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**INFORMATION LEADERSHIP
FOR
COMPETITIVENESS**

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ISTC CORPORATE INFORMATION PLAN

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COMPETITIVENESS**

April 1992

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ISTC CORPORATE INFORMATION PLAN

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EXECUTIVE SUMMARY

INTRODUCTION

The ISTC Information Management Strategy of October 1990 recommended as a first priority initiative the development of an ISTC Corporate Information Plan (CIP) in our department. The CIP was to identify the corporate level information we need in support of our business and to recommend actions to meet those needs.

Our information management vision in ISTC is to strive to provide leadership in the management of information that promotes competitiveness.

BUSINESS

To better understand our information needs and realize our vision, we began by reviewing our business. We used our mission and corporate objectives to identify certain critical success factors which are key to our success in serving our clients. We then defined the basic business functions related to:

- Policy, Leadership and Advice
- Business Services to Clients
- Monitoring, Promoting and Marketing
- Funded Programs
- Management and Administration of ISTC

Central to these business functions is the critical role played by our information and the intelligence we provide to our clients.

INFORMATION NEEDS

The information we need to do our work is identified under a classification of three general groupings: International, Canada and ISTC. A significant part of the information we need is considered to be corporate information - information which is:

- mission critical to our success in serving our clients;
- of corporate interest and needed for our use throughout the department;
- to be shared, when needed and appropriate, among ourselves by being made available and accessible; and
- a valuable corporate resource to be managed and used for the benefit of all of us in the department.

We have made real progress in managing our corporate information. There exists a number of issues in our accessing, sharing and using this corporate information in terms of gaps and weaknesses, problems and opportunities. These major issues are identified in terms of information needs and the infrastructure areas of management and technology.

RECOMMENDED ACTIONS

The recommended actions to address these issues are:

Information Needs Actions

- Conduct a horizontal Strategic Information Plan (SIP) with EAITC on international information needs (I-1)
- Conduct a horizontal SIP on client information and client needs (I-2)
- Develop an integrated Company Client System (I-3)
- Review the role of the Establishment System in providing client information (I-4)
- Develop an improved Program Support System (I-5)
- Study information sharing with other agencies, and making such data accessible within ISTC (I-6)
- Implement an improved on-line Telephone Directory (I-7)
- Develop an improved Human Resource System (I-8)
- Expand Pointers / Directories to available information (I-9)

Management Actions

- Review information management processes and roles and responsibilities (M-1)
- Undertake an information culture campaign (M-2)
- Create a support group for strategic information planning (M-3)
- Implement common information standards and use a common information classification (M-4)
- Study re-engineering of administrative processes (M-5)
- Establish a task force on impact of information and information technology on people in ISTC (M-6)

Technology Actions

- Conduct a technology review (T-1)
- Create a technology opportunities group (T-2)
- Implement electronic information exchanges with outside (T-3)
- Implement technology standards and methodologies (T-4)
- Develop application templates (RAD) (T-5)
- Update departmental database software (T-6)
- Implement departmental text information software (T-7)
- Study and upgrade departmental telecommunications (T-8)

These recommended actions are prioritized in terms of their relative importance to the department's critical success factors in its business, to the department's Strategic Objectives in information management, and in the views and opinions of people in ISTC consulted during the project.

IMPLEMENTATION

An implementation plan is presented for the 23 recommended actions. It lists the actions to be undertaken; assigns specific responsibility for each action to an individual manager within the department; and estimates the financial and human resources required for each action in each year over the next three years from 1992-93 to 1994-95. The actions involve an estimated cost of \$2.5 M and 22 PYs of effort in 1992-93.

In the event that this full funding is not available, alternate funding levels of \$2.5 million, \$1.5 million and \$1.1 million are presented for 1992-93.

Based on the proposed assignment of responsibilities for undertaking the recommended actions, the funding sources from within existing resources would be as follows:

ISTC SECTOR	1992-93	1993-94	1994-95
	\$000	\$000	\$000
ADM Policy	125	0	0
ADMs ITRO/CGSI	475	500	500
ADM ITRO	50	50	50
ADM FPA	1,825	2,550	4,825
TOTALS	2,475	3,100	5,375

These CIP actions take into account and are consistent with related initiatives in the Information Management Strategy, and the Office Automation and Systems Architecture Plan. In addition, these CIP actions will be included in the annual Information Management Plan of the department, and incorporated in future updates of the Information Management Strategy.

RECOMMENDATIONS

It is recommended that the following management decisions be taken:

1. Approve in principle the recommended actions as described; and
2. Approve the allocation of \$2.5 million in 1992-93 to implement these actions.

MULTI-YEAR PLAN - RECOMMENDED CIP ACTIONS

(1992-93 TO 1994-95)

ACTION	RESP	1992-93		1993-94		1994-95		
		000s	PYS	000s	PYS	000s	PYS	
INFORMATION NEEDS ACTIONS								
I-1. International SIP	POL	50	0.5					
I-2. SIP on Clients	ITRO / CGSI	75	1.0					
I-3. Integrated Company Client System	ITRO / CGSI	400	2.0	500	2.0	500	2.0	
I-4. Establishment System Review	FPA / IMB	50	0.5					
I-5. Program Support System	FPA / COMP	200	2.0	750	3.5	750	3.5	
I-6. Information Sharing with Departments	POL	75	1.0					
I-7. Telephone Directory	FPA / ASB	50	0.5					
I-8. Human Resource System	FPA / HRB	50	2.0	500	3.0	1000	4.0	
I-9. Pointers / Directories to Information	FPA / IMB	100	1.0	75	1.0			
INFRASTRUCTURE ACTIONS MANAGEMENT AND TECHNOLOGY								
M-1. Review of Processes and Responsibilities	IMC / FPA	50	0.5					
M-2. Information Culture Campaign	IMC / FPA	75	0.5	50	0.5	50	0.5	
M-3. SIP Support	FPA / IMB	150	1.0					
M-4. Information Standards and Classification	FPA / IMB	50	1.0	25	0.5	25	0.5	
M-5. Re-engineering of Administrative Processes	FPA	75	1.5	75	1.5	2000	4.0	
M-6. Impact on People	FPA / HRB	50	0.5					
T-1. Technology Review	FPA / IMB	50	0.5					
T-2. Technology Opportunities Group	ITRO / ITIB	50	0.5	50	0.5	50	0.5	
T-3. Electronic Information Exchange	FPA / IMB	150	1.0					
T-4. Technical Standards and Methodologies	FPA / IMB	150	0.5					
T-5. Application Templates (RAD)	FPA / IMB	75	1.5	75	1.5			
T-6. Departmental Database Technology	FPA / IMB	125	0.5	500	1.5	500	1.5	
T-7. Text Information Software	FPA / IMB	300	0.5					
T-8. Departmental Telecommunications Upgrade	FPA	75	1.0	500	2.0	500	2.0	
TOTALS			2.5 M	21.5	3.1 M	17.5	5.4 M	18.5
GRAND TOTALS			11.0 M	57.5				

MEMBERS OF STEERING COMMITTEE ON ISTD

CORPORATE INFORMATION PLAN

Brian Anderson	ISTC British Columbia/Yukon
Rainer Andersen	ISTC Manitoba
Fruji Bull	Information Management Branch
Bob Chandler	ISTC Ontario
Alan Cobb	Science
Mike Eustace	Finance, Personnel and Administration
Terry Forth	Aboriginal Economic Programs
Norm Fraser	Industry, Technology and Regional Operations
Halina Gasewicz	Communications Branch
Guy-André Gélina	ISTC New Brunswick/PEI
David Head	ISTC Alberta/NWT
Richard Johnston	Legal Services
Robert Knox	Policy
W.E.R Little	Chairperson
Dan MacDonald	Ontario Regional Development
Wayne Mackay	ISTC Saskatchewan
John MacKillop	Corporate Secretary
Claude Roy	ISTC Quebec
Roy Sherwood	ISTC Nova Scotia
Slavek Skorupinski	Capital Goods & Service Industries
Blair Stevens	Tourism Branch
Owen Taylor	Operations Audit Branch
Dave Wells	ISTC Newfoundland

MEMBERS OF WORKING GROUP ON ISTC

CORPORATE INFORMATION PLAN

Frank Arecchi	Finance, Personnel and Administration
Paul Beaulieu	Information Management Branch
John Beveridge	British Columbia Regional Office
Alison Bunting	Corporate Planning
Bill Burns	Finance, Personnel and Administration
Bob Chandler	Ontario Regional Office
Dennis Chattaway	LGS Group Inc.
Anne Clapperton	Services to Business
Christian Codère	Quebec Regional Office
John Dornan	Finance, Personnel and Administration
Jack Drawbridge	Information Management Branch
Terry Ekdahl	Chair, Information Management Branch
Richard Guttormson	Information Management Branch
David Haggarty	Capital Goods and Service Industries
Tony Kwok	Manitoba Regional Office
Michel Lapointe	Policy
Carole Laurila	Operations Audit
Guy Lebrun	Industry, Technology and Regional Operations
Robert Margeson	LGS Group Inc.
Peter Martin	Communications Branch
Michael McCormack	SIP Centre - Information Management Branch
Waine McQuinn	External Affairs and International Trade
Betty Millar	Saskatchewan Regional Office
Peter Purkis	Information Management Branch
Linda St. George	LGS Group Inc.
Dave Thomson	Industry, Technology and Regional Operations
Wayne Tosh	Science
Rob Ward	Aboriginal Economic Programs

I INTRODUCTION

INFORMATION MANAGEMENT STRATEGY

Background

The ISTC Information Management Strategy (IMS) of October 1990 provided a basic framework for meeting the challenges of the 90's in our management of information.

The IMS recognized that, with an information intensive mandate, we are becoming increasingly a knowledge department. In promoting international competitiveness and excellence in Canadian industry, science and technology, we are shifting our business focus to emphasize the production of information-based knowledge outputs to our clients. Our business work and the value added products and services we provide to our clients are increasingly dependent on the information and knowledge base at our command.

As such critical parts of our departmental activities, information and associated information technology are to be exploited in support of the achievement of our mission. We need to take advantage of the possibilities being presented by the emerging information age and its new technologies to ensure we have new and better products and services for our clients. Information is a strategic business tool to be directed to serving our clients.

A top priority for the department, therefore, is to strengthen its information management function. The challenge is to have in place the cultural values, the information base, the technology and systems, and the knowledge professionals required in the department.

Strategic Objectives

To do so, the IMS established 4 Strategic Objectives for ISTC to achieve in information management:

- Increase its effectiveness in meeting the needs of its clients and partners;
- Improve its ability to access and share information;
- Achieve productivity gains in its work; and
- Enhance its ability to manage its resources.

CHART 1
ISTC INFORMATION MANAGEMENT VISION

**We strive to provide leadership
in the management of information
that promotes competitiveness.**

Principles

To guide us in achieving our strategic objectives, the IMS proposed that information be viewed in a particular way. Information is seen as a tool for supporting the business of the department. Indeed, the need for information is based directly on the needs of the business. Moreover, information is viewed as the driving force which determines the technology and systems which are required. In short: business first; then information; and, lastly, technology.

Information is a valuable corporate resource that must be shared and accessible.

Information is not an exclusive organizational or personal resource; it is a resource that belongs to the department as a whole. It is not my information or your information but our information.

When of departmental interest and use, such information is to be widely shared and easily accessible. This increases its usefulness and value to the department. This enables the maximum benefit, the highest return on investment, and the most value to be derived from our information. (This must be done, of course, with due respect to the requirements of security, confidentiality, and the provisions of the Access to Information and Privacy Acts.) Information sharing rather than information hoarding is the required practice.

Information should also be treated and managed as a valuable resource if it is to be used effectively. It needs to be planned, organized, controlled, monitored, protected and disposed of. It is too important and too central to our work to do otherwise.

Information Management Vision

Achieving these objectives with these principles will enable ISTC to realize its information management vision: contributing directly to Canada's competitiveness through our leadership in acquiring, developing and disseminating information of value to our clients. Information will be used to meet our clients' needs and empower our people. We will provide our external clients and partners with electronic access to our key information products and services. We will access and maintain current key information on important subject areas we need in our work. We will have a networked workstation enabling us to communicate with our clients and among ourselves. We will have personal productivity improvement tools to do our jobs. We will use workstations to interact with administrative processes and systems on an easy-to-use basis.

We will then have the information we need to serve our clients and to do our jobs. Our information management vision in ISTC is clear:

**"WE STRIVE TO PROVIDE LEADERSHIP IN THE MANAGEMENT OF
INFORMATION THAT PROMOTES COMPETITIVENESS."**

CORPORATE INFORMATION PLAN (CIP)

To accomplish this information management vision, the IMS presented a suite of 39 specific initiatives for us to undertake within strategic thrust areas.

The IMS described strategic information planning as the key strategic thrust for the department. Strategic information planning is an approach to the management of information which is based on the idea that, in order to better manage and share our information, a comprehensive, business based picture is necessary. We must define the information we need in terms of its contribution to our business and, in particular, our strategic business objectives. This involves the business processes of the department and its associated information needs and outputs.

A corporate business and information analysis portrays the whole department. It identifies the opportunities for reducing information overload and helps in identifying and developing information products. It can lead to increased efficiency in the acquisition of information, streamlining of manual processes and development of individual systems. It also leads to reduced duplication of effort, addresses the inefficiencies created by having a multitude of similar yet isolated data bases, and results in higher quality information products for our clients.

