introducing a similar program in Canada, as envisaged in the MOU.

We will be extremely interested to receive your response on the actual effect these measures have on your access to DOD technology. What are your views on taking a similar approach to other strategic technologies which will enjoy special safeguards in the U.S.? Should we include among the objectives of the trade negotiations improved access to classified technologies by seeking changes in U.S. National Disclosure Policy? Finally, does our current strategy for obtaining access to unclassified DOD technologies -- obtaining access in exchange for implementing appropriate controls -- does this strategy have disadvantages over the long term?

I know I have come to you this morning with more questions than answers, but there are times when questions are more appropriate. This is a government that listens to its constituents, and I don't think I have to tell you that advanced technology is a constituency we're depending on for the future of Canada.

Thank you.

BACKGROUND PAPER FOR

DWAYNE WRIGHT

TRADE ADVISOR AND COORDINATOR

TRADE ADVISORY COMMITTEE SECRETARIAT

DEPARTMENT OF EXTERNAL AFFAIRS

DEPARTMENT OF EXTERNAL AFFAIRS
MINISTÈRE DES AFFAIRES EXTÉRIEURES

communiqué

N°:
No.: 21

February 3, 1986.

MINISTER FOR INTERNATIONAL TRADE ANNOUNCES THE FORMATION OF THE SECTORAL ADVISORY GROUPS AND INTERNATIONAL TRADE (SAGIT)

The Minister for International Trade, James Kelleher, announced today the formation of 14 Sectoral Advisory Groups on International Trade (SAGIT). The SAGIT will complement the work of the International Trade Advisory Committee (ITAC), chaired by Mr. Walter Light, which Mr. Kelleher announced on January 9. The first meeting of ITAC took place in Ottawa, on January 21.

In announcing the SAGIT, Mr. Kelleher said, "These groups will be extremely important to the government in providing a sectoral viewpoint on all trade matters and in particular on upcoming trade

.../2

Canada

negotiations". Mr. Kelleher indicated that this structure is not cast in stone and that he expects, in light of experience and in consultation with the chairpersons and others, to find that adjustments to this structure may be required in order to ensure adequate representation of views from all sectors.

As with ITAC, the SAGIT will report to the Minister for International Trade, James Kelleher.

The chairpersons and members of the SAGIT will be appointed in the next few weeks following consultations with the provinces and the private sector.

Attached are:

- List of the Sectoral Advisory Groups on International Trade (SAGIT)
- Background information on the international trade advisory committee system

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For further information, please contact:

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SECTORAL ADVISORY GROUPS ON INTERNATIONAL TRADE

Agriculture, Food and Beverage

Fish and Fish Products

Mining and Metals

Energy Products and Services

Chemicals, Petrochemicals, Plastics and Rubber

Forest Products

Industrial, Marine and Rail Equipment

Automotive and Aerospace

Textiles, Clothing, Footwear and Leather

Consumer and Household Products

Communications, Computer Equipment and Services

Financial Services

General Services

Information, Arts and Entertainment Industries

INTERNATIONAL TRADE ADVISORY STRUCTURE

The role of the system is to provide a two-way flow of information and advice between the government and the private sector on international trade matters. The advisory committee system will address international trade access and marketing issues, relating to both multilateral and bilateral trade matters. It will be called upon to advise the government on Canadian objectives, priorities and strategies for multilateral and bilateral trade policy issues and negotiations. In addition, it will be asked to assess the impact of international trade negotiations and developments.

The international trade advisory structure has two components. The International Trade Advisory Committee (ITAC) will deal with broad national issues relating to international trade access and marketing matters. It is made up of prominent members of the business, labour, consumer, academic, research and cultural communities. The members of ITAC serve in their individual capacities, not as representatives of specific entities or interest groups. The ITAC is chaired by Mr. Walter Light, Chairman of the Executive Committee of Northern Telecom Ltd.

The other component will consist of 14 Sectoral Advisory Groups on International Trade (SAGIT). The size and composition of each group will depend upon the individual sector. The SAGIT will interact with the Government to ensure sectoral views are fully taken into account in international trade matters. The Sectoral Advisory Groups will be expected to be the depository of expertise and knowledge in their respective sectors, as well as on trade matters, and the participants will be expected to provide advice as representatives of their sectors or interests.

The advisory committee system will play a vital role in the Canada/United States initiative as well as the up-coming GATT multilateral trade negotiations. The ITAC and SAGIT will work closely with Mr. Simon Reisman the Ambassador and Chairman of the Preparatory Committee for the Trade Negotiations. The ITAC and SAGIT will report to the Minister for International Trade, James Kelleher.

BACKGROUND PAPER FOR

STUART SMITH, CHAIRMAN

SCIENCE COUNCIL OF CANADA

(excerpt "Placing Technology up Front: Advising the Bilateral Trade Negotiators, A Statement by the Science Council of Canada, April 1986)

THE UNITED STATES CHALLENGE

The challenge of economic renewal in the United States is widely viewed as how to use advanced technologies to revitalize older industries and to promote growth in emerging and entirely new industries. A strong conviction has emerged that American industry will increasingly depend on technological leadership as its primary source of competitive advantage.

To meet national needs, federal support for R&D in fundamental science, national defence, and space exploration has remained paramount; at the same time, state-level leadership and initiatives for technological innovation have advanced by leaps and bounds since the early 1980s.

The United States, in response to the new national consensus that industrial competitiveness is crucial to domestic social and economic well-being, has worked to restructure important relationships, such as the formation of new partnerships between business, government, and universities. R&D activities are the cornerstone of this cooperation between the public and private sectors, a form of government involvement that helps to shape the international comparative advantage of American firms.

Although the federal government's share of R&D financial support in the United States has declined since 1960, its total outlays have risen from $17 billion in 1974 to $51 billion in 1985, at which time R&D funding represented 6 per cent of the federal budget. About 55 per cent of all R&D in the United States is funded by the government, compared to 50 per cent in Canada. The bulk of this R&D is linked to defence.

Defence spending has grown to 65 per cent of federally funded R&D in 1984 (72 per cent, if NASA is included). In 1984, $32 billion of this federal research expenditure was employed for defence-related activities. In that year, 84 per cent of the research budget of the Department of Defense (DOD) was directed to industry, a much higher level than the 60 to 66 per cent common in the early 1980s.

Within the DOD budget, less than 10 per cent of the contracts are publicly advertised and 40 per cent are signed with companies that have a complete monopoly on the equipment. Negotiation occurs in 20 per cent of the cases in which companies have no competition. Some efforts are made to increase competition by inviting foreign companies, mostly British and Canadian, to bid. However, foreign companies are not allowed to bid on prime contracts. Canadian advanced technology companies are also denied access to SDI briefings.

The formation of new partnerships and the promotion of technological innovation have been especially active at the state level. Indeed, there have been so many initiatives that in 1984 the Office of Technology Assessment was unable to provide a comprehensive inventory. Some state programs are shadow programs of federal initiatives, such as the state Small Business Industrial Research programs designed to supplement the federal program. Since 1978 the states have invested an

estimated $450 million in R&D support programs.

Other initiatives for economic renewal, mainly those that help enterprising new and smaller firms, have also shifted to the individual states. These initiatives tend to link research and development, education and training, entrepreneurial development and small business innovation support into an overall, cohesive state strategy. Individual states have become pathfinders for new technology-oriented industrial policies.