For this reason, the IMS recommended as a first priority initiative the development of a Corporate Information Plan (CIP) for ISTC. This CIP was to:

- identify from a corporate perspective the information needed in the department to carry out its business in serving its clients; and
- recommend specific actions for the department to take to better meet those information needs.

The project to develop this CIP focused on:

- viewing our information needs in a broad sense and not limited to just the information technology aspects;
- concentrating on the information we need to use to serve our clients or to support others in the department who directly serve these clients;
- deriving information needs from the requirements of the business functions of the department;
- analyzing existing gaps and opportunities in our information needs, including relevant aspects involving management matters and technical concerns; and
- recommending specific actions with assigned responsibilities and resources, taking into account what has been or is already being done now in related initiatives.

This was all carried out in a way which started with reviewing our published mission and corporate objectives, then identifying the actual business functions and critical success factors of the department, and from all of this deriving the information which is needed. The resulting actions which were identified reflect the priorities of these business-driven information needs, their contribution to the IMS Strategic Objectives, as well as the expressed views of people in the department about the relative importance of existing issues and needed actions.

In addition, the project shows the way in which the recommended CIP actions are related to and integrated in the current IMS, and how they are to be incorporated in the annual Information Management Plan of the department. This presents the larger picture of how the information management pieces fit together and are harmonized. Chart 2 illustrates the basic relationship of these information planning elements.

The CIP project was approved by the Deputy Minister and the Departmental Management Committee (DMC), and sponsored by the Information Management Committee (IMC).

A departmental Steering Committee of executives provided management direction to the project. A departmental Working Group of operational specialists provided expertise and support. Project management was provided by the Information Management Branch, with assistance from consultants of the LGS Group Inc. In addition, a series of focus groups and information sessions was held throughout the department, at Headquarters and in the regions.

Appendix A lists members of the Steering Committee and Working Group. Appendix B lists the focus groups, regional office visits and information sessions held during the project.

CHART 2 - ELEMENTS OF ISTC INFORMATION MANAGEMENT PLANNING

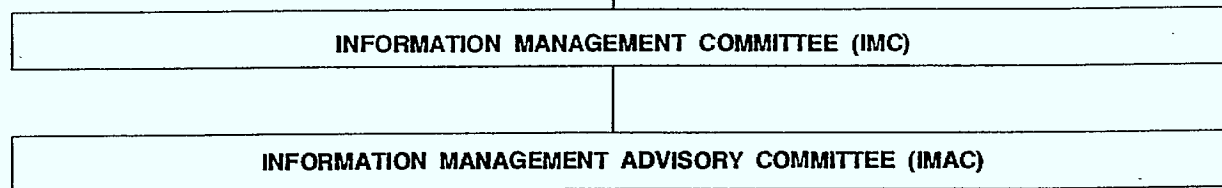
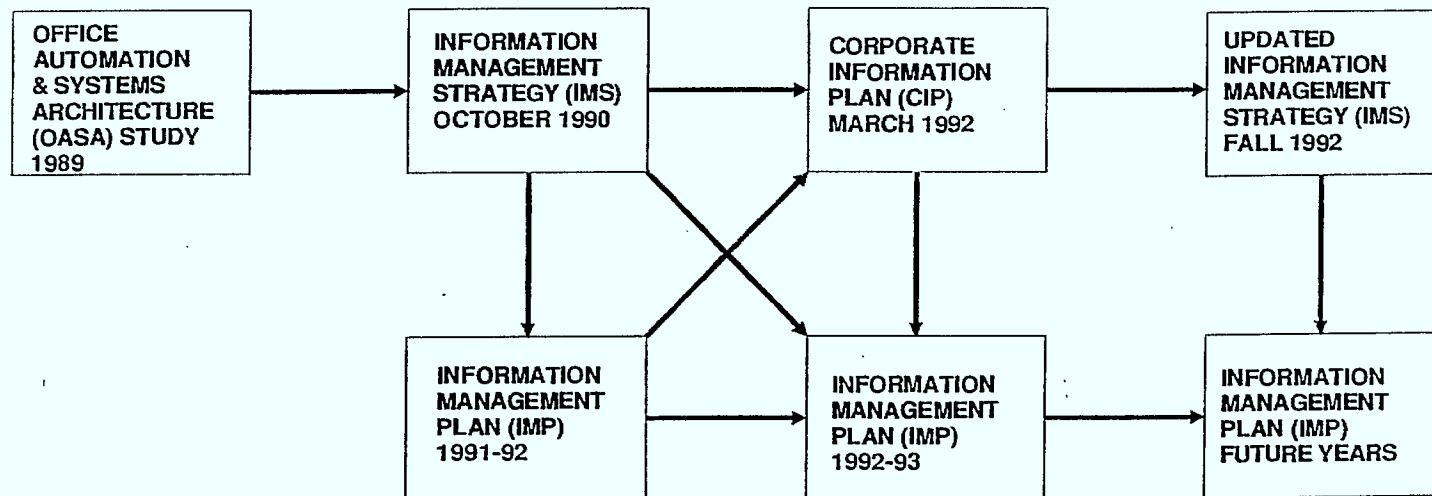
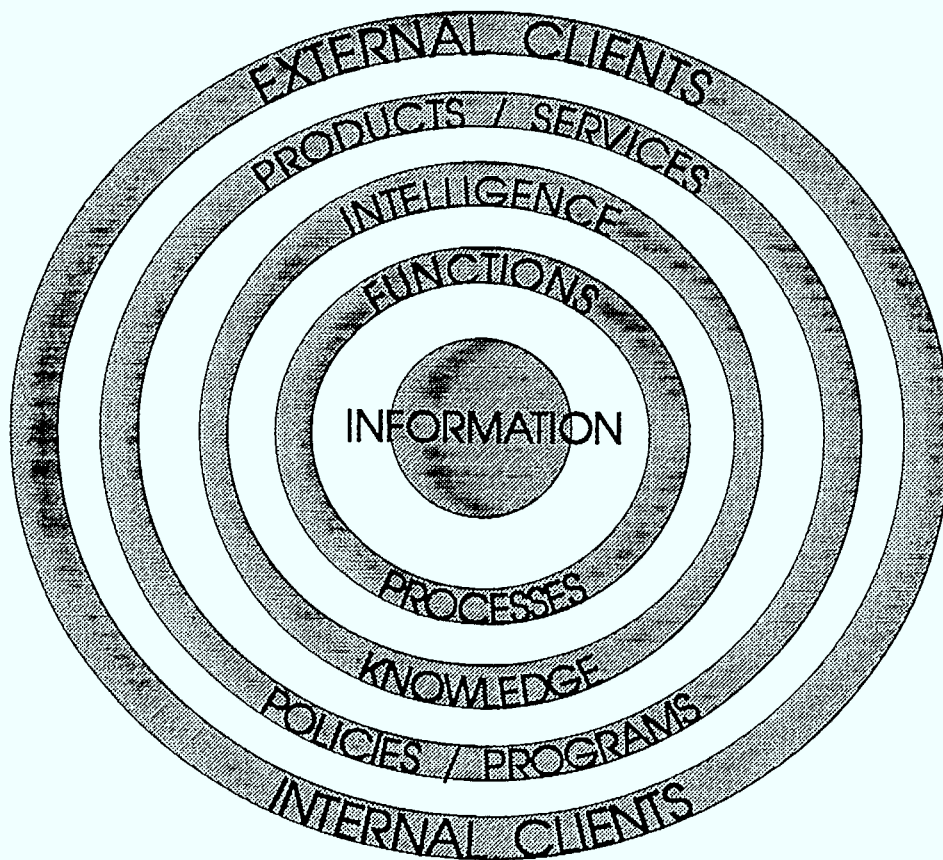


CHART 3
OVERVIEW OF ISTC INFORMATION AND BUSINESS



II BUSINESS

The mission of ISTC is to promote international competitiveness and excellence in Canadian industry, science and technology. Our focus is on serving our clients and working with our partners - in industry, in the science community and in government. Our business starts and ends with the clients we serve.

Chart 4 lists our Mission and Corporate Objectives.

Chart 5 identifies the Critical Success Factors which are key to our success.

Chart 6 lists the Business Functions and related processes we carry out.

Chart 7 visually presents these Business Functions.

Appendix C provides a detailed description of the ISTC Business Profile.

This identification of our business is along **functional rather than organizational** lines. This provides a more stable and enduring portrait of our business: particular organizational structures may change but our basic functions tend to continue. It also reflects our reality: several different organizational units may be involved in related work in a specific function, and, similarly, a particular organizational unit may be engaged in work under more than one function.

Critical Success Factors (CSFs) are those key conditions in which the department must achieve excellence if it is to accomplish its mission and objectives in the service of its clients. In other words, CSFs are areas in which we must "get it right" to succeed. They must also be reviewed periodically for their continuing relevance, completeness and priority to the department.

The CSFs presented in this report have been developed by the CIP project in support of its analysis of ISTC's business and information needs. They have been used by the project as an important factor in determining the priorities of its action recommendations. The IMS and the Strategic Directions document have been major inputs to their development.

A critical role in our business is played by the factor of **intelligence**. It is an integral and inseparable part of our work. Intelligence is the value added product of our information and analysis which we provide to our clients who value it as meaningful and useful. Our intelligence work involves identifying information requirements, collecting and maintaining data, analyzing information, disseminating the resulting intelligence to our clients in the form of products and services, and disposing of information.

CHART 4 - MISSION AND CORPORATE OBJECTIVES

ISTC'S MISSION IS TO PROMOTE INTERNATIONAL COMPETITIVENESS AND EXCELLENCE IN CANADIAN INDUSTRY, SCIENCE AND TECHNOLOGY.

Our corporate objectives are to:

- Improve Canada's performance in international trade.
- Facilitate cooperation among private and public sector partners.
- Stimulate the growth of the Canadian industrial, scientific and technological base.
- Develop industry and science policies to build a climate for sustainable long-term economic growth.
- Champion the growth of a Canadian scientific community and culture.
- Encourage innovation, research and development and the adoption and diffusion of the best technologies.
- Facilitate the collection and dissemination of information of strategic significance to the business and scientific communities.
- Provide leadership within the federal government for the interests of the industrial and scientific communities.
- Promote and facilitate investment in Canadian industry, science and technology.
- Foster entrepreneurship and the start-up and expansion of small business.
- Support the development and growth of a strong aboriginal business sector.
- Support and coordinate federal regional economic development in Ontario.
- Promote and develop Canada as an attractive and competitive destination for international tourists.

CHART 5 - CRITICAL SUCCESS FACTORS

We strive constantly for excellence in all our critical success factors:

SERVING CLIENTS

- in-depth understanding of clients: who they are and what they need and expect; the specific situation and economic climate in which they operate; their problems and successes; their particular views; their strengths and weaknesses in comparison to their competitors
- effective networks of communication and working relations with clients, other government departments and agencies, provincial governments and other partners
- efficient provision of high quality value-added client services and cost effective programs which are relevant to clients' needs
- effective and credible leadership with other government organizations on behalf of clients

MANAGING ISTC

- development and implementation of strategies and plans which are well understood, widely supported and actively used in daily work
- effective management and use of information, knowledge and intelligence on industry, markets and market opportunities, and science and technology in Canada and around the world
- a people oriented Department based on professionalism, communication, recognition, mutual respect and trust
- recruitment, retention and development of skilled, experienced and motivated human resources in the Department
- monitoring results and feedback from departmental activities, including learning from past successes and failures and from the wisdom of employees
- effective and efficient leadership and management in the administration of the Department as an organization

CHART 6 - BUSINESS FUNCTIONS AND PROCESSES

POLICY, LEADERSHIP AND ADVICE

- Provide strategic direction and management of policy agenda
- Develop approach to technology diffusion and innovation
- Participate in Canada's trade agenda
- Provide leadership

BUSINESS SERVICES TO CLIENTS

- Determine business service needs of clients
- Develop business services
- Deliver business services
- Monitor, evaluate and improve business services

MONITORING, PROMOTING AND MARKETING

- Acquire, maintain and disseminate information
- Develop exports, tourism and domestic markets
- Facilitate acquisition and use of technology by industry
- Promote industrial development
- Promote cooperation

FUNDED PROGRAMS

- Identify program requirements
- Develop funded programs
- Deliver funded programs
- Monitor impact and evaluate funded programs

MANAGEMENT AND ADMINISTRATION OF ISTC

- Provide corporate services
- Acquire legal support
- Provide internal audit and program evaluation
- Manage human resources
- Manage financial resources
- Manage information resources
- Manage public and employee communications
- Manage administration services

CHART 7 - ISTC BUSINESS PROFILE

ISTC BUSINESS FUNCTIONS

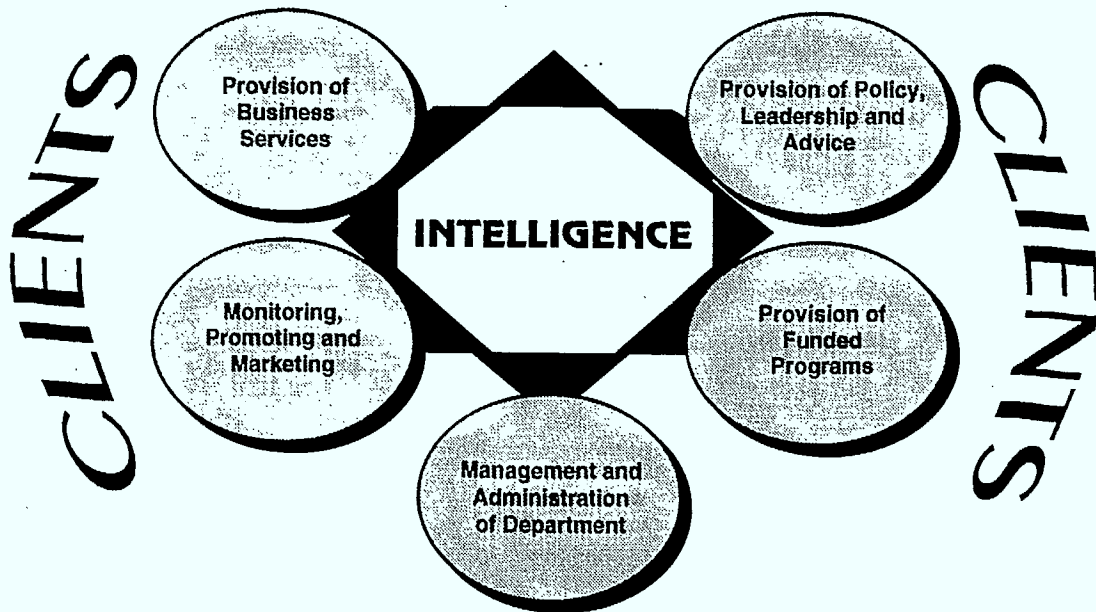


CHART 8 - INFORMATION NEEDS

INTERNATIONAL

- Foreign Governments and Agencies
- Foreign Competitors
- Foreign Socio-Economic-Political Scene
- International Trade
- International Science and Technology
- International Events

CANADA

- Clients
- Industry
- Science and Technology
- Other Government Organizations
- Canadian Economy

ISTC

- Authorities / Guidelines
- ISTC Products / Services
- Plans
- Money
- People
- Information Resources
- Management and Administration

III INFORMATION NEEDS

To perform our business functions, we need to have available for our use a vast amount of varied information. Without such information, our work would not be possible and we would not be able to serve our clients.

Chart 8 identifies the major categories of information we need to carry out our business in terms of three groupings: International, Canada and ISTC.

Appendix D provides a more detailed description of these information needs.

This classification of ISTC information needs is intended to provide enough detail to describe the breadth (though not the in-depth detail) of all the information required to support the functions, processes and activities in the ISTC Business Profile. Any more detailed or specific item of information should be able to be placed in one of the information subjects given here.

In relating these information needs to our business functions, it is clear that different functions have a significant need for the same kinds of information, and, similarly, that a particular area of information is of real interest and needed in more than one departmental function.

For this reason, and in light of the Information Management Strategy, a significant part of the information we need is what is considered to be **corporate information**, i.e., information which is:

- mission critical to our success in serving our clients;
- of corporate interest and needed for our use throughout the department;
- to be shared, when needed and appropriate, among ourselves by being made available and accessible; and
- a valuable corporate resource to be managed and used for the benefit of all of us in the department.

IV. RECOMMENDED ACTIONS

We have made progress, especially in the last few years, in the development of our corporate information and in related areas of information management.

We are meeting a host of our information needs. We are adopting an array of technologies and networks. We are developing or improving a number of information systems. We are putting in place a basic technology structure across the department. We are enhancing our analytical and computer expertise. We are encouraging greater information sharing and concern for intelligence in our corporate culture. We are showing leadership through the Information Management Strategy and the Information Management Committee in undertaking a series of studies, projects and initiatives in information management.

Our progress has been real. Our accomplishments have been considerable. Our efforts are continuing.

Our glass is half full; but it is also half empty. We are still on the road to our vision. And we must continue.

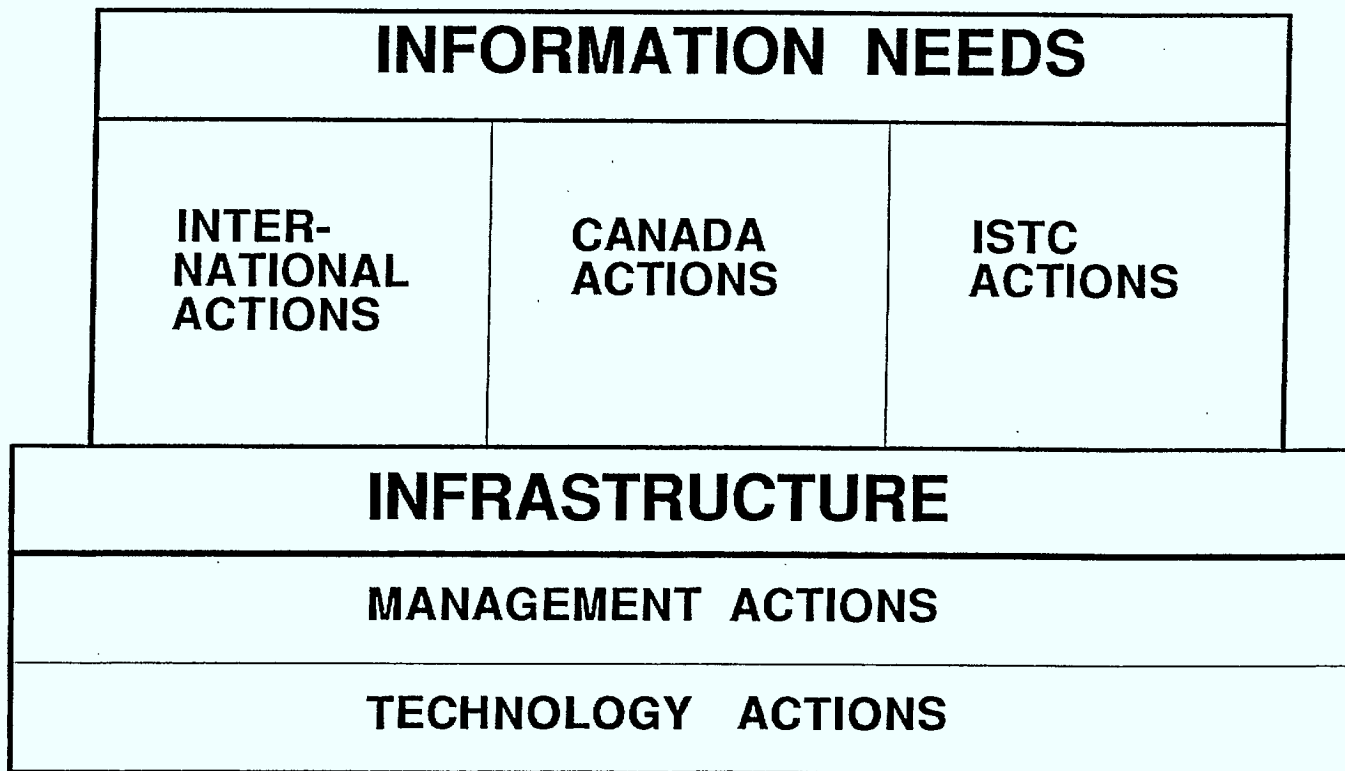
In moving forward and building upon what we have accomplished, we need to identify any existing gaps or weaknesses in terms of the quality or accessibility of our information. We also need to be aware of any problems or opportunities which we may have. Only then will we be able to decide on what actions, over and above what we have already done or are doing, we should be taking to address these outstanding issues.

From assessing the current situation in the department, two kinds of issues and actions are identified:

- **Information Needs:** These actions are directly related to specific issues in individual information needs in terms of the classification into International, Canada and ISTC.
- **Infrastructure:** These actions involve larger management matters and underlying technology concerns which are departmental in scope and affect all information needs collectively. Actions in these areas of management and technology are essential prerequisites for the more specific actions related to individual information needs, and also for optimizing the abilities of the department to use and share information and technology.

Chart 9 illustrates the relationship between the Information Needs Actions and the Infrastructure Actions.

CHART 9 - OVERVIEW OF CIP ACTIONS



The recommended actions related to Information Needs are summarized in Chart 10. Further details on these actions and the issues they address are provided in Appendix E (Information Needs Actions).

The recommended actions related to Infrastructure Management and Technology are summarized in Chart 11. Further details on these actions and the issues they address are provided in Appendices F (Infrastructure: Management Actions) and G (Infrastructure: Technology Actions)

Chart 12 summarizes the relative priorities of all the actions.

CHART 10 - INFORMATION NEEDS ACTIONS

INTERNATIONAL

- Conduct a horizontal SIP with EAITC on international information needs (I-1)

CANADA

- Conduct a horizontal SIP on client information and client needs (I-2)
- Develop an integrated Company Client System (I-3)
- Review the role of the Establishment System in providing client information (I-4)
- Develop an Improved Program Support System (I-5)
- Study information sharing with other agencies, and making such data accessible within ISTC (I-6)

ISTC

- Implement an improved on-line Telephone Directory (I-7)
- Develop an improved Human Resource System (I-8)
- Expand Pointers / Directories to available information (I-9)

INFORMATION NEEDS ACTIONS

The actions recommended here directly address one or more of the major information issues of the department, as determined in the course of the CIP project. These issues involve a specific information need which is not currently being satisfied, or which could be satisfied better.

These information issues all involve information needs at the **corporate** (as opposed to local) level. For purposes of this report, we can define corporate information as:

- mission critical to our success in serving our clients;
- of corporate interest and needed for our use throughout the department;
- to be shared, when needed and appropriate, among ourselves by being made available and accessible; and
- a valuable corporate resource to be managed and used for the benefit of all of us in the department.

These information needs issues and actions are grouped into the same three major categories as the information needs classification structure presented in Section III: International, Canada and ISTC.

INTERNATIONAL INFORMATION

- There is a widespread perception that critical information on international markets, clients, competitors, multinationals, etc. is not readily accessible within ISTC. On the other hand, much of this information may exist, either within the department or outside; but people may not know about it or how to access it. There is a need to determine on a functional or horizontal basis what the real requirements in this area are, and how they can best be satisfied from sources both within and outside the department.

Action: Conduct a horizontal Strategic Information Plan with EAITC to study departmental needs for international information (I-1).

CANADA INFORMATION

- Because of ISTC's fundamental mission to serve its clients, it is vital that the department have a commonly accessible source of client information. It requires an excellent knowledge of what clients need and expect from the department. This is a vital area which crosses virtually all organizational boundaries, and which therefore needs to be studied in a functional or horizontal manner.

Action: Conduct a horizontal Strategic Information Plan on ISTC needs for client information, and on client needs and expectations from ISTC (I-2).

- Up-to-date, reliable and accessible company client information is critical to the attainment of ISTC's mission and objectives. The development of an integrated system would reduce the current level of duplication and wasted effort in this area, and provide a common base for information and decisions.

Action: Develop an integrated Company Client System based on existing systems (I-3).

- The Establishment System is a fundamental part of the current corporate database, and provides client information to many other systems. It is perceived, however, to be unnecessarily complex, cumbersome, inflexible and expensive to operate and maintain. Its role in the larger picture should therefore be examined carefully.

Action: Conduct a review of the current Establishment System to determine its role and operation in providing client information in the department (I-4).

- Although funded programs are playing a smaller role in the overall departmental picture, they will continue to exist for many years. The current trend, in fact, is to smaller but more narrowly targeted and more complex programs and projects. PRISM was not designed to support this type of environment, and should be replaced by a more flexible system that permits the fast and easy addition of new and different programs, and provides greater support for the front-line program deliverers.

Action: Review PRISM and develop a new corporate Program Support System to support all programs in the department (I-5).

- Much of the information needed by ISTC is already available from other departments, and there is a need to share and combine information with related departments, especially those within the Minister's portfolio. In addition, there is a need to make information about other departments and agencies (their programs, policies etc.) accessible to users within ISTC, in support of both external and internal clients.

Action: Study means of sharing information with other departments, and of making information about other departments more accessible to people in ISTC (I-6).

ISTC INFORMATION

- Much of the information required within ISTC will not be automated. There will be a continuing need to be able to find and contact the person who is the expert in a given area, in order to find out what information does exist and where to get it. The provision of a complete, up-to-date, easily-searched telephone directory would save large amounts of time and assist greatly in information sharing.

Action: Implement an improved on-line ISTC Telephone Directory, to include information on responsibilities and skills (I-7).

- The current human resource system within ISTC needs to provide more accurate and up-to-date information on the department's human resources, especially in such key areas as training, skills, and career planning. Since its people are critical to its success, an improved system should be implemented in the department.

Action: Implement an improved Human Resource System for ISTC (I-8).

- It will be too expensive for many years to automate most of the information available within ISTC, not to mention the many sources outside the department. Moreover, people are now experiencing a mounting information overload problem. Building directories or pointers will enable people to determine what information exists and where to find it. Thus, the current Directories pilot should be broadened and strengthened. This should be done with due respect to the requirements of access to information and privacy.

Action: Extend the number and accessibility of directories and pointers to information available within ISTC and outside (I-9).

CHART 11 - INFRASTRUCTURE ACTIONS

MANAGEMENT ACTIONS

- Review information management processes and roles and responsibilities (M-1)
- Undertake an information culture campaign (M-2)
- Create a support group for strategic information planning (M-3)
- Implement common information standards and use a common information classification (M-4)
- Study re-engineering of administrative processes (M-5)
- Establish a task force on impact of information and information technology on people in ISTC (M-6)

TECHNOLOGY ACTIONS

- Conduct a technology review (T-1)
- Create a technology opportunities group (T-2)
- Implement electronic information exchanges with outside (T-3)
- Implement technology standards and methodologies (T-4)
- Develop application templates (RAD) (T-5)
- Update departmental database software (T-6)
- Implement departmental text information software (T-7)
- Study and upgrade departmental telecommunications (T-8)

INFRASTRUCTURE ACTIONS

There are certain key issues which affect our collective ability as a department to meet our specific information needs. Such issues impact significantly across all information needs and involve the underlying infrastructure we need to have in place in the department for success in meeting our information needs.