CANADA'S R&D-INTENSIVE INDUSTRIES

Canada's approach to enhanced bilateral trade is viewed with mixed feelings by some Canadian industries. Among R&D-intensive industries, the mood is generally positive, and many expect that the benefits for these sectors will probably outweigh the costs, substantially so in some cases. Much depends, however, on what is negotiated.

Nearly half Canada's R&D personnel are in the communications, electrical, and chemical industries. For most computer, electronics, and telecommunications firms belonging to the Canadian Advanced Technology Association, market access has not generally been an insurmountable problem. Tariffs are not a significant issue. Nor do nontariff barriers prevent exports to the United States. Market development is a more significant issue for these industries.

Canada maintains nontariff barriers in telecommunications and data processing, and some firms fear that a bilateral pact might jeopardize jobs, particularly in the computer software industry. Any pact should also address issues such as the right to privacy of confidential data, extraterritorial judicial reach, and differences in copyright protection.

Another important issue is government procurement. Buy American provisions prevent some Canadian firms from selling to American state agencies. Other firms want to retain Canadian content provisions and protected access to domestic government procurement. Having their own government as a "reference" client enhances their credibility for export marketing endeavours.

In the Canadian chemical industry, the enthusiasm for enhanced bilateral trade with the United States is strongest among petrochemical firms. Their competitive potential, with world-scale plants, is currently constrained by high United States tariffs. The enthusiasm is more restrained among the inorganic chemical producers, many of which might face significant internal adjustment or lose some domestic customers. Enthusiasm is lowest among the small organic and specialty chemical firms. Some of them might not be able to continue operating under freer trade conditions, especially those that have obtained their technology under licence. On balance, however, the chemical industry, particularly the firms that carry out R&D in Canada, supports this bilateral initiative. By contrast, there is no apparent support for this initiative among United States chemical industry leaders. Indeed, a few emphatically oppose it. Their main concern is to ensure that Canadian policies relating to petrochemical feedstock supply and price do not prevent fair competition, and to remove discriminatory Canadian investment restrictions.

The Canadian aerospace industries, which account for about 10 per cent of the scientists and engineers engaged in Canadian manufacturing R&D, also, with some exceptions, support enhanced bilateral trade. The civil sector of this industry operates largely under free trade conditions now, although the effect of some nontariff barriers is difficult to specify. By far the main

nontariff barriers, however, are in the military sector. American competitors have, among other advantages, open access to bidding on defence contracts and greater R&D support (about 70 per cent of R&D costs versus 30 per cent in Canada). Moreover, the costs of their machinery are covered by DOD. Information access is a further source of advantage for American firms. Several United States government-sponsored computer information systems, including the NASA database on aeronautical research, are accessible only to United States users.

POLICY PRINCIPLES FOR THE BILATERAL NEGOTIATIONS

The Science Council of Canada recognizes that a wide variety of trade issues impinge on science and technology matters -- from government procurement, government-sponsored R&D programs, and information access to copyright provisions, trade and information flow restrictions on grounds of security, and restraints arising from standards and regulations. The Science Council of Canada recommends four policy principles that should guide bilateral negotiations.

A new industrial era is in its early stages, driven by an array of new and rapidly advancing technologies. The magnitude of technological change is probably without precedent in scope and potential impact. It is changing the performance and structure of national economies in many ways by enabling new industries and services to be created. In light of the potentials arising for new industries and the fragile nature of such budding ventures, the following principle should be incorporated as an article in the agreement.

1. The United States and Canadian governments should adopt measures, if they are deemed necessary, to protect and favour infant industries on a carefully defined temporary basis, after consultation and agreement by a joint committee of members from both countries.

There is a precedent for such an article in the agreement to establish a free trade area between the government of the United States and the government of Israel, a pact that went into effect on 1 September 1985.

Competitive advantages in knowledge- and R&D-intensive industries are established in every advanced industrial country with help from its government. In the United States, DOD is pre-eminent, but it is not alone in this effort. The government procurement budget in the United States is several times greater than the usual 10 to one comparison with Canada's. This difference primarily reflects the contrast in levels of procurement for defence. It may be very difficult for both federal governments to accord "national treatment" in government procurement to foreign companies. Canada must negotiate such treatment with the provinces. In the United States, federal government procurement is hedged around by laws such as the Buy American Act and the small business setasides, for which only American firms are eligible. However, genuine "national treatment" could be of enormous benefit to Canadian companies, opening up possible advanced technology markets far in excess of those currently reserved for Canadians via government policy.

An important factor in raising the technological capability of many American firms in the defence industries is the DOD-funded independent research and development that is proprietary to those firms. Unlike the United States, Canada does not have a defence-driven government procurement policy. Little use is made of government procurement to engineer competitive advantages,

which constrains the development of important knowledge-intensive industries. Canada needs mechanisms such as preferential government purchasing, research arrangements, and development grants. If the United States retains its own preferential systems for defence, Canada must retain the right to implement its own equivalent systems. Thus, in any agreement, the following principle should be accepted.

2. Either all United States and Canadian governments should allow "national treatment" to both United States and Canadian firms to bid on all government contracts, research awards, development assistance, etc.; or, to the extent that the United States accords preferential treatment to its own firms in defence, space, or any other technology area, Canada must be permitted to exercise a proportionately equivalent amount of preferential treatment, via Canadian nontariff barriers, in areas of its own choosing.

There has been much talk about "unfair" subsidies, particularly grants, in Canada. However, in the United States, defence contracts make up a substantial component of regional development support and much of the support for industry does not appear as direct budget outlays. In 1982, the United States sectors protected overtly by nontariff barriers, when weighted by each sector's share of total consumption in manufacturing, covered 34 per cent of the market for American manufacturers. The comparable figure in Canada was 10 per cent; in Japan, 7 per cent; in West Germany, 20 per cent, and in France, 32 per cent. Moreover, because of intense foreign competition, American industries have been propped up by government subsidies, special tax provisions, and subsidized loans and loan guarantees. In 1981, for instance, the overall rate of United States tax subsidies to business as a percentage of manufacturing fixed investment was 12.8 per cent. By 1982, tax expenditures benefiting American business, in the form of targeted tax credits, special depreciation allowances, and accelerated depreciation, totalled $222 billion. Government subsidized loans to business added another $7 billion. A further $8.7 billion was allocated for loan guarantees. Most of this, including all the tax expenditures, did not appear as direct outlays in the federal budget.

This support must be kept in mind when the negotiators discuss what constitutes a "fair playing field." Every country develops its own ways of dealing with problems and concerns. Canada's negotiators must be ready to assuage any American perceptions that deviations from American methods and approaches are unfair. Any agreement should recognize that a range of science, technology, and industrial policies may be implemented without calling forth antidumping and countervailing measures.

3. Both parties must develop a clear understanding of the range of science, technology, and industrial policy measures each government may take without risk of countervailing action.

Quick access to relevant information systems, data packages, and information briefings on government procurement requirements is important to the competitiveness of many advanced technology firms. Canada provides substantial funding to develop and promote such information systems, but not all relevant information is available in Canada. American expenditures on information systems are far greater, but in many cases accessibility is limited to United States users. Several Canadian companies have problems with information exchange and technology transfer from the United States, such as obtaining access to unclassified but sensitive data, to data packages classified as not for foreign eyes but required if firms are to be able to bid on contracts, to contractors' reports to NASA and DOD, and to restricted sessions held at meetings of American professional societies. In some cases access is possible, but only after negotiating tedious bureaucratic pathways, particularly when government-to-government transactions are required. Some firms have emphasized the difficulty of obtaining needed United States government documents and clearance from the Pentagon for on-site visits within the time allowed them for bidding on military classified contracts.

If Canadian companies, principally in the aerospace and electronics sectors, are to compete effectively with their American counterparts, they must have better access (preferably equitable access) to the technical information systems and data packages sponsored by the United States government. In any agreement, the following principle should be accepted.

4. Both countries should provide equal and mutually advantageous access to briefings and to government-sponsored scientific and technical information systems and packages to enable firms in both countries to respond promptly to government procurement opportunities.

NOTES FROM PRESENTATION BY WILLIAM G. HUTCHISON

CHAIRMAN
CATA NATIONAL ADVISORY COUNCIL

PRESIDENT
WILLIAM G. HUTCHISON & COMPANY LIMITED

- Absolutely imperative for industry, science, academia and government to reverse the downward trends in our international position in activity relating to the emerging technologies, commonly called high technology. It is a question of prosperity and ultimately of sovereignty.

- By way of observation and example, consider that thirty years ago New Zealand had the third highest standard of living in the world. Today they have the 70th highest standard. Their economy failed to adjust to changing times.

- We need to solve the "big problem". Trade will not be the only solution. Figure out how to use trade talks to help us.

- The purpose of my presentation is to highlight the issues for our forthcoming trade negotiations (refer to background charts).

- When looking forward, a historical perspective is often helpful. One hundred years ago the great debates in Canada were about a National Policy versus Reciprocity with the U.S. MacDonald won the day in favour of a National Policy. We later swung to Modified Reciprocity. As we enter the new debate on freer trade with the U.S. we should ask ourselves whether our relatively good economic strength in the first half of this century wasn't as a result of our strong foundation in electro-mechanical technology that grew from the National Policy and the enormous effort building the railroad and everything that went with it. What similar enormous effort do we see today, or should we see today to establish an economic base for tomorrow's information age and its foundation of micro electronic technology?

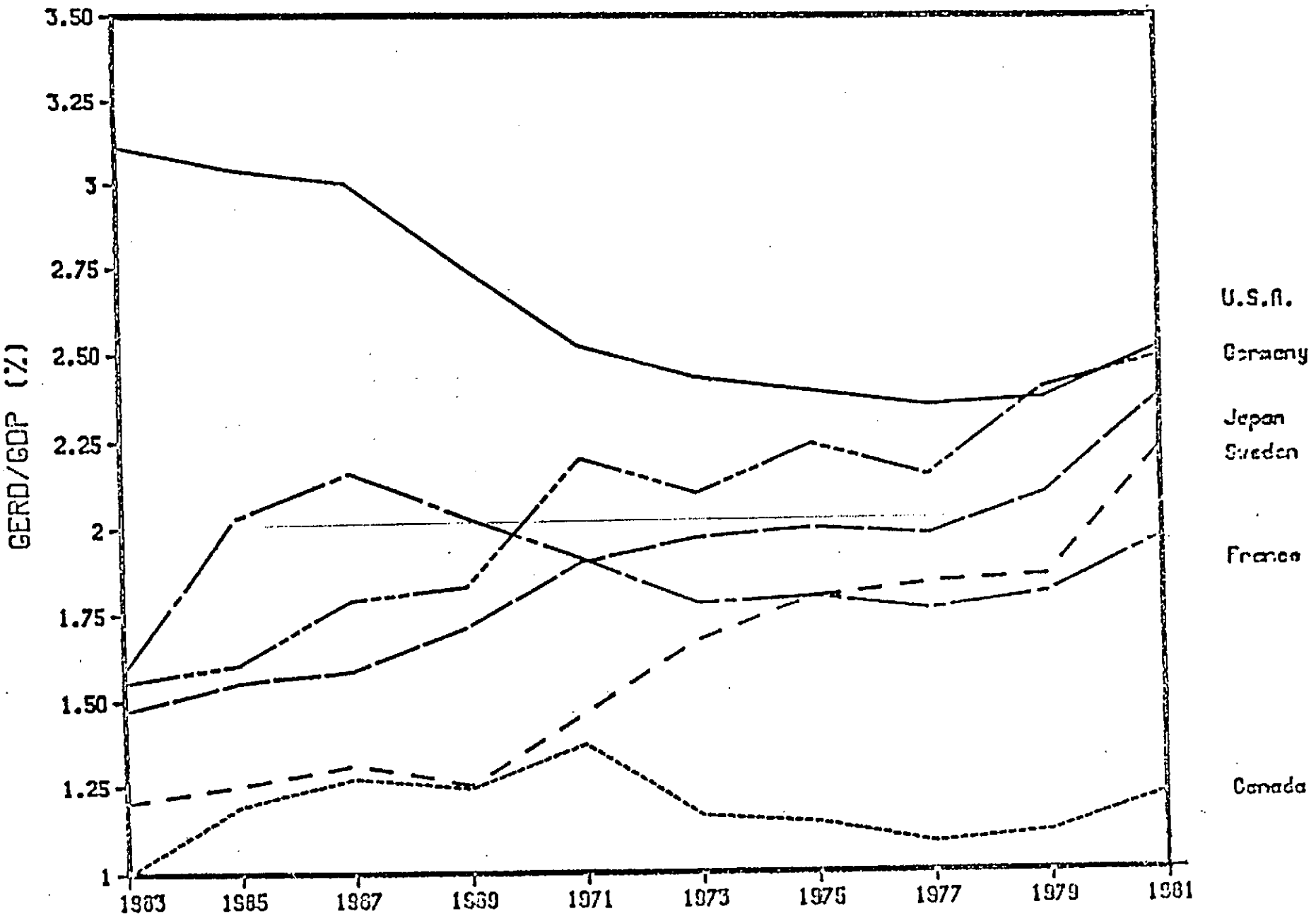
- Yesterday's technology was an extension of brawn, which was good for extracting natural resources. The new technology provides an extension of the brain. Which industries will predominate in this new age and what should we do now to assume that our children and grandchildren have a prosperous future.

The largest sector within high tech is in information technology. By 1995 the world wide software industry will be $90 billion and the entire information industry will be $375 billion.