These infrastructure issues are departmental in scope and require corporate actions. They are also needed to optimize the department's existing investment in information, and to ensure that the required coordination and working together is forthcoming. Such actions are seen as essential prerequisites to addressing other issues and undertaking other actions which are more information need specific in nature.

These infrastructure actions involve both broad management matters and basic technology concerns.

MANAGEMENT

Managing information as a corporate resource involves performing certain management functions. It requires effective management practices and processes. It necessitates a management commitment and will to be successful. And it calls for appropriate management leadership and direction at the departmental level.

ISTC has taken a number of steps in the last few years to improve its basic information management infrastructure. An Information Management Policy has been established. An Information Management Strategy has been developed and actioned in several corporate initiatives, with resources being made available. Information management planning has been more closely linked with business planning. Management committees such as the IMC and IMAC have been established and in operation.

There is, however, a fundamental need to continue strengthening this existing information management infrastructure within the department. In particular, a number of outstanding management issues need to be addressed by actions at a departmental level on a priority basis. These issues are summarized in the paragraphs below, and the actions proposed to address them are listed.

- An underlying management issue is the independent and isolated activities which take place in the department in an uncoordinated manner. This leads to a basic duplication of efforts and disparate directions, resulting in a lack of effectiveness in meeting our clients' needs.

Certain basic information management processes remain weak or incomplete in their operations: setting priorities from business requirements and aligning information activities to these priorities; allocating resources to these activities, especially to corporate initiatives as well as local efforts; implementing and controlling these activities for the common good; and monitoring performance and progress. A departmental context, direction and coordination needs to be provided to local, ad hoc and isolated activities.

There is also an associated need to improve the mandates and operations of the key information management committees of IMC and IMAC, and to clarify the basic roles and responsibilities of IMB and other groups in sectors and regions involved in information management activities.

Action: Conduct a comprehensive review to improve the basic processes and clarify the specific roles and responsibilities in information management (M-1).

- The developing corporate culture in ISTC needs to be strengthened in terms of values and issues related to information and information management. This involves a better understanding of information issues and a stronger commitment and follow-up to required actions.

Action: Undertake an information culture campaign to increase awareness of information management through activities such as training, information exchanges, speakers, conferences, and workshops (M-2).

- The department needs to continue strategic information planning (SIP): what information is needed to support its business; and how this information can best be made available. But these information planning efforts need to be supported and assisted so that they are more consistent and better coordinated, and so that their results can be complementary and aggregated.

Action: Establish a central SIP support group to coordinate and assist in the development of various SIPs in the department (M-3).

- A lack of certain common information standards impedes the shareability of information across the department. This results in duplication of efforts and wasted resources. In particular, simple identifiers of individual companies and people are needed to be commonly used as a basic minimum.

In addition, the department lacks a common information classification which could be used in different but related activities involving SIPs, records management, library, the MGIH project, security, and access to information.

Action: Develop and implement common information standards and a common information classification to be used in the department (M-4).

- Basic administrative processes in the department which are cumbersome, overly complex and ineffective need to be streamlined and simplified to save resources and time and avoid duplicated or unnecessary efforts. The relevant information and appropriate information technology can then be identified and implemented. This should be done in full recognition of the Common Information Management initiatives now underway within the larger governmental community.

Action: Conduct a re-engineering study of administrative processes in the department to streamline and simplify them (M-5).

- The impacts of information and information technology on people in the department need to be considered and managed. Required changes may need to be made to existing work patterns, skill sets, job classifications, position descriptions, and training requirements.

Action: Establish a special task force to report on the impact of information and information technology on people in ISTC, and make changes as required (M-6).

TECHNOLOGY

Technology provides the necessary tools and platforms for building information systems and databases, and for transmitting this information. The development and maintenance of this technology structure is essential to the ability of ISTC to serve its clients and manage the department.

Given the rapid advances in current technology, the department should first review its overall strategy or framework for its use of information technology, and then build the required foundation through the establishment of needed standards and methodologies and the acquisition of updated software and other tools. Only then would it be appropriate to undertake major new application or database development projects.

- The OASA review developed a basic technology framework or strategy for the department, which has served it well over the last several years. Because of the constantly evolving nature of information technology, however, there is a need to review the current framework and adjust it where beneficial.

Action: Conduct a technology review to establish a technology strategy and framework for the department (T-1).

- An important aspect of ISTC's business concerns the role and use of technology in Canadian industry. It is appropriate, therefore, that ISTC itself make good use of available technology to improve the delivery of its current products and services to its clients, or develop entirely new products and services based on newer technology.

Action: Create a group to identify opportunities and implement technology-based delivery methods and products for clients (T-2).

- Much of the information needed by ISTC exists in external organizations (other government agencies, associations etc.), and much of ISTC's information is needed by external parties. Rather than re-gathering such information, the organizations should find ways of sharing it for their mutual benefit. The most efficient way of sharing information is by electronic transfer, which permits up-to-date information to be exchanged quickly and without need for re-entry. This should be done with due regard to the requirements of access to information and privacy.

Action: Implement methods of improved electronic information exchange with external clients and partners (T-3).

- Certain basic technical tasks within the department, such as software evaluation and acquisition, systems development, data modelling and database design, should be standardized. This would reduce training and maintenance costs, and improve the resulting products through the use of proven, industry-standard methods.

Action: Implement required departmental technology standards and methodologies (T-4).

- Currently, the development of new application systems requires the making of many decisions regarding approach and technology. These same decisions must be made for any system of a similar type. The development of standard templates would eliminate this duplication of effort, increase standardization of approach, and speed up the implementation of the systems. The application of RAD (rapid application development) approaches would also reduce the time required for development.

Action: Develop standard templates for developing common types of application systems, including RAD techniques (T-5).

- The departmental database software and associated tools now in use are unable to support the new distributed approaches to system and database design, or the migration of corporate systems to PC/LAN based platforms. New software would provide much greater flexibility, while at the same time permitting greater integration of information and systems across mainframe, minicomputer and PC platforms.

Action: Update the current departmental software used for corporate databases to take advantage of current tools and flexibility (T-6).

- The importance of text information to the department, and particularly in the production of intelligence, cannot be overstated. Much of the key information needed is in the form of documents. In order to permit the sharing of this text information, and its efficient storage and handling, a corporate standard for text management software is required.

Action: Implement a standard software package for text management within the department (T-7).

- The department is now implementing an efficient high-speed corporate network which will link all locations. The use of telecommunications facilities will only increase as more and more applications are built to access common, shared databases, and as images and voice as well as text are transmitted. Thus, a plan for future telecommunications facilities is required in order to evolve in an orderly and cost-effective manner.

Action: Study departmental telecommunications facilities and upgrade them as required to meet future demands (T-8).

ACTIONS AND REGIONAL OFFICES

The actions recommended are ones which are considered to be corporate actions: they are to be undertaken by the department and on behalf of the department as a whole. They are departmental actions designed to deal with important issues which are of concern and relevance throughout the department - both at Headquarters and in the Regional Offices.

These corporate actions and the associated issues they address are the direct result of extensive consultations and discussions with a wide cross section of people from both Headquarters and Regional Offices. Indeed, many of the actions recommended are ones which people from the Regional Offices have identified specifically and advanced vigorously as needed initiatives for the department as a whole to undertake.

In particular, the following actions have been actively promoted by individuals in the Regional Offices because of the expected benefits to them in their management of information:

- The international SIP (I-1) is seen as an opportunity for Regional Offices to become better aware of and gain greater access to key information they need on international matters. Such information may exist now at Headquarters but Regional Offices often find it difficult to know of its existence or precisely whom to contact at Headquarters to obtain it.
- Regional Offices work on the front-lines in the regions providing direct services to local clients. The continuing state of this relationship is seen as a priority concern, often overriding the at times difficult and demanding internal relationship between Headquarters and the Regional Offices. A client SIP (I-2) will ensure that the client focus of the Regional Offices is recognized, respected and supported throughout the department. Moreover, the action on an integrated Company Client System (I-3) will work towards improving this important information system on departmental clients, including those of the Regional Offices.
- Some Regional Offices have successfully established close information sharing relationships with other organizations, such as the International Trade Centres and certain provincial government departments and agencies. It has been stressed in some Regional Offices that the department should be developing more of these external linkages and working together with others. The actions related to information sharing with others (I-6) and electronic information exchanges (T-3) are designed to respond to these suggestions.
- People from the Regional Offices were among the strongest voices suggesting the need to develop an improved, on-line Telephone Directory (I-7), to improve the department's information concerning its human

resources (I-8), and to avoid information overload by adopting an information sharing approach based on information pointers or directories (I-9).

- It is in the Regional Offices that the necessity of developing basic information and technology standards (M-4 and T-4) for the department was most in evidence. Such standards are seen as essential prerequisites for information sharing practices, for the shareability of disparate information and for the compatibility of various systems.
- Regional Offices were also prominent in pointing out the incomplete or imperfect nature of certain information management practices and processes in the department. It was also suggested that the respective roles and responsibilities of various groups at Headquarters and in the Regional Offices in information management require some clarification and a common understanding. This is addressed as a priority action in the recommended review of such processes and responsibilities (M-1).

Over and above these particular actions which will address specific concerns expressed by the Regional Offices, the other recommended actions are expected to benefit all people in ISTC, whether they work at Headquarters or in the Regional Offices. There will be common, mutual benefits to all, for example, from such actions as improving program support information (I-5), undertaking an information culture campaign (M-2), re-engineering administrative processes (M-5), studying the impact of information and technology on people (M-6), and updating the departmental database software (T-6), text information (T-7) and telecommunications capabilities (T-8).

It is expected that these recommended actions will, by responding positively to the expressed concerns and priorities of the Regional Offices, meet their expressed needs. Moreover, they will result in a closer and more productive relationship between Headquarters and Regional Offices in terms of corporate information and information management.

To ensure this development, it is imperative that the recommended actions be seen and are, in fact, actually undertaken as departmental actions. Such actions are not carried out by only one area of the department in isolation from the other areas. They must include the active involvement and participation of the Regional Offices who have special perspectives, concerns and insights to contribute to these actions.

In this Corporate Information Plan, therefore, it is important to remember that the "corporate" in corporate information and in corporate actions is inclusive: it includes both Headquarters and Regional Offices because that is what makes up the department.

CHART 12 - OVERALL PRIORITIES FOR ACTIONS

CIP ACTIONS	CONTRIBUTION TO:			OVERALL PRIORITY
	ISTC BUSINESS (CRITICAL SUCCESS FACTORS)	IMS STRATEGIC OBJECTIVES	VIEWS OF ISTC PEOPLE	
INFORMATION NEEDS ACTIONS				
I-1 International SIP	●	●	●	●
I-2 SIP on Clients	●	●	●	●
I-3 Integrated Company Client System	●	●	●	●
I-4 Establishment System Review	○	○	○	○
I-5 Program Support System	○	○	○	○
I-6 Info Sharing with Departments	○	○	●	○
I-7 Telephone Directory	○	●	●	●
I-8 Human Resource System	●	○	●	●
I-9 Pointers / Directories to Information	○	●	●	●
INFRASTRUCTURE ACTIONS - MANAGEMENT AND TECHNOLOGY				
M-1 Review Processes & Responsibilities	●	●	●	●
M-2 Information Culture Campaign	○	●	●	●
M-3 SIP Support	○	○	○	○
M-4 Info Standards and Classification	●	●	●	●
M-5 Re-Engineering of Admin. Processes	○	●	●	●
M-6 Impact on People	●	○	○	○
T-1 Technology Review	○	●	○	○
T-2 Technology Opportunities Group	●	○	●	●
T-3 Electronic Information Exchange	○	○	●	○
T-4 Tech. Standards and Methodologies	○	●	●	●
T-5 Application Templates (RAD)	○	○	○	○
T-6 Departmental Database Technology	○	○	○	○
T-7 Text Information Software	○	●	●	●
T-8 Telecommunications Upgrade	○	●	●	●

LEGEND: ● = HIGH PRIORITY ○ = LOWER PRIORITY

PRIORITIES OF ACTIONS

The above actions related to specific information needs and to the management and technology infrastructure are all required to be undertaken in the department. This will ensure that ISTC continues to make progress in the development and management of its corporate information.

The priorities presented here are based on an overall assessment of the importance of the actions in terms of three factors:

- their relevance to the department's critical success factors in its business (as identified previously in Section II);
- their contribution to achieving the department's Strategic Objectives in information management as established in the IMS;
- the views and opinions of people in ISTC, as determined from the participants in focus groups and information sessions held throughout the department, and from the members of the CIP Working Group and Steering Committee.

Chart 12 summarizes the relevant priority of each action in terms of each of these three factors in terms of High / Lower ratings. From this, an overall priority rating is provided for each action, thereby indicating a sense of relative priority among the actions themselves.