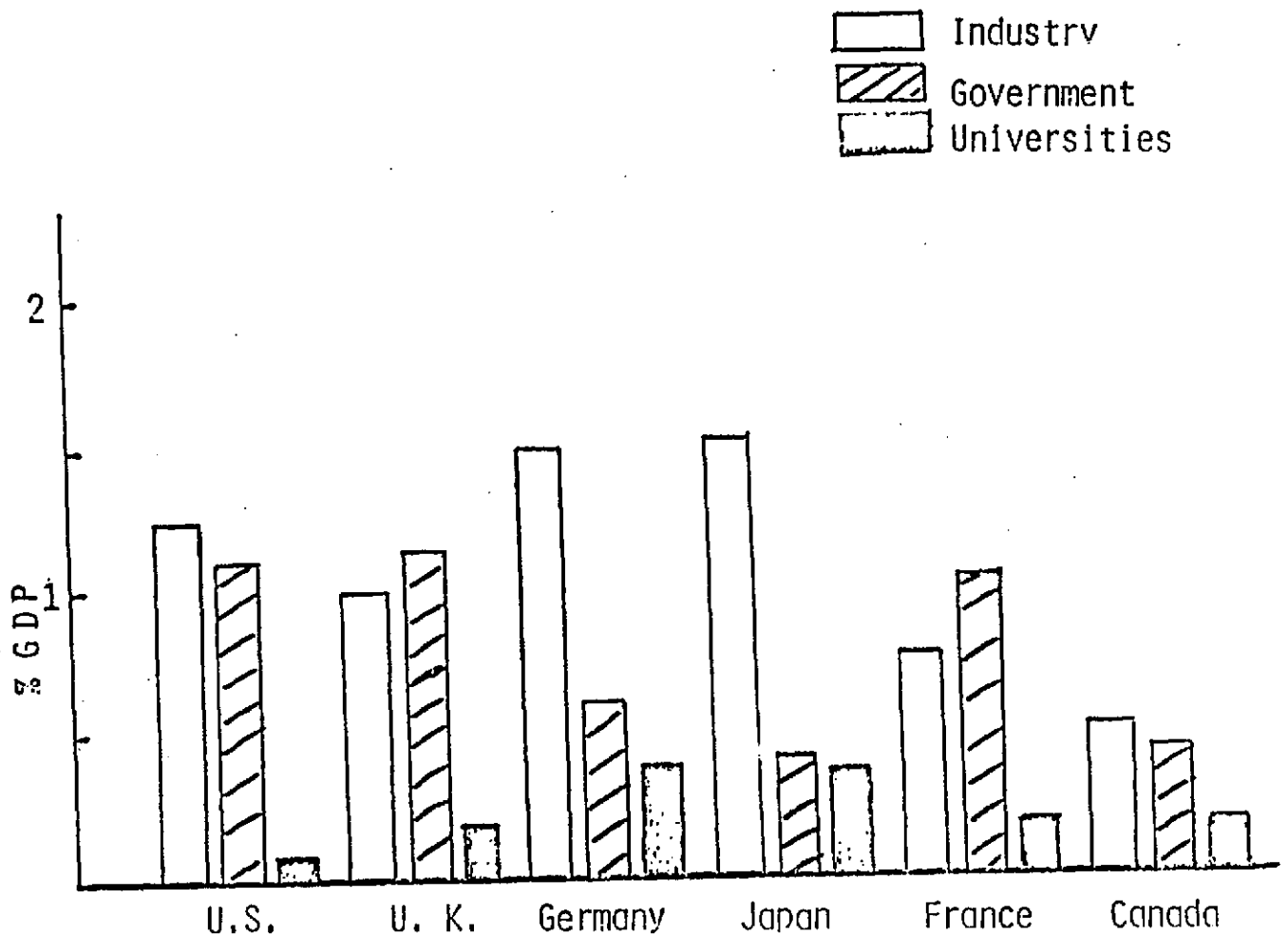
A recent survey reveals industry's ranking of issues and concerns, as well as critical success factor - (see charts).

To be a leader internationally Canada needs to double its R&D and production effort, as a basis for the creation of future employment opportunity.

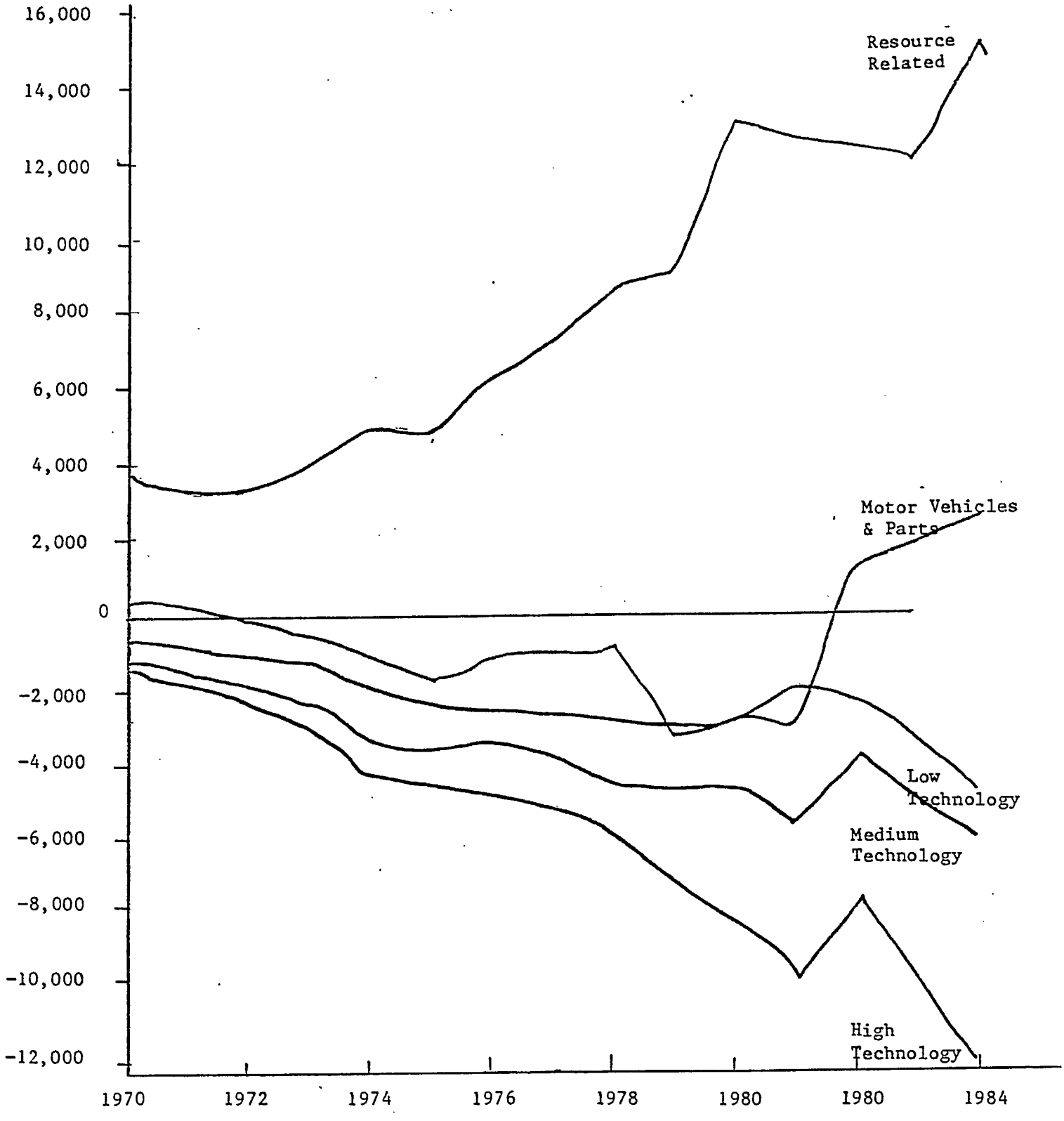
International R&D Comparisons



International Comparisons - R & D by source of Funds



Balance of Trade in Manufactured Products, By Technology Group ($000,000)



Source: Statistics Canada, Technology and Trade Statistics: Part 1

U.S. FREE TRADE IN HIGH TECHNOLOGY

OPPORTUNITIES:

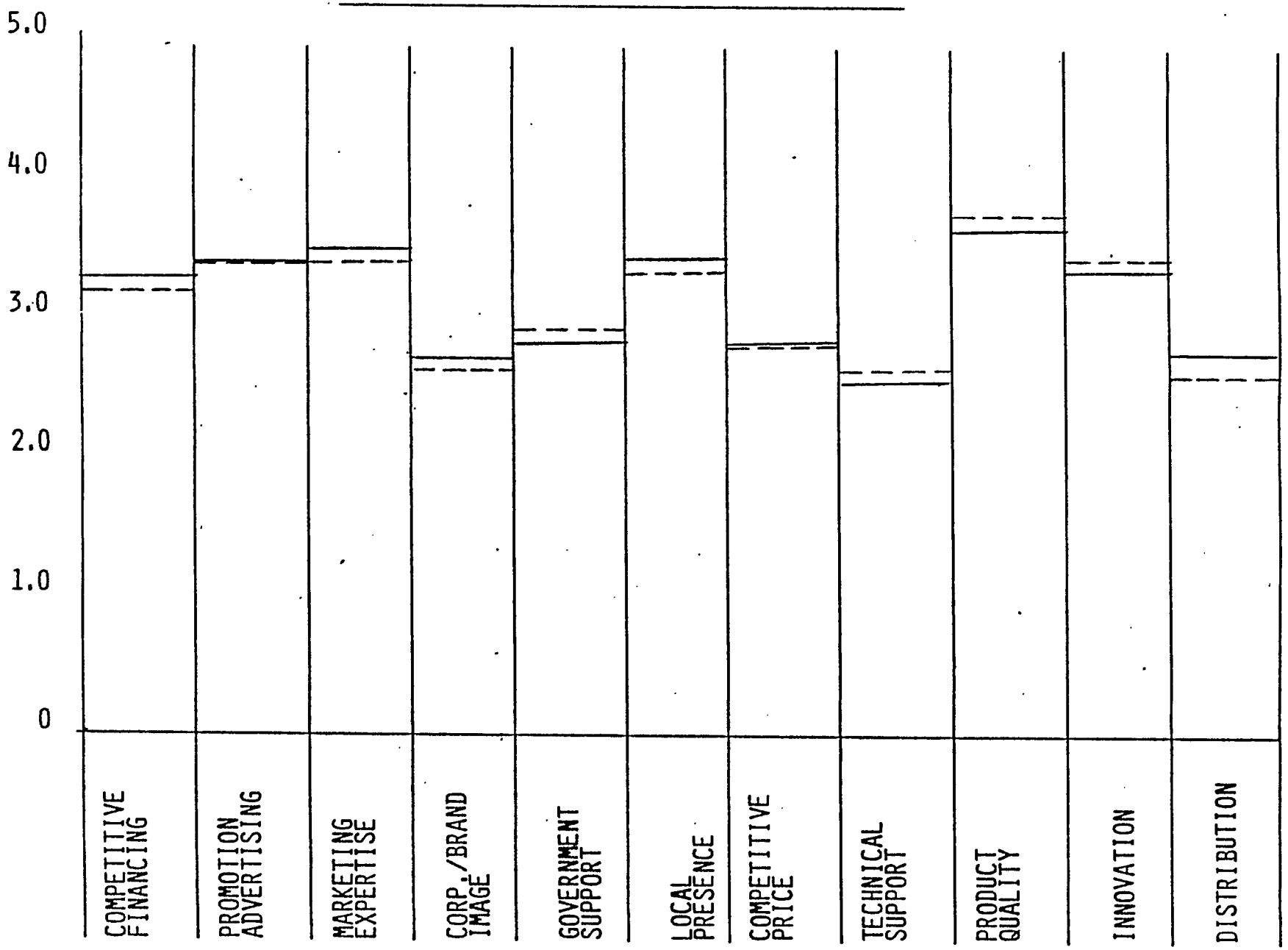
- IMPROVED DEFENSE AND GOVERNMENT BUSINESS ACCESS?
- CANADIAN BASED PRODUCTION COMMITMENTS?
- IMPROVED UNIVERSITY AND R&D CENTRE ACCESS TO U.S. FUNDING?
- LEVERAGE ON GATT NEGOTIATIONS?
- INCREASED JOBS, REDUCED DEFICIT?

RISKS:

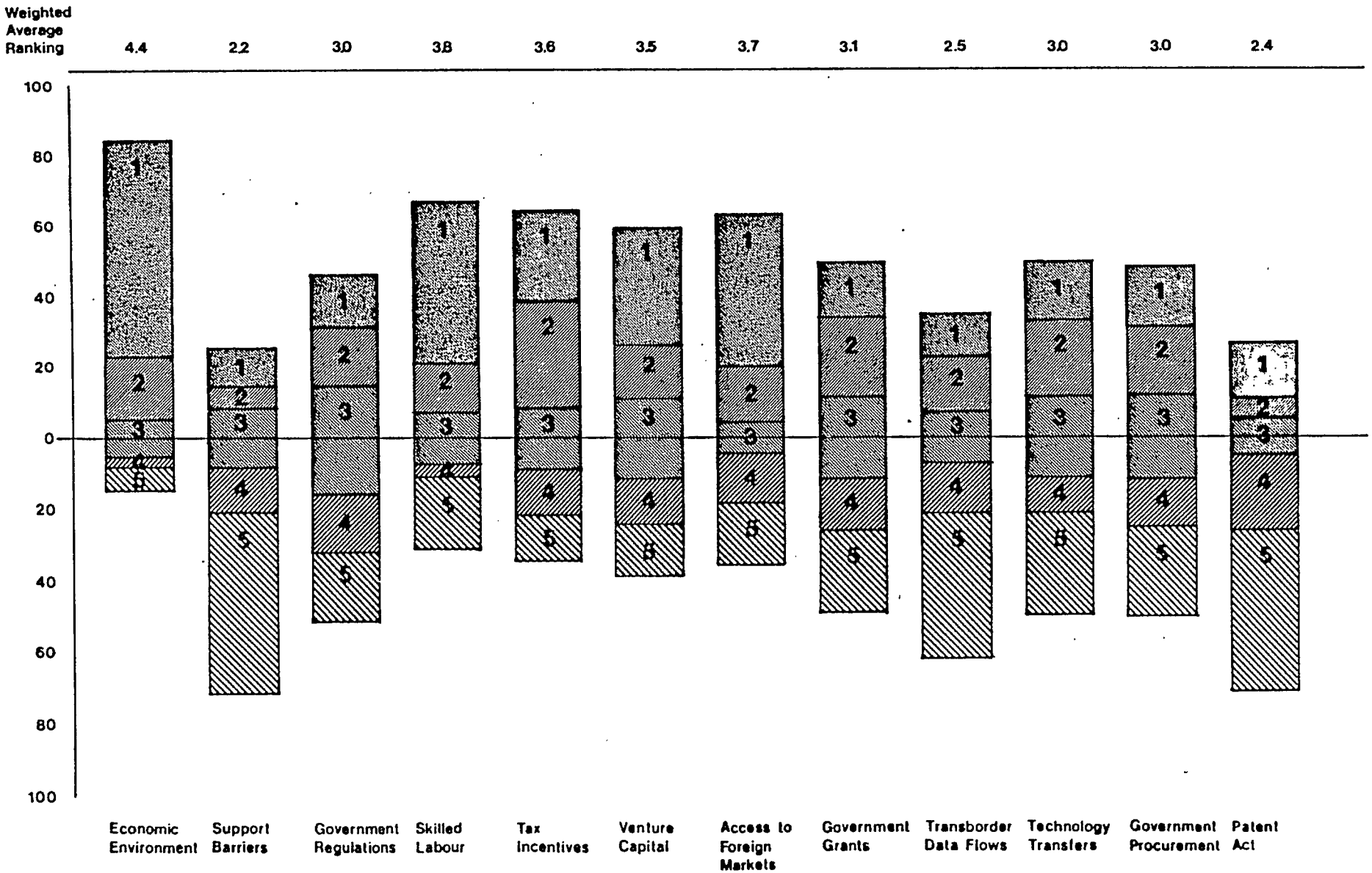
- LOSE CANADIAN 'NON TARIFF' BARRIER INCENTIVES?
- LOSE INCUBATION OPPORTUNITIES?
- LOSE LOW DOLLAR ADVANTAGE?
- REDUCED EFFORTS AT DEVELOPING CANADIAN BASE:
  - RISK OF FUTURE LOSS OF FREE TRADE LEAVING CANADA WITH NO HIGH TECH BASE?