CHART 13 - MULTI-YEAR PLAN

(1992-93 TO 1994-95)

ACTION	RESP	1992-93		1993-94		1994-95	
		000s	PYS	000s	PYS	000s	PYS
INFORMATION NEEDS ACTIONS							
I-1. International SIP	POL	50	0.5				
I-2. SIP on Clients	ITRO / CGSI	75	1.0				
I-3. Integrated Company Client System	ITRO / CGSI	400	2.0	500	2.0	500	2.0
I-4. Establishment System Review	FPA / IMB	50	0.5				
I-5. Program Support System	FPA / COMP	200	2.0	750	3.5	750	3.5
I-6. Information Sharing with Departments	POL	75	1.0				
I-7. Telephone Directory	FPA / ASB	50	0.5				
I-8. Human Resource System	FPA / HRB	50	2.0	500	3.0	1000	4.0
I-9. Pointers / Directories to Information	FPA / IMB	100	1.0	75	1.0		
INFRASTRUCTURE ACTIONS - MANAGEMENT AND TECHNOLOGY							
M-1. Review of Processes and Responsibilities	IMC / FPA	50	0.5				
M-2. Information Culture Campaign	IMC / FPA	75	0.5	50	0.5	50	0.5
M-3. SIP Support	FPA / IMB	150	1.0				
M-4. Information Standards and Classification	FPA / IMB	50	1.0	25	0.5	25	0.5
M-5. Re-engineering of Administrative Processes	FPA	75	1.5	75	1.5	2000	4.0
M-6. Impact on People	FPA / HRB	50	0.5				
T-1. Technology Review	FPA / IMB	50	0.5				
T-2. Technology Opportunities Group	ITRO / ITIB	50	0.5	50	0.5	50	0.5
T-3. Electronic Information Exchange	FPA / IMB	150	1.0				
T-4. Technical Standards and Methodologies	FPA / IMB	150	0.5				
T-5. Application Templates (RAD)	FPA / IMB	75	1.5	75	1.5		
T-6. Departmental Database Technology	FPA / IMB	125	0.5	500	1.5	500	1.5
T-7. Text Information Software	FPA / IMB	300	0.5				
T-8. Departmental Telecommunications Upgrade	FPA	75	1.0	500	2.0	500	2.0
TOTALS		2.5 M	21.5	3.1 M	17.5	5.4 M	18.5
GRAND TOTALS		11.0 M	57.5				

V IMPLEMENTATION PLAN

Chart 13:

- lists the actions to be undertaken;
- assigns specific responsibility for each action to an individual manager within the department; and
- estimates the financial and human resources required for each action in each year over the next three years from 1992-93 to 1994-95.

The following points should be noted:

- Although a specific responsibility for each action is assigned to an individual management centre for implementation, each action is considered to be a corporate action undertaken on behalf of the department. As such, these actions are expected to include the involvement and participation of all concerned areas in the department, especially the Regional Offices.
- The resource estimates are orders of magnitude only. More exact requirements are expected to be determined in the specific workplan for each action.
- The financial resource estimates include consulting and capital acquisition costs. In certain actions, the later costs in subsequent years are expected to be substantial.
- The human resource estimates indicate levels of effort from departmental personnel specifically assigned responsibility to undertake the action, but do not include the time of other members of the department which may be required. This associated time may, in total, be considerable and must be taken into account by local managers.

This plan involves the department undertaking 23 CIP action projects in 1992-93 at an estimated cost of \$2.5 million and 22 PYs.

These CIP actions take into account and are consistent with the initiatives indicated in the Information Management Strategy (and the Office Automation and Systems Architecture Plan). In fact, these actions support, build upon and extend the work identified and started in the IMS.

Appendix H details the exact relationship of these actions to the IMS by identifying the specific IMS strategic thrust which each action supports, and by showing the linkage of each action to the relevant IMS initiative(s).

The successful implementation of the plan in the department involves four prerequisites:

- **Obtaining Senior Management Approval and Support**
- **Securing the Necessary Funding**
- **Marketing the CIP Report and Actions**
- **Using Appropriate Approaches in Implementation**

Management Support

The recommended actions need to be approved and supported by the department's senior management as necessary initiatives to be undertaken in the interests of the department and its business.

For this reason, the approval of IMC and DMC needs to be sought and obtained.

Senior management support for the recommended actions will then be evidenced in the inclusion of these actions in the ISTC Information Management Plan (IMP) for 1992-93. This will also entail a management commitment to provide the required resources to undertake these actions.

Funding

Like other public sector organizations, ISTC is being challenged to face the reality of restraint. Resources in the department are limited. Freezes and cutbacks are taking place. Pressures are mounting from the squeeze between mounting workloads and shrinking resources. The internal competition for scarce resources is intense.

Given this reality, there is likely to be no new additional resources made available for information management activities. Whatever new initiatives, such as the CIP actions, the department is to undertake will likely have to be accommodated within the existing level of expenditures: approximately \$20 million in 1991-92 and an expected equivalent amount in 1992-93 for information management activities. These expenditures need, of course, to encompass necessary non-CIP as well as CIP actions.

It is recommended that the 23 CIP actions be undertaken and included in 1992-93 at an estimated cost of \$2.5 million and 22 PYs. This will represent a serious, concrete expression of the department's commitment to providing information leadership for

competitiveness. This will require the necessary senior management support in terms of allocating resources to these actions from within their existing budgets.

A special caveat with regards to funding should be stated. None of the actions recommended in this report have been proposed without their being in direct support of ISTC business objectives. They are also solutions in respect of common, widely-felt needs. If funds are not found for these corporate initiatives, the business needs will remain. This means that, when the needs are not met through leadership at a corporate, department-wide level, local initiatives will continue to be designed to address these business needs, but from a narrower, local perspective only.

It is probably not an exaggeration to say that the amounts proposed in this report for these common initiatives will be spent in any event. But this would be in a way that benefits our clients and ourselves to a much lesser extent than if we were to pool resources to address, as early as possible, the common problems and issues.

Finding the resources, however, remains a challenge. To assist senior managers to accomplish this, we would like to suggest a number of funding options, one or more of which will need to be used in securing the necessary funds:

1. A number of CIP actions may be ones which responsibility centres may have been already planning to undertake in some form or another. If so, then the required resources may, with some modification, be reprofiled towards the specific CIP actions.
2. Other existing resources within information management may be reallocated to the CIP actions through limiting planned major upgrades in technology. Such upgrades are a significant part of the available, existing resources now being used. It may be possible to limit or postpone some expenditures in this area in order to make available funds for the CIP actions.
3. Managers may decide, given the importance of the CIP actions, to allocate more of their O&M resources to the information management area than they had originally intended to do in 1992-93. Similarly, local managers may be proactive in taking creative and inventive measures to ensure that required funding is forthcoming.
4. Certain CIP actions may not be able to be accommodated within the existing local resources available in individual sectors. If so, then there is a possibility that a special corporate reserve of funds could be established to finance these actions. This reserve could come from an appropriate contribution each sector of the department makes, based on a pro-rated criterion which is fair and equitable. Funds from this reserve would be allocated to the responsible managers for undertaking the specific CIP projects for which they have been assigned responsibility.

CHART 14

ALTERNATIVE SCENARIOS FOR 1992-93 RESOURCES FOR CIP ACTIONS

CIP ACTIONS	TOTAL DOLLARS - 1992-93		
	\$2.5 M	\$1.5 M	\$1.1 M
	\$000	\$000	\$000
INFORMATION NEEDS ACTIONS			
I-1 International SIP	50	50	50
I-2 SIP on Clients	75	75	75
I-3 Integrated Company Client System	400	300	200
I-4 Establishment System Review	50	0	0
I-5 Program Support System	200	0	0
I-6 Info Sharing with Departments	75	0	0
I-7 Telephone Directory	50	50	50
I-8 Human Resource System	50	50	50
I-9 Pointers / Directories to Information	100	100	0
INFRASTRUCTURE ACTIONS - MANAGEMENT AND TECHNOLOGY			
M-1 Review Processes & Responsibilities	50	50	0
M-2 Information Culture Campaign	75	0	0
M-3 SIP Support	150	0	0
M-4 Info Standards and Classification	50	50	50
M-5 Re-Engineering of Admin. Processes	75	75	75
M-6 Impact on People	50	0	0
T-1 Technology Review	50	50	0
T-2 Technology Opportunities Group	50	50	0
T-3 Electronic Information Exchange	150	0	0
T-4 Tech. Standards and Methodologies	150	150	150
T-5 Application Templates (RAD)	75	0	0
T-6 Departmental Database Technology	125	125	125
T-7 Text Information Software	300	300	300
T-8 Telecommunications Upgrade	75	0	0
TOTALS	2.5 M	1.5 M	1.1 M

5. It may be possible to make funds available to some of the CIP projects through a vote transfer action when this becomes possible and appropriate during the course of the year.

If these funding options are not sufficient to obtain the necessary funds for the CIP actions in 1992-93, then two other alternatives may exist: scaling down and postponing.

The first possibility is to revise downward the original estimated costs for the actions to reflect a less ambitious or complete effort. Moreover, these estimates are only notional estimates at this point. A more detailed study of the financial requirements may result in less costs. If the full resources required are not available for an action, perhaps partial resources may be possible. This scaling down could be done by the responsible manager.

The other possibility is to postpone some projects. Although all the CIP actions are needed in the department and are recommended to be undertaken in 1992-93, the required resources may not be available. If so, then certain actions may need to be postponed to another year when the necessary resources may become available. This possibility must ensure, however, that the actions being postponed are not the highest priority ones for the department.

For this reason, Chart 14 lists which CIP actions should be undertaken in 1992-93 under three different resourcing scenarios i.e. if the available resources are \$2.5 million, \$1.5 million or \$1.1 million. Those ones which remain under the \$1.1 million scenario are the highest priorities of the CIP actions. (Any funding less than the \$1 million bare minimum is not considered to be a serious commitment on the part of the department to its corporate information challenge.)

The level of priority of each action is indicated in the previous Chart 12. The criterion for priority setting was the perceived importance of the action to the department's business as expressed by its critical success factors, to the IMS Strategic Objectives, and in the views of ISTC people consulted in the project.

It is recommended that the \$2.5 million be approved for 1992-93. Based on the proposed assignment of responsibilities for undertaking the recommended actions, the funding sources for 1992-93 would be as shown in Chart 15.

The final funding decisions for the CIP actions will be reflected in the department's IMP for 1992-93 and in an updated IMS.

CHART 15 - DISTRIBUTION OF 1992-93 CIP RESOURCES IN ISTC

1992-93 \$000

CIP ACTIONS	NON FPA SECTORS:			FPA SECTOR:				
	POLICY	ITRO/CGSI	ITRO/ITIB	COMPT	ASB	HRB	FPA	IMB
INFORMATION NEEDS ACTIONS								
I-1. International SIP	50							
I-2. SIP on Clients		75						
I-3. Integrated Company Client System		400						
I-4. Establishment System Review								50
I-5. Program Support System				200				
I-6. Information Sharing with Departments	75							
I-7. Telephone Directory					50			
I-8. Human Resource System						50		
I-9. Pointers / Directories to Information								100
INFRASTRUCTURE ACTIONS - MANAGEMENT AND TECHNOLOGY								
M-1. Review of Processes and Responsibilities								50
M-2. Information Culture Campaign								75
M-3. SIP Support								150
M-4. Information Standards and Classification								50
M-5. Re-engineering of Administrative Processes							75	
M-6. Impact on People						50		
T-1. Technology Review								50
T-2. Technology Opportunities Group			50					
T-3. Electronic Information Exchange								150
T-4. Technical Standards and Methodologies								150
T-5. Application Templates(RAD)								75
T-6. Departmental Database Technology								125
T-7. Text Information Software								300
T-8. Departmental Telecommunications Upgrade							75	
	125	475	50	200	50	100	150	1,325
	TOTAL NON FPA - \$650 (26%)			TOTAL FPA - \$1825 (74%)				
TOTAL ISTC CIP - \$2475								

Marketing

The CIP report and actions require a comprehensive and effective marketing plan. It is necessary to:

- inform people in ISTC (managers, officers, and staff) of the major upcoming actions resulting from the CIP;
- promote an appreciation by people in ISTC of the key importance to the department and its business of the CIP actions; and,
- gain support for these upcoming CIP actions.

The specific marketing steps to be taken in April of 1992 include management presentations, information sessions, distribution of copies of the CIP report, a memo from the deputy minister to all staff, a summary brochure/pamphlet, standard slides, newsletter articles, and reference in appropriate departmental activities and publications.

These steps will increase understanding, support and commitment to the CIP actions in the department at all levels. This will facilitate the actual implementation of the actions during the course of the year.

Such a marketing plan is provided as a separate attachment to this report.

Approaches in Implementation

The CIP actions which will be undertaken need to follow certain approaches in their implementation:

- There should be a clear integration of the CIP actions within the larger IMS which remains the department's comprehensive strategy for information management. An update of the IMS should be done and should include the CIP actions as part of it (as well as other plans such as OASA and IMP).
- There should be an involvement and participation of representatives from interested or affected areas of the department, especially in the Regional Offices, in the actual development and undertaking of specific CIP projects. Provision must be made by local managers for the time and effort of their people in this work on behalf of the department.
- A working group of key departmental specialists should be tasked, on behalf of IMC or IMAC, with coordinating and monitoring the CIP projects, with ensuring appropriate involvement of departmental personnel, and with addressing relevant corporate information issues and problems as needed. Such a group could evolve from the CIP Working Group.

APPENDICES
ISTC CORPORATE INFORMATION PLAN

INFORMATION LEADERSHIP
FOR
COMPETITIVENESS

April 1992

APPENDICES
ISTC CORPORATE INFORMATION PLAN
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APPENDIX A - STEERING COMMITTEE AND WORKING GROUP MEMBERS

ISTC - CIP STEERING COMMITTEE

Brian Anderson	ISTC British Columbia/Yukon
Rainer Andersen	ISTC Manitoba
Fruji Bull	Information Management Branch
Bob Chandler	ISTC Ontario
Alan Cobb	Science
Mike Eustace	Finance, Personnel and Administration
Terry Forth	Aboriginal Economic Programs
Norm Fraser	Industry, Technology and Regional Operations
Halina Gasewicz	Communications Branch
Guy-André Gélinas	ISTC New Brunswick/PEI
David Head	ISTC Alberta/NWT
Richard Johnston	Legal Services
Robert Knox	Policy
Bob Little	Chairperson
Dan MacDonald	Ontario Regional Development
Wayne Mackay	ISTC Saskatchewan
John MacKillop	Corporate Secretary
Claude Roy	ISTC Quebec
Roy Sherwood	ISTC Nova Scotia
Slavek Skorupinski	Capital Goods & Service Industries
Blair Stevens	Tourism Branch
Owen Taylor	Operations Audit Branch
Dave Wells	ISTC Newfoundland

ISTC - CIP WORKING GROUP

Frank Arecchi	Finance, Personnel and Administration
Paul Beaulieu	Information Management Branch
John Beveridge	British Columbia Regional Office
Alison Bunting	Corporate Planning
Bill Burns	Finance, Personnel and Administration
Bob Chandler	Ontario Regional Office
Dennis Chattaway	LGS Group Inc.
Anne Clapperton	Services to Business
Christian Codère	Quebec Regional Office
John Dornan	Finance, Personnel and Administration
Jack Drawbridge	Information Management Branch
Terry Ekdahl	Chairperson, Information Management Branch
Richard Guttormson	Information Management Branch
David Haggarty	Capital Goods and Service Industries
Tony Kwok	Manitoba Regional Office
Michel Lapointe	Policy
Carole Laurila	Operations Audit
Guy Lebrun	Industry, Technology and Regional Operations
Robert Margeson	LGS Group Inc.
Peter Martin	Communications Branch
Michael McCormack	SIP Centre - Information Management Branch
Waine McQuinn	External Affairs and International Trade
Betty Millar	Saskatchewan Regional Office
Peter Purkis	Information Management Branch
Linda St. George	LGS Group Inc.
Dave Thomson	Industry, Technology and Regional Operations
Wayne Tosh	Science
Rob Ward	Aboriginal Economic Programs

APPENDIX B - FOCUS GROUPS, REGIONAL VISITS AND INFORMATION SESSIONS

FOCUS GROUPS

BUSINESS SERVICES FUNCTION

Thursday, October 17, 1991
1:00 - 4:00 p.m.
5 East Lobby Boardroom

Anne Clapperton	Services to Business
Tom Morris	Business Service Centre - Ottawa
Alex Held	Business Service Centre - Toronto
Morris Krymalowski	ISTC - Montréal
Don Ranger	Business Opportunities Sourcing System
John Desborough	ESBO
Jim Kelly	Technology Outreach Directorate
Gerry Arundel	ISTC - Saskatoon
Jack Drawbridge	Information Management Branch
Paul Beaulieu	Information Management Branch

MONITOR, PROMOTION AND MARKETING FUNCTION

Wednesday October 23, 1991
10:00 a.m. - 1:00 p.m.
Room 601D

Dave Haggarty	CGSI
Sheila Watkins	Communications
Dave Black	CGSI
Dave Thomson	ITRO
Ruth Girard	Information Technologies
Roland Barry	Industrial Equipment Directorate
Andy Sotak	ISTC Toronto
Paul Beaulieu	Information Management Branch

MANAGEMENT AND ADMINISTRATION FUNCTION

CORPORATE SERVICES, LEGAL AND AUDIT

Monday, October 21, 1991

1:00 - 4:00 p.m.

3 East Lobby Boardroom

Carole Laurila	Operations Audit
Angela Montgomery	Access to Information & Privacy
Serge Croteau	Program Affairs
Mark Cuddy	Operations Audit
Philippe Bussy	Corporate Secretariat
Paul Beaulieu	Information Management Branch

FINANCE, ADMIN SERVICES AND MATERIEL

Tuesday, October 22, 1991

9:00 - 12:00 a.m.

Room 302A

Frank Arecchi	Finance, Personnel and Administration
George Esber	Comptroller's Branch
James Bond	AEP
Howard Dudley	Administration Services FPA
Brian Cook	Personnel & Administration
Lise Cyr	Administration Services FPA
Gilles Dorion	ASB
Lise Brisson	ASB
Rosemary Butler	Administration Unit - PPRS
Gerry Muller	Comptroller Branch
Terry Ekdahl	Information Management Branch

INFORMATION RESOURCES

Thursday October 24, 1991

9:00 - 12:00 a.m.

Room 601D

Grant Heron	ITRO
Angela Montgomery	ATIP
Elizabeth Renaud	ATIP
Dave Thomson	ITRO
Rise Segall	Library
Nick Rolfe	MGIH Project
Rick Paquette	Records Management
Judy Senkowski	Formerly PAB
Hélène Martin	Communications
John Olson	Communications
Janelle Sadler	HRB
Jack Drawbridge	Information Management Branch

HUMAN RESOURCES

Thursday October 24, 1991

1:00 - 3:00 p.m.

Room 601D

Carole Laurila	Operations Audit
Sylvie Dufresme	HRB
Joanne Bennett	HRB
Corinne Peppley	HRB
Claire Hammond	HRB
Jack Drawbridge	Information Management Branch
Mike McCormack	Information Management Branch
Mike Pringle	ITRO

POLICY, ADVOCACY AND ADVICE FUNCTION

Wednesday October 23, 1991

2:30 - 4:30 p.m.

Room 601D

Michel Lapointe	Policy
John Butler	PPRS
Glyn Moore	Evaluation & Planning
Maryanne Murphy	Policy
David Black	CGSI
Wayne Tosh	Science
Alison Bunting	Corporate Planning
Paul Beaulieu	Information Management Branch

FUNDED PROGRAMS FUNCTION

Friday October 25, 1991

9:00 - 12:00 a.m.

Room 601D

Bill Burns	Financial & Program Systems Directorate
Terry Ekdahl	Information Management Branch
Rob Ward	Aboriginal Economic Program
Peter Schnell	Aboriginal Economic Program
Glynn Moore	Program Evaluation
Stu Belson	Program Services
André St.Pierre	Information Technologies
Bernard Dreyer	Information Technologies
Lorraine Raynes	Information Technologies

REGIONAL VISITS

BRITISH COLUMBIA REGIONAL OFFICE

Friday, December 13, 1991

Presentation and Group Discussion

(2:00 - 4:00 P.M.)

Lyle Russell
Barry Oakley
Paul Lau
Brian Anderson

John O'Neill
Lynda Peach
Chris Bywater
Sandy Steward
Kraig Short
John Beveridge

Terry Ekdahl

Executive Director
Director, Industry and Technology Services
Senior Trade Commissioner
Director, Policy and Operations
(Steering Committee)

Manager, Tourism
Manager, Policy
Policy Analyst
Policy Analyst
Manager, Business Services Centre
Policy Analyst \ Information Technology Advisor
(Working Group)

Director, Data Management and Systems Development Division,
Information Management Branch

SASKATCHEWAN REGIONAL OFFICE

Tuesday, December 17, 1991

Presentation and Group Discussion

Wayne Mackay	Director, Policy, Planning and Corporate Services (Steering Committee)
Betty Millar	Manager, Communications and Business Service Centre (Working Group)
Gloria Gallacher	PEMD Coordinator
Carol Tanner	Business Service Centre
Muriel Hill	Receptionist
Ken McDonnell	Comptroller
Daryll Sewell	Business Service Officer
Dave Shortall	Director/Senior Trade Commissioner
Tom Rogers	Trade Commissioner
Paul Beaulieu	Information Management Branch
Terry Ekdahl	Information Management Branch

MANITOBA REGIONAL OFFICE
Monday, December 16, 1991
Presentation and Group Discussion
(11:00 A.M. - 12:00 Noon and 1:15 - 3.30 P.M.)

Rainer Anderson	Executive Director, Manitoba (Steering Committee)
Tony Kwok	Regional Systems Analyst (Working Group)
Louis Cyrenne	Director, Communications
Charles Hatzipanayis	Manager, Tourism
Emilee Pedruchny	Industry Technology and Trade Officer
Shannon Coughlin	Manager, Business Service Centre
Michael Clark	Sr. Trade Commissioner, International Trade Centre
Bill Cavey	Planning
Bob Stalker	Sr. Policy Officer, Industry and Technology
Eugenie Prevost	Policy (Member of Total Quality Management Review Team)
Ronald Laing	International Trade Centre
Guy Lebrun	Information Technology Industries Branch
Paul Beaulieu	Information Management Branch
Terry Ekdahl	Information Management Branch

ONTARIO REGIONAL OFFICE
Monday, November 25, 1991
Presentation and Group Discussion

Paul Beaulieu	Information Management Branch
Terry Ekdahl	Information Management Branch
Bob Margeson	LGS
Bob Chandler	Director, Finance and Administration (Working Group/Steering Committee)
Jane Adams	WordPerfect Support
Dennis Baker	Senior Trade Commissioner, International Trade Centre
Bob Chandler	Director, Finance & Administration
Bill Cramm	Regional Executive Director
David Dallimore	Director General, Policy, Planning and Communications
Alex Helcl	Manager, BSC & Communications
Steve Hertzberg	Director, Information Technologies & Environmental Industries
Barry Lett	Manager, Program Services
Paul Rodrigues	Manager, Finance (including PEMD admin)
Eric Silver	Computer Services, LAN
Lucy Stumpf	Human Resources

HALIFAX REGIONAL OFFICE
Presentation and Group Discussion
Wednesday, December 18, 1991
(9:30 am to 12:00 noon)

Paul Beaulieu	Information Management Branch
Bob Russell	Executive Director
Roy Sherwood	Director, Industry and Technology (Steering Committee)
Dale Blair	Industry Development Officer
Valerie Bachynsky	Policy and Planning Officer
Francois Massé	System Analyst
Maureen Jeffries	Manager, Management Services
Mary Ann Everett	Manager, Business Service Centre

QUEBEC REGIONAL OFFICE

Thursday, December 19, 1991

(10:30 A.M. to 12:00 noon)

Terry Ekdahl
Guy Lebrun
Anne-Marie Willis
Benoit Raby
Claude Roy

Christian Codère
Origène Corriveau
Francois Archambault
Pierre Boyer
Gérard Chiasson

Information Management Branch
Information Technologies Industry Branch
Regional Executive Director
Director General, Electronics and Informatics Products Industry
Director General, Consumers Goods and Services Industry
(Steering Committee)
Director, Planning and Information Management (Working Group)
Sector Manager, Transportation Aeronautical & Defence Industries
Director, Europe/Africa/Middle-East, International Trade Centre
Director, Asia/Pacific, International Trade Centre
A/Director General, Primary Products Industries

INFORMATION SESSIONS

INFORMATION MANAGEMENT ADVISORY COMMITTEE
Wednesday, October 16, 1991

INFORMATION MANAGEMENT COMMITTEE
Wednesday, October 23, 1991

ADVISORY COMMITTEE ON SERVICES TO BUSINESS
Wednesday, November 13, 1991

POLICY SECTOR MANAGEMENT MEETING
ADM, DGs and Directors Management Meeting
Monday, December 2, 1991

INDUSTRY, TECHNOLOGY AND REGIONAL OPERATIONS
ADM and DGs Management Meeting
Friday, December 6, 1991

FINANCE PERSONNEL AND ADMINISTRATION
ADM and DGs Management meeting
Wednesday, December 11, 1991

INDUSTRY, TECHNOLOGY AND REGIONAL OPERATIONS
AND
CONSUMER GOODS AND SERVICE INDUSTRIES
Informatics Management Committee
Tuesday January 28, 1992

APPENDIX C - ISTC BUSINESS PROFILE

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INTRODUCTION

The **ISTC Business Profile** is an overview of the businesses in which the department engages, and the activities which it carries out in the course of these businesses. This overview is intended to provide the foundation for the definition in the Corporate Information Plan (CIP) project of:

- the information needed to support these business activities
- issues related to these information needs
- actions to address these information issues

In short, the Business Profile provides the required "business case" for showing how information contributes to achieving the department's mission and serving its clients.

The following points are critical in viewing this Business Profile:

- ISTC exists to serve its clients. Its activities are undertaken because they are required in order to provide needed and valuable benefits to its clients. For this reason, ISTC work activities start and finish with the clients they are meant to serve. The basis for this Business Profile, therefore, is the fundamental client focus of ISTC.
- This Business Profile of ISTC was developed in light of the major activities and projects of a corporate nature which are currently being undertaken to improve the department and its operations. This includes such related initiatives or work from the Information Management Strategy, the Office Automation and Systems Architecture Study, the Management of Government Information Holdings Project, Part III of the Main Estimates, the Corporate Plan, the Marketing Task Force, PS 2000, the Prosperity Initiative, the Strategic Directions exercise, the Total Quality Management review, etc. Every effort is being made to ensure that this Business Profile takes into account, reflects and is consistent with these and other relevant departmental activities as they evolve.