CRITICAL SUCCESS FACTORS - EXPORT MARKETS

COMPUTER SYSTEMS SERVICES & SOFTWARE



RANKING OF ISSUES AND CONCERNS
COMPUTER SYSTEMS, SERVICE & SOFTWARE SECTOR



THE DOUBLE MULTIPLIER PROBLEM

TO BE A LEADER INTERNATIONALLY CANADA NEEDS -

R & D	$5 BILLION (PRESENT) TIMES 2
CANADIAN PRODUCTION	$28 BILLION (PRESENT) TIMES 2
JOBS	535,000 (PRESENT) TIMES 2

PRESS CLIPPINGS

High-tech firms finding near niches, far markets

BY KAREN HOWLETT
The Globe and Mail

Geac Computer Corp. Ltd. is one of many Ontario high-tech companies facing the stark reality that Canada alone cannot sustain its growth.

"It was export or perish," said Harry Porteous, a senior vice-president at Geac. About 35 or 40 companies in Canada are potential customers for the Markham, Ont.-based company's banking and library software systems, compared with 15,000 in the United States.

The recent corporate fortunes of Geac illustrate the peril. They have declined, largely because of heightened competition in the library market and the failure of two Canadian banks — customers for its software.

After compound annual profit growth of 68 per cent between 1979 and 1984, Geac posted a loss in its latest two quarters. For the three months ended Jan. 31, 1986, the loss was $2.1-million, compared with a profit of $2.3-million a year earlier. Revenue dropped to $15.4-million from $18.5-million.

This week, Geac announced that Charles Williams has stepped down as president. His replacement, William Beairsto, will make a stronger push into the U.S. market.

Another company, Linear Technology Inc. of Burlington, Ont., has captured more than half the specialized market worldwide designing silicon chips for hearing aids — a niche too small to interest the high-technology giants. Linear sells 95 per cent of its chips outside Canada.

Growth — and indeed, survival — for the high-technology sector in Ontario hinges on both niche markets and export sales. The sector is dominated by U.S.-based multinationals. About 85 per cent of high-technology production in Canada comes from foreign multinationals, said Roy Woodbridge, president of the Canadian Advanced Technology Association. However, 85 per cent of the registered companies in the country are Canadian-controlled.

THOMAS SZLUKOVENYI, The Globe and Mail

Smaller electronic chip makes it possible for hearing aid to fit inside ear canal instead of behind the ear.

While Mr. Woodbridge senses a greater feeling of optimism among CATA members, the nation's trade deficit in high-technology — which crept up to $12.5-billion in 1985 — is a major concern.

Ontario alone accounted for $6.5-billion of Canada's high-technology trade deficit in 1984 of $12.1-billion. That figure for Ontario has soared from $2.7-billion in 1979.

"The market penetration of Canadian companies is not proceeding rapidly enough to prevent our trade deficit in advanced technology products from growing at an alarming rate," said CATA in a letter last December to federal Finance Minister Michael Wilson.

CATA members — not surprisingly — favor freer trade with the United States. However, if Canada does not succeed in removing non-tariff barriers, it is better not to have freer trade, said William Hutchison, a CATA director and past chairman. Legislated protective measures in the United States restrict foreign defence companies from bidding on contracts.

So crucial is the international arena that CATA, which had restricted membership to Canadian-owned companies, recently opened its doors to subsidiaries of foreign multinationals. "We were flying in the face of those realities," Mr. Woodbridge said.

Half of CATA's 170 members are based in Ontario. And roughly 55 per cent of the 14,570 workers in computer-related companies in 1984 were employed in Ontario, said David Barrows, director, planning and priorities secretariat, Ministry of Industry and Trade.

Of the 47,627 employees across Canada in the telecommunications industry, 26,400 work in Ontario, according to the ministry. Northern Telecom Ltd. of Mississauga, Ont., whose 1985 profit was $376.8-million on revenue of $5.8-billion, is the biggest player.

It is Ontario's — and Canada's — sole world-class, high-technology company. The fact that it comprises 63 per cent of the total weighting among the 26 companies that make up the Toronto Stock Exchange high-technology index emphasizes its uniqueness.

By contrast, the remaining Canadian-owned companies are niche-oriented, satisfying specific markets for graphics terminals, integrated circuits and packaged software.

Some high-technology players in Ontario have been hurt by the persistent slump in the North American semiconductor industry, now beginning to show signs of a recovery. (The U.S. Semiconductor Industry Association has reported that new orders from U.S. plants are beginning to surpass shipments.)

Epitek International Inc. of Kanata, Ont., for example, which makes hybrid micro-electronic circuits that are affixed to semiconductor chips, posted a loss of $1.9-million on sales of $5.5-million in 1985. By comparison, profit a year earlier was $196,000 on sales of $7-million.

But the specialized circuits Linear makes have shielded it from the downturn in the semiconductor industry. Sales in 1985 increased to $12-million from $10.4-million a year earlier and profit to $2.6-million from $2.4-million. "By packing more circuitry on a smaller and smaller chip, we've had a substantial influence on moving the hearing aid from a behind-the-ear device to something small enough to tuck inside the ear canal," said president Douglas Barber.

Science council cites risks in free trade

OTTAWA (CP) — Canadian policy-makers had better take an accounting of the risks to high-technology industries under any free trade agreement, a conference on trade and technology has been told.

"There are great gains to be made (in freer trade talks), but it's a risky business," Stuart Smith, chairman of the Science Council of Canada, yesterday told members of the Canadian Advanced Technology Association.

Canadian negotiators can't be expected to know intimate industrial details and, if some protections for industry in Canada are negotiable, "you had better make sure you get something really valuable in return."

Smith

Right now, most Canadian high-tech products have free access to the U.S. market. Tariffs protect American telecommunications equipment manufacturers, but most other enhanced-technology products enjoy what amounts to free trade.

Smith advised the association that it tell trade negotiators and the Canadian public about high-tech industries.

Spokesmen for primary industries — mining, forest products, agriculture, fisheries — are already putting pressure on government to protect them in the talks. Many such firms dominate one-industry towns and it is easy for government negotiators to see what effects a more open trade environment will have on them.

But high-tech companies are less familiar to Canadians and their importance to the economy is not as apparent to them.

Rosy assessment

Smith's remarks followed a rosy assessment of Canada's potential advantages in trade talks given by Science Minister Frank Oberle.

The minister said that since 27 per cent of the country's gross national product depends on trade with other countries — mostly to the U.S. — Canada has much to gain in an environment of enhanced trade.

Oberle urged the delegates to make sure that established niche markets for Canadian products are healthy and secure before the talks begin.

Consultant William Hutchison of Toronto, who specializes in high-technology companies, said the first priority is to redress the deficit currently suffered in research and development.

Over the long term, the continual lag behind other industrialized countries could threaten the country's sovereignty, Hutchison said. If there is a perception that Canada can't manage its economy, there could be pressure to let the Americans do it.