The Business Profile consists of the following components:

I. **Mission and Objectives:**

- the departmental **mission and values**, as approved by the department's senior management
- a brief summary of the **context** in which the department operates, which is primarily based on the latest version of the Strategic Directions paper
- a list of the department's **objectives**, taken from the Corporate Plan
- a list of the department's **clients**, divided into external and internal

It is important to note that this section is based on the available, approved management decisions of the department to date, as expressed in a number of formal departmental documents.

II. Critical Success Factors:

- a list of possible critical success factors has key areas in which the Department must excel to be successful in its work for achieving its mission and objectives and serving its clients

This list of critical success factors has been derived from an interpretation of the preceding Mission and Objectives section.

III. Business Functions:

- a list (with definitions) of the 5 major **functions** carried out by the Department (These may be thought of as the five basic "sub-businesses" of ISTC - the major work it carries out in serving its clients)
- for each function, its constituent **processes**, each with a definition
- for each process, its constituent **activities**

It is important to note that this identification of work in ISTC is expressed in terms of **functions, not organizations**. Any given work component may apply to several sectors, branches or regions; and any given sector, branch or region is almost certainly engaged with more than one component. Such an approach provides a more stable model of ISTC's work, since the basic functions will remain much the same, even if the organizational structure of the department changes.

Similarly, the functions and their components are intended to be **complete in breadth, not depth**. It should be possible to include everything done by the department under one of the components, but at an aggregated level. There is no intention to define every task or procedure carried out within ISTC. The intention is to provide a strategic overview of ISTC' work, not a series of detailed job descriptions or manuals.

Lastly, it is important to recognize the critical role of **intelligence** in the department. Underlying all of these business functions as an integral part of their nature is the essential part played by intelligence. Intelligence is seen as the value-added product of information analysis by people in ISTC which is meaningful or useful to its clients. This involves the identification of information requirements, the collection of data, the analysis of information, and the dissemination of the resulting intelligence to clients. This intelligence factor can not be arbitrarily separated and broken away from the basic functions of the department; it is part and parcel of what they are about and what they must entail.

I. ISTC MISSION AND OBJECTIVES¹

Mission

ISTC's mission is to promote international competitiveness and excellence in Canadian industry, science and technology.

In fulfilling this mission, ISTC strives to:

- be a people-oriented organization founded on knowledge, professionalism, mutual respect and trust
- offer high quality information and services to its clients
- promote and recognize innovation and excellence
- provide leadership

Context

ISTC's mission reflects the government's commitment to developing a technologically-advanced and internationally-competitive industrial economy. Therefore, its priorities, policies, services and financial incentive programs are designed to facilitate Canada's ability to compete effectively in an increasingly competitive and complex global marketplace.

Particular stress is placed on the key determining factors or basic building blocs of competitiveness and prosperity:

- finding imaginative approaches to the human aspects
- facilitating industrial restructuring
- getting the international markets and marketing framework right
- getting the domestic framework right
- making sustainable development a reality
- stimulating investment for innovation and growth
- strengthening Canada's knowledge base of science and technology to enhance its development and application in all areas, particularly industrial innovation
- strengthening linkages with key partners

In all of these areas, ISTC's stock-in-trade as a client focused will continue to be its knowledge base, its analysis and intelligence and its networks.

¹ Sources: a. Corporate Plan 1991-92, June 14, 1991
b. ISTC's Strategic Directions (Draft), September 27, 1991

Objectives

1. Improving Canada's performance in international trade.
2. Facilitating cooperation among private and public sector partners.
3. Stimulating the growth of the Canadian industrial, scientific and technological base.
4. Developing industry and science policies to build a climate for sustainable long-term economic growth.
5. Championing the growth of a Canadian scientific community and culture.
6. Encouraging innovation, research and development and the adoption and diffusion of the best technologies.
7. Facilitating the collection and dissemination of information of strategic significance to the business and scientific communities.
8. Acting as a reasoned advocate within the federal government for the interests of the industrial and scientific communities.
9. Promoting and facilitating investment in Canadian industry, science and technology.
10. Fostering entrepreneurship and the start-up and expansion of small business.
11. Supporting the development and growth of a strong aboriginal business sector.
12. Supporting and coordinating federal regional economic development in Ontario.
13. Promoting and developing Canada as an attractive and competitive destination for international tourists.

Clients and Partners

ISTC exists to serve its clients. The work it undertakes is required in order to provide needed and valuable benefits to its particular clients. This work is based on a partnership approach, with ISTC working together with its clients and related actors in the private and public sectors. For this reason, ISTC is a client focused department whose work starts and finishes with the clients it is meant to serve.

No particular priority is implied by the order in which the clients are listed.

- o External (Outside the Federal Public Service)
 - Companies/corporations
 - Business and trade associations
 - Entrepreneurs
 - Partners
 - Foreign governments
 - International organizations and firms
 - Provincial/territorial/regional/municipal/aboriginal governments
 - Research institutes
 - Scientific organizations
 - Financial institutions
 - Professional associations
 - Media
 - Aboriginal groups
 - Universities, Colleges, Technology Institutes, Schools
 - Students
 - Opinion Leaders
 - Professionals
 - Labour
 - General public
- o Internal (Within the Federal Public Service)
 - Parliament
 - Ministers/Cabinet
 - Members of Parliament
 - Other federal departments and agencies
 - Senior ISTC management
 - ISTC sectors/branches
 - ISTC Regional Offices
 - ISTC employees
 - Public Service Unions

II. ISTC CRITICAL SUCCESS FACTORS

Critical Success Factors (CSFs) are those key conditions under the control of the department in which excellence must be achieved if the department is to achieve its mission and objectives and serve its clients.

In other words, CSFs are areas in which the department must "get it right" if it is to be successful in achieving its mission and objectives and in serving its clients.

It is important to distinguish CSFs from performance measures or indicators. CSFs simply identify the critical areas, **without** specifying how the department will actually measure how well it is doing in these areas. CSFs do, however, imply the need for such measurements (performance indicators), which in turn imply the need for certain types of information.

The Corporate Information Plan (CIP) project will use the CSFs:

- to identify critical areas of the department's business
- to infer the information needs of these areas:
 - for carrying out the activities
 - for measuring the success of the activities
- to determine how well the information needs of these critical areas are currently satisfied
- to recommend initiatives / actions to improve critical areas whose information needs are **not** currently being met as fully or to the extent necessary

Thus, it is important to the project that the department's CSFs be as clear and well-established as possible, and that they also be acceptable to as wide a spectrum of departmental managers as possible.

The CSFs presented here are based on the preliminary ones identified in the ISTC Information Management Strategy (IMS). The CIP project will use these CSFs as indications of high-priority information needs within the department.

These CSFs should be critically examined and reviewed on a periodic basis to ensure continuing relevance, completeness and priority importance to the department's mission and objectives.

It should be noted that **no priority** is implied by the order in which the items are listed.

ISTC CRITICAL SUCCESS FACTORS²

In order to achieve its mission and objectives and serve its clients, there is a continuing need for ISTC to strive constantly for excellence in all its critical success factors:

- in-depth understanding of clients: who they are and what they need and expect; the specific situation and economic climate in which they operate; their problems and successes; their particular views; their strengths and weaknesses in comparison to their competitors
- effective networks of communication and working relations with clients, other government departments and agencies, provincial governments and other partners
- development and implementation of strategies and plans which are well understood, widely supported and actively used in daily work
- efficient provision of high quality value-added client services and cost effective programs which are relevant to clients' needs
- effective and credible leadership with other government organizations on behalf of clients
- effective management and use of information, knowledge and intelligence on industry, markets and market opportunities, and science and technology in Canada and around the world
- a people oriented Department based on professionalism, communication, recognition, mutual respect and trust
- recruitment, retention and development of skilled, experienced and motivated human resources in the Department
- monitoring results and feedback from departmental activities, including learning from past successes and failures and from the wisdom of employees
- effective and efficient leadership, management and administration of the Department as an organization

² These CSFs are listed in no particular order of priority.

III. ISTC BUSINESS FUNCTIONS³

ISTC is a client focused department which serves its clients. It undertakes works to achieve its mission and objectives, and to be excellent in its critical success areas.

ISTC's work can be described in terms of the following basic functions (each of which involves specific processes and activities):

- Provision of Policy, Leadership and Advice on Canadian Industry, Science and Technology
- Provision of Business Services to ISTC Clients
- Monitoring, Promoting and Marketing of Canadian Industry, Science and Technology
- Provision of Funded Programs
- Management and Administration of the Department

This identification of work in ISTC is expressed in terms of **functions, not organizations**. Any given work component may apply to several sectors, branches or regions; and any given sector, branch region or branch is almost certainly engaged with more than one component. This provides a more stable model of ISTC's work, since the basic functions will remain much the same, even if the organizational structure of the department changes.

Similarly, the functions and their components are intended to be **complete in breadth, not depth**. It should be possible to include everything done by the department under one of the components, but at an aggregated level. There is no intention to define every task or procedure carried out within ISTC. The intention is to provide a strategic overview of ISTC' work, not a series of detailed job descriptions or manuals.

It is important to recognize the critical role of **intelligence** in the department. Underlying all of these business functions as an integral part of their nature is the essential part played by intelligence. Intelligence is seen as the value-added product of information analysis by people in ISTC which is meaningful or useful to its clients. This involves the identification of information requirements, the collection of data, the analysis of information, and the dissemination of the resulting intelligence to clients. This intelligence factor can not be arbitrarily separated and broken away from the basic functions of the department; it is part and parcel of what they are about and what they must entail.

³ The Business Functions are listed in no particular order of priority.

PROVISION OF POLICY, LEADERSHIP AND ADVICE ON CANADIAN INDUSTRY, SCIENCE AND TECHNOLOGY

Lead and coordinate the development of industrial, scientific and technology policies in support of the Government's priorities; promote scientific and technological excellence; and act as a reasoned advocate to promote priorities to clients, advocate government policy to industry, advocate industry's requirements and represent clients within the Government and Cabinet.

PROCESSES

1. Provide Strategic Direction and Management of Policy Agenda

Develop the department's direction and agenda, based on Government and economic priorities, in policy issues related to Canada's international competitiveness.

2. Develop Approach to Technology Diffusion and Innovation

Establish a comprehensive framework for managing technology diffusion/transfer and innovation strategies.

3. Participate in Canada's Trade Agenda

Lead (on the domestic front) or assist (in the international arena) in the development of Canada's trade policies and strategies, including internal (interprovincial) trade.

4. Leadership on Behalf of Clients

Promote Government's and ISTC's priorities to clients and represent clients interdepartmentally and in Cabinet.

1. Provide Strategic Direction and Management of Policy Agenda

- a. Prepare discussion papers on current priority items
- b. Coordinate special studies and knowledge enhancement activities on policy issues
- c. Develop, promulgate and advocate ISTC's strategic directions and views in relation to current priority items
- d. Coordinate an integrated approach to the management of complex, multi-lateral policy areas (e.g. the environmental agenda) recognizing the interdependence of domestic and international issues and the need for consistent, rational and informed policy responses
- e. Develop and promulgate policy to promote scientific excellence in support of improving Canada's international standing/respect
- f. Manage the Science and Technology Fund

2. Develop Approach to Technology Diffusion and Innovation

- a. Develop a coordinated approach and framework for a comprehensive Canadian diffusion strategy
- b. Prepare special studies of selected technologies (e.g. advanced industrial materials, medical technologies, ocean technologies and information technologies)
- c. Develop policy positions on intellectual property rights
- d. Develop strategies for specific technology areas
- e. Encourage, promote and develop strategies and mechanisms to facilitate technology transfer from government laboratories
- f. Undertake efforts to optimize the commercialization of Canadian inventions/innovations
- g. Facilitate the building of networks and strategic alliances for technology diffusion and innovation

3. Participate in Canada's Trade Agenda

- a. Participate in the development of Canada's trade policies and strategies in the context of international trade negotiations (e.g. MTN, the FTA, NAFTA, Europe 1992 and the Pacific Rim), especially with an industry sector specific focus
- b. Defend interests of Canadian industry against unfair trade practices in export markets and against unfair practices from abroad which disrupt the Canadian market
- c. Lead the initiative to reduce interprovincial barriers to trade for creation of enhanced domestic markets
- d. Manage Canada's science and technology relationships with major trading partners (e.g. Japan, U.S., Europe)

4. Leadership on Behalf of Clients

- a. Promote and explain the Government's economic, scientific and technological agenda and priorities to all stakeholders through regular consultations with provincial and territorial governments, industry, national business organizations, the science community, universities, and labour organizations
- b. Obtain and analyze viewpoints of ISTC clients and stakeholders and make representations as appropriate on their behalf to other departments and agencies and to the Cabinet
- c. Analyze impact of OGD programs, regulatory regimes and non-regulatory policies on competitiveness of Canadian firms (including efficient functioning of the domestic market) and development of recommendations for appropriate intervention
- d. Raise the profile of small and medium enterprises as vital elements of the economy

PROVISION OF BUSINESS SERVICES TO ISTC CLIENTS

The provision of ready access to timely, value-added and cost-effective industrial, trade, scientific and technological intelligence, expertise and products to the business community, in response to their needs and in support of departmental priorities. The determination of client needs, and the development, delivery, monitoring and evaluation of ISTC business services, are carried out in consultation/collaboration/cooperation with ISTC clients, suppliers, intermediaries, partners and staff.