To respond to the problem, Canada should double its research and development spending to $10 billion a year, double production in advanced technologies to $56 billion and create another 535,000 jobs in the high-tech sector, he added.

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 The Citizen, March 24/86

High-tech trade deficit inevitable: study

The Canadian Press

Even if all the barriers to trade in high-technology products were removed, the industries involved would continue to run a large trade deficit, says a federal discussion paper.

Canadian high-technology industries, by and large, are still in an embryonic stage and need to grow before they can compete effectively, says the paper prepared for the Science and Technology Department.

The paper was released to The Canadian Press following a request under the Access to Information Act for related information about the impact of freer trade on high-technology industries.

"If left to itself, the sector is not expected to improve its trade deficit to any significant extent in the foreseeble future," the paper says.

"In other words, it must grow before it can compete."

The paper notes that because of the high level of foreign ownership, the small size of the sector and the low level of research and development expenditures, the Canadian high-technology industry tends to lag behind many industrialized countries.

Canada's trade deficit in high technology — $12 billion in 1984 and growing — is the worst among the seven western industrialized countries which meet at the annual economic summit.

The paper says that $12 billion is the equivalent of 120,000 jobs.

"There is no indication of any possible reversal of this trend in the near future," the paper says.

"Due to the structural nature of the problem, it appears that no quick solution is feasible."

The paper says tariffs are not a serious problem. In fact, tariffs imposed on high-technology products by the United States, this country's chief trading partner, are already quite low except for those on telecommunications equipment.

The paper notes that Canadian high-technology industries in general don't consider a freer trade deal with the United States as their most pressing need.

The Canadian Advanced Technology Association is holding a forum in Ottawa today to prepare information for freer trade talks with the United States and for the next round of multilateral trade talks under the General Agreement on Tariffs and Trade.

Le Devoir, mercredi 26 mars 1986

FRANK OBERLE AU DEVOIR

Une première politique scientifique pour le Canada

JOCELYN COULON

OTTAWA — Pour la première fois de son histoire, le Canada va se doter d'une politique scientifique nationale en accord avec des priorités qu'Ottawa fixera avec les provinces et les milieux scientifiques d'ici l'automne.

Dans une entrevue accordée au DEVOIR, le ministre d'État aux Sciences et Technologie, M. Frank Oberle, a aussi évoqué la possibilité que les provinces contribuent au financement du programme spatial canadien et il a tenu à rassurer les scientifiques en déclarant que la réduction supplémentaire de 2 % des dépenses des ministères annoncée au lendemain du budget par le président du Conseil du Trésor, M. de Cotret, n'affectera pas les budgets des trois Conseils subventionnaires.

Cette politique nationale touchera tous les aspects de la vie scientifique du pays et devra principalement se pencher sur nos forces (aérospatiale, communication, ressources naturelles) et nos faiblesses (informatique, biotechnologie, robotique) et faire une plus large place à une coopération active entre les universités et le secteur privé. Enfin, Ottawa et les provinces s'entendront sur le financement de certains programmes.

« Nous devons définir, le fédéral et les provinces, nos priorités en matière de recherche scientifique. Puis, coordonner nos efforts actuels pour qu'ils soient en accord avec ces priorités. Ce n'est pas un processus facile car nous sommes confronté à deux visions très différente de la recherche scientifique au Canada : rattraper le Japon et l'Allemagne de l'Ouest dans le domaine des industries de très haute-technologie ou continuer et augmenter nos efforts pour développer des technologies industrielles qui vont soutenir l'exploitation de nos ressources naturelles », déclare le ministre.

Ces opinions divergentes et bien d'autres seront discutées lors d'un vaste forum sur les sciences et technologies qui se déroulera les 9 et 10 juin prochain à Winnipeg sous la présidence du ministre Oberle. « Cette rencontre, qui regroupera le fédéral, les provinces, le secteur privé et les milieux de l'éducation, permettra de définir un programme scientifique qui sera la base de la politique nationale que nous annoncerons cette automne », déclare-t-il.

Selon M. Oberle, cette nouvelle politique visera à envoyer des signaux aux jeunes, aux industriels, aux scientifiques pour leur indiquer sur quoi ils doivent travailler et quels sont les objectifs du pays. Avec une nouvelle orientation bien définie, le ministre pense qu'il y aura plus de jeunes qui se dirigeront vers des études scientifiques.

Entre temps, le gouvernement Mulroney devrait prendre une décision quant à la mise sur pied d'un vaste plan spatial qui s'échelonnera sur 10 ans et devrait nécessiter des investissements de plus de $ 1,5 milliard. Déjà, Ottawa a annoncé une participation de $ 800 millions au programme américain de station spatiale. Le reste de l'argent devrait servir à financer la construction du premier satellite canadien de télédétection RADARSAT et le système commercial de télécommunications par satellite pour le service mobile MSAT en collaboration avec les États-Unis.

M. Oberle n'a pas voulu confirmer ces informations, se contentant de dire que tout le dossier était devant le cabinet qui prendra une décision sous peu.

Cependant, pour aider au financement du programme spatial canadien, le ministre recherche la collaboration des provinces. « Par exemple, le satellite de télédétection RADARSAT sera utilisé pour une multitude de choses. Il permettra d'établir une cartographie très précise du territoire; de mieux gérer les ressources minières; de combattre efficacement les feux de forêts; de contrôler la croissance des céréales. etc. Tout cela ne peut que profiter aux provinces. Je tente donc de voir s'il est possible qu'elles contribuent d'une manière ou d'une autre. Il ne faut pas oublier que les provinces vont bénéficier des retombées technologiques et industrielles des investissements dans le domaine spatial ».

Dans le domaine de la recherche et développement, M. Oberle est conscient que le Canada est à la traîne des autres grandes nations occidentales. Le pays consacre environ 1,2 % de son PNB à la R-D alors qu'au Japon et aux États-Unis ce pourcentage atteint presque 3 % et en France il se maintient autour de 2,6 %.

« C'est vrai notre pourcentage stagne. Mais chaque pays a ses faiblesses et ses forces. Le Japon et l'Allemagne de l'Ouest n'ont pas d'immenses ressources naturelles à exploiter. Ils ont donc concentré leurs investissements dans les industries de très haute-technologie. Nous avons développé une structure industrielle basée sur les ressources naturelles. C'est là tout le débat. »

M. Oberle mentionne aussi que même s'il y avait plus de ressources dans le domaine de la R-D il n'est pas certain qu'elles seraient bien utilisées. « Nous n'avons pas la main-d'oeuvre qualifiée et les infrastructures nécessaires pour dépenser massivement comme le font les autres grands États occidentaux. »

Le Canada a un déficit technologique de près de $ 12 milliards et M. Oberle pense qu'il est possible de le résorber en développant des technologies qui vont servir localement. « Nous ne devrions pas importer de Suède ou de Finlande du matériel de pointe pour les scieries canadiennes. Au contraire, le Canada doit leur vendre ce matériel. »

Une des mesures que le ministre propose pour augmenter la R-D dans le pays, c'est la sensibilisation des banques et des institutions financières au capital de risque dans ce domaine. « Les chercheurs ont besoin d'avoir un plus grand accès aux capitaux de risques, mais les institutions financières sont encore réticentes à se lancer dans ce genre d'entreprise. Nous allons en discuter lors du forum de Winnipeg », indique-t-il.

Pour l'instant, les chercheurs universitaires canadiens devront encore compter sur l'aide gouvernementale pour financer la recherche. M. Oberle pense que son programme de financement des trois Conseils subventionnaires fédéraux, présenté il y a un mois, va dans la bonne direction. Le plan gouvernemental assure un financement quinquennal de base (environ $ 536 millions pas an) et tente d'attirer des investissements du secteur privé vers les Conseils ($ 369 millions pour l'ensemble du plan) que le gouvernement fédéral s'est engagé à égaler.

« D'ici 1991, il y aura un milliard de dollars de plus pour les Conseils et même si les scientifiques sont sceptiques quant à la contribution du secteur privé, moi je vous dis que notre plan se réalisera ». M. Oberle indique que le secteur privé dépense environ $ 2,5 milliards par an pour la R-D. « Le gouvernement demande 1,4 % de cette somme pour 1987 et 6 % pour 1991. C'est tout à fait réalisable ».

Pour le ministre, pas question de couper dans les budgets des Conseils. « Nous avons suffisamment de flexibilité au sein du ministère pour effectuer la compression de 2 % annoncée par M. de Cotret au lendemain du budget sans toucher aux Conseils. D'ailleurs cela irait dans le sens contraire de la politique du financement assuré annoncée il y a un mois. »

Enfin, en ce qui concerne la coopération avec l'Europe, M. Oberle a indiqué que son ministère étudiait le programme Eurêka et attendait que les Européens le définissent clairement avant de s'y engager. Eurêka est un programme civil de développement technologique lancé par la France en mars 1985 pour faire contrepoids à l'Initiative de défense stratégique.

2

High-tech execs fear inadequate representation in special free-trade talks advisory committees

By Greg Barr and Nick Johns
Citizen staff writers

Officials from Canada's high-technology industry say they may not be adequately represented in the special advisory committees being formed to assist International Trade Minister James Kelleher and other negotiators in the crucial free-trade talks with the United States.

The committees, known as sectoral advisory groups on international trade (SAGIT), are designed to serve as a pipeline through which Canadians from different industry sectors can convey their individual or common ideas and concerns about free trade to the negotiators in the upcoming Canada-U.S. trade talks.

Kelleher told a group of Canadian high-tech executives earlier this week that interested groups would have about ten more days to nominate SAGIT committee members to represent their industrial groups. Each SAGIT group will contain 12 to 14 representatives from the industry or groups of industries lumped together.

However, high-tech representatives said the importance of their industry to the country's economic future is not reflected in the make-up of the advisory committees.

High-tech is to be represented by a group dubbed "communications, computer equipment and services."

In private discussion groups following Kelleher's address to the Canadian Advanced Technology Association, members of the high-tech community said a separate group called "science and technology" should be created to convey the concerns of Canadian industry from a research point of view.

Some executives suggested the "smokestack" and resource industries would receive a much more solid voice within the SAGIT format in its present form, while others questioned the logic of putting automotive and aerospace industry officials together.

Aside from the make-up of the SAGIT groups, several high-tech executives said they were most concerned with the non-tariff barriers that could impede their access to U.S. markets, such as the Buy America Act of 1933 and requirements for Canadian citizens to obtain working papers to enter the U.S. to sell and/or service products there.

Kelleher said the Buy American policy and other such non-tariff barriers to Canadian products would be the subject of "intense discussion" during the talks.

The Buy American Act requires U.S. federal agencies to provide a six- to 12-per-cent margin of preference for made-in-U.S. products.

Kelleher said legislative protection measures for U.S. domestic products make it very difficult for Canadian firms wanting to compete for federal, state and municipal contracts which he said were worth between $5 billion and $6 billion annually.

High-tech industry rolls out the heavy artillery to make its voice heard

High-tech
Greg Barr
Citizen staff

For years, high-technology industry groups have sent urgent, predictable messages to federal politicians with the faint hope of convincing them that Canada will crumble unless *something* can be done to turn the country into a lean high-tech fighting machine.

"Canada must double its research and development spending," they say, or "The $12-billion high-tech trade deficit is threatening the economy."

How about: "Canada's universities must turn out more and better engineering grads so we can keep pace with the Japanese."

Meanwhile, a steady stream of revolving-door cabinet members are asked to speak to high-tech conferences, so that they can assure the audience of the government's unwavering commitment to high-tech and research and development.

Science and Industry ministers, in particular, never miss the opportunity to tell us — again and again and again — how great the Canadian remote manipulator arm used on the space shuttle is. April 1, The Citize

But during a high-tech luncheon or dinner, when the political mandarins are asked what will happen when our resource-based industries can no longer carry the economic load, they hand out the party line.

"Times are tough, every interest group wants funding, my hands are tied," they claim. "Say, can I have your dessert if you're not eating it?"

Simply, the high-tech industry — which now employs half a million Canadians — has no cohesive strategy or clout when it comes to lobbying in and around the federal domain.

Sure, the industry's products are damn sexy, but because politicians have no desire to clutter their oak desks with computers, why should they care?

But Bill Hutchison, president of a Toronto high-tech consulting firm, and chairman of the newly-formed Canadian Advanced Technology Association national advisory council, says that indifference on the part of politicians is about to change.

This time, he promises, the feds will *have* to listen, because this geographically-dispersed council has the muscle to bull through the corridors of political power: a former provincial premier (acid-rain expert Bill Davis); an Ontario government policy maker; 15 high-tech executives and consultants; six university presidents and professors; seven lords-a-leaping (just kidding); two venture capital gurus; and a research institute president. Four more members will be added this month.

The council, formed in March, will meet for its first full meeting in May to come to grips with exactly how the high-tech community's concerns can be best conveyed — in a way that will stick in the politician's craw.

"We've been wining and dining the cabinet ministers for years, and where has it gotten us? We know we have to alarm the general population as well as politicians," says Hutchison.

"We want to deliver a message to adults who have young children and are worried about jobs for them in the future. We have to turn direct votes into our indirect votes."

Although he says it is still too early to say how that message of doom and gloom will be delivered, Hutchison says television advertising is a strong candidate. "We don't want to deliver a message about the deficit, we want to talk about long-term prosperity, standards of living, and how technology relates."

What's more, Hutchison says the council will continue to lobby the politicians — but not just those in Prime Minister Mulroney's inner sanctum. This time, back-benchers and opposition MPs will be wined and dined, to create pressure from all sides.

With the Canada-U.S. free trade talks getting lots of ink these days, Hutchison says the council will use that as a basis for issuing a stern warning — that our very sovereignty would be threatened if our smokestack and resource industries can't compete under the free-trade scenario — leaving us no choice but to become the 52nd State of the Union.

Still there is a large obstacle for this charge of the high-tech brigade to overcome. The Conservative government's financial cupboard is bare, and Mulroney's pre-election promise to double Canada's R&D commitment during his first term won't be fulfilled.

Says Hutchison: "This government seems to find it tough to restructure its priorities as far as funding is concerned. They know any increases for R&D spending will have to come out of the social programs side, and they're nervous about it."

The high-tech community is breaking out in a cold sweat on this one as well. Bill, they're tired of their second-class status, and need *someone* to breach the impass before the industry's voice is reduced to a whisper.

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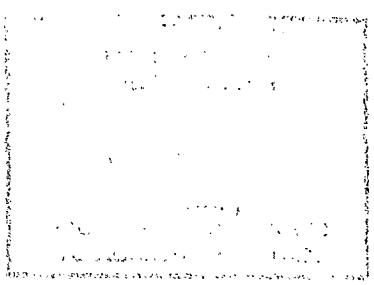

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