PROCESSES

1. Determine Business Service Needs of ISTC Clients

Through a consultative process, identify the needs of the business community for industrial, trade, scientific and technological services to enable ISTC to set strategic directions and develop effective, value-added services in support of Departmental priorities. Such services may include matchmaking, brokerage and referral services, and consulting/counselling.

2. Develop Business Services

Develop specific business services or help develop information intermediaries in cooperation with interested parties in order to respond to needs and support Departmental service strategy and priorities.

3. Deliver Business Services

In cooperation with partners, facilitate and provide industrial, trade, scientific and technological business intelligence, expertise and products to the widest possible client base, while maintaining focus on target clients.

4. Monitor, Evaluate and Continuously Improve Business Services

Monitor on an ongoing basis and evaluate on a periodic basis each business service (with roll-up on a Departmental basis) to determine the extent to which each service meets its mandate, goals, and objectives and to ensure continuous improvement of business services in response to current client needs and Departmental priorities within given resource constraints.

1. Determine Business Service Needs of ISTC Clients

- a. Define ISTC clients for business services
- b. Identify business service needs of ISTC clients
- c. Determine gaps in the marketplace in meeting these needs
- d. Assess which existing or new business services ISTC should target and prioritize
- e. Develop and implement resource effective services strategy
- f. Design and implement approval process, criteria and evaluation framework for new/enhanced business services
- g. Identify, acquire and allocate resources
- h. Establish an ongoing, effective communications network with internal and external clients, suppliers, intermediaries, partners and staff

2. Develop Business Services

- a. Prepare proposal for approval to develop new/enhanced business service
- b. Obtain approval to fund and develop new/enhanced business service
- c. Prepare detailed multi-year business plan
- d. Develop and implement detailed functional plans (human resource, information, technology, communication, financing)
- e. Design delivery mechanisms and procedures

3. Deliver Business Services

- a. Develop and implement annual business plan (goals, objectives, results, activities, performance indicators)
- b. Market business services internally and externally
- c. Evaluate and process requests (proactive and reactive)
- d. Diagnose client needs
- e. Identify solution(s) and ISTC role
- f. Facilitate/leverage/produce/provide business services
- g. Assess other possible clients for output of above and disseminate business service products where feasible

4. Monitor, Evaluate and Continuously Improve Business Services

- a. Plan detailed monitoring and evaluation framework for business service
- b. Monitor services on an ongoing basis, including client follow-up, client satisfaction and performance indicators
- c. Analyze results and performance vis-à-vis goals, objectives, and pre-established targets/indicators
- d. Undertake evaluation studies, including market needs assessment, on a periodic basis
- e. Develop recommendations to improve services or develop new/enhanced services
- f. Internalize recommendations at both corporate and local levels to improve Departmental strategy and current services on a continuing basis and/or develop new/enhanced services

MONITORING, PROMOTING AND MARKETING OF CANADIAN INDUSTRY, SCIENCE AND TECHNOLOGY

Monitoring, promoting and marketing involves the acquisition and maintenance of an information base on the capabilities and needs of Canadian companies and on international market and technology trends, as a basis for identifying opportunities, formulating industrial strategies and undertaking ISTC activities to establish Canada as a leading international competitive force. These activities will result in increased company and public awareness of the importance of science and technology for international competitiveness. Promoting Canadian industry, science and technology also includes pursuing opportunities to promote Canadian capabilities or acquire technology or investment.

PROCESSES

1. Acquire, Maintain and Disseminate Information on Canadian Industry, Science and Technology

Acquire, maintain and update the knowledge base needed to promote Canadian industrial development through program delivery, performance of services, provision of intelligence and advice to industry and other government departments.

2. Develop Exports, Tourism and Domestic Markets

Assist Canadian firms to export their products and services, attract tourists or create new domestic supplier relationships in cooperation with EAITC, business associations, foreign partners, other federal and provincial departments and government agencies.

3. Facilitate the Acquisition and Use of Technology by Canadian Industry

Assist Canadian firms to maintain competitiveness by becoming aware of, acquiring and using "leading edge" and "best practice" technology.

4. Promote Industrial Development

Assist Canadian firms to acquire equity investments, technology, management and domestic/foreign partners for strategic alliances, joint ventures, or co-production, value-added processing and other measures to promote competitiveness.

5. Promote Industrial, Scientific and Technological Cooperation

Promote scientific research collaboration, industry and firm linkages, industry/trade associations, exchanges and matches with potential domestic and foreign partners, through government to government efforts.

1. **Acquire, Maintain and Disseminate Information on Canadian Industry, Science and Technology**
 - a. Plan strategies and sector campaigns for industry development, tactics for dealing with foreign governments, firms and international organizations
 - b. Acquire and analyze information on Canadian firm capabilities, needs, interests, problems; on key foreign firms/competitors and economic and market trends, technology developments and industrial and S&T policies; and on competitive strategies in international trade at the corporate and government levels
 - c. Disseminate intelligence through letters, subscriptions, pamphlets, directories, briefings, seminar presentations, guest speakers, in-depth studies etc.
 - d. Prepare industry sector profiles and competitiveness analyses comparing Canadian trends with international developments
2. **Develop Exports, Tourism and Domestic Markets**
 - a. Acquire information on markets of opportunity abroad and establish priority sectors
 - b. Develop information data-base on Canadian industry export capability
 - c. Provide information on the performance of Canadian industry
 - d. Collect and disseminate information on markets of opportunity
 - e. Provide advice on foreign market opportunities, barriers, incoming buyers' missions and visits, and relevant publications
 - f. Promote trade through seminars, articles, awareness campaigns, audio visuals, missions
 - g. Provide counselling and advice on "how to export", market opportunities, access to foreign markets, government services and programs
 - h. Improve Federal Provincial relations through coordination of programs, knowledge of priorities, joint promotional products
 - i. Liaise between industry and government via undertaking joint projects and relating private sector views to government priorities
 - j. Provide a Major Projects Office for information, guidance and assistance to realize more successful international tenders

- k. Carry out domestic and/or international marketing activities such as promoting linkages between domestic users and supplier industries, and the formation of export consortia

3. Facilitate the Acquisition and Use of Technology by Canadian Industry

- a. Identify industry sector, foreign country and Canadian provincial/territorial priorities and strategies for acquisition of and collaboration on technologies
- b. Provide advice on opportunities, missions, analysis and reports
- c. Broker technology for missions, strategic alliances, joint ventures
- d. Promote technology awareness and provide advice and referrals to experts on how to identify/acquire foreign technology, negotiate technology collaborations, and manage technology
- e. Harmonize domestic and international regulations and standards
- f. Promote technological infrastructure development
- g. Promote commercialization of research (e.g. from government laboratories)

4. Promote Industrial Development

- a. Establish industrial and investment development strategies and priorities by sector, country and region/province/territory
- b. Identify and respond to enquiries from potential partners for Canadian firms and analyze competitive advantages
- c. Broker joint investment ventures, strategic alliances, technology transfers
- d. Promote general events such as seminars, guest speakers, investment promotion events and publications, prospecting trips, missions, fairs
- e. Negotiate industrial benefits from major crown projects, procurement policies, and the "Green Plan"
- f. Assist with industrial adjustment/restructuring/rationalization of Canadian industry
- g. Increase value-added processing of resources and secondary manufacturing industries

- h. Promote aboriginal economic development and regional economic development in those areas not assigned to other departments and agencies
- i. Administer import control policies, provide advice on duty remissions, tariff changes and Canadian production capabilities
- j. Encourage scientific and technological education, labour training, safety, quality improvement, client service and management development

5. Promote Industrial, Scientific and Technological Cooperation

- a. Develop international government industrial cooperation agreements, such as annual review meetings, approved action plans, networks with senior foreign government officials, joint projects
- b. Negotiate formal memoranda of understanding with corporations, associations and research institutes to promote industrial cooperation, exchange of market intelligence, brokerage opportunities, third country projects, joint ventures and technology transfers
- c. Develop science and technology agreements through formal agreements and consultative meetings, joint collaboration on scientific projects
- d. Arrange missions for meetings between Canadian and foreign firms and Ministers; increased profile for Canadian business interests abroad
- e. Liaise and collaborate internationally for participation by ISTC in meetings and consultations, promotion of Canadian interests abroad, and intelligence activity
- f. Carry out consultations on issues affecting competitiveness of Canadian industries
- g. Promote environmental responsibility, particularly life cycle management of products
- h. Assist international conferences in Canada to showcase Canadian technological and scientific capabilities and inform Canadians of the best from elsewhere
- i. Promote linkages between industry and science by establishing centres of excellence
- j. Build a supportive culture of entrepreneurship, business and science in Canada

PROVISION OF FUNDED PROGRAMS

Funded Programs are initiatives to encourage and assist Canadian business to develop projects which will result in economic benefits to Canada.

PROCESSES

1. Identify Program Requirements of Canadian Industry, Science and Technology

New initiatives are usually in response to the Government's perceived needs of a certain segment of the population or for the betterment of the country as a whole. Thus, ideas for proposed initiatives can come from:

- concerned citizens or sector (lobby) groups;
- Ministers
- opposition parties;
- Royal Commission reports;
- Parliamentary committees;
- election campaigns;
- provincial/territorial governments;
- other government departments and agencies;
- the Privy Council Office (PCO) which, among its responsibilities, advises the Prime Minister on legislation;
- ISTC advisory groups
- ISTC personnel

While the various proposals for a program initiative are being studied within the Department, a number of consultations are held with stakeholders, special interest groups, appropriate provincial/territorial ministers and other government departments and agencies, such as Finance, Treasury Board Secretariat, the Privy Council Office and the Federal-Provincial Relations Office. Once the departmental decision-making process has been completed and the need identified and clarified, a Treasury Board Submission is prepared. If required, a Memorandum to Cabinet is also prepared.

2. Develop Funded Programs

This process involves the development of the framework through which the program will be delivered. This framework defines the terms and conditions for the program and includes eligibility criteria, type and level of support, payment and repayment procedures, environmental impact requirements, audit and program evaluation requirements and availability of resources, both human and financial. Also included are communication and promotional activities including the production and dissemination of promotional materials.

3. Deliver Funded Programs

This process follows the project life cycle and may include pre-screening, project development, project evaluation and decision making, contracting, claims processing, project and benefit monitoring, and possible recovery.

4. Monitor Impact and Evaluate Funded Programs

The resultant benefits from projects assisted by a program are measured and assessed against the program's objectives as outlined in the Treasury Board Submission and Terms and Conditions, subsidiary agreement, cooperative agreement or enabling legislation. Adjustments to the project are then made as required.

1. Identify Program Requirements of Canadian Industry, Science and Technology

- a. Identify and clarify needs for program
- b. Develop position paper in support of initiatives to the industrial and/or science sector(s)
- c. Present to Policy Management Committee for approval in principle
- d. Present to Departmental Management Committee requesting authority
- e. Prepare Treasury Board Submission and, if required, a Memoranda to Cabinet (MC)
- f. Obtain policy approval from Government

2. Develop Funded Programs

- a. Prepare Treasury Board Submissions with Terms & Conditions, subsidiary or cooperative agreements or other relevant documents
- b. Obtain approvals for the program
- c. Detail the communications plan for the program
- d. Establish the program administration structure and guidelines
- e. Develop training specific to the program implementation
- f. Launch the program
- g. Produce and disseminate promotional material and carry out other promotional activities on an ongoing basis

3. Deliver Funded Programs

- a. Evaluate and process project applications
- b. Prepare letter(s) of offer/contract(s)/rejection letter(s)/withdrawal letter(s)
- c. Prepare budget and forecasts for financial control
- d. Evaluate and process amendments to offers/contracts, etc.
- e. Receive/record claims and prepare cheque requisition(s)
- f. Carry out project monitoring as needed for purposes other than verification of claims
- g. Identify and collect receivable(s)
- h. Identify and recover overpayment(s) and other non default situations

4. Monitor Impact and Evaluate Funded Programs

- a. Plan evaluation framework assessment
- b. Implement project and benefit monitoring plan
- c. Monitor benefits against objectives
- d. Undertake evaluation studies
- e. Make adjustments to program as required

MANAGEMENT AND ADMINISTRATION OF THE DEPARTMENT

The planning, organizing, directing, controlling and reporting on departmental resources, services and relations in support of the organization's business mission, objectives and functions.

PROCESSES

1. Provide Corporate Services

Provide advice and support to senior departmental management and committees regarding planning, agenda setting, briefings, and secretariat support (including secretariat services for funded programs).

2. Acquire Legal Support

Request and receive legal advice and services for ISTC through the Department of Justice.

3. Provide Internal Audit and Program Evaluation

Provide an assessment of the effectiveness of the management framework against suitable criteria adopted by management or identified by internal audit and program evaluation in consultation with management. Provide the Deputy Head and other senior managers with relevant, credible, objective and timely findings, conclusions and recommendations to improve the cost-effectiveness and accountable management of operations and performance of programs.

4. Manage Human Resources

Manage the Department's indeterminate, term and agency employees in accordance with government legislation and regulations, with a people oriented department, and with a culture of participation and empowerment.

5. Manage Financial Resources

Manage the Department's financial resources in accordance with government legislation and regulations.

6. Manage Information Resources

Plan, direct and coordinate all the Department's information-based resources (regardless of media) to meet corporate goals and to deliver programs and services. (Includes library and record services, and Access to Information and Privacy.)

7. Manage Public and Employee Communications

Provide a program to communicate government and departmental missions, policies, values and objectives to employees and their representatives; provide public relations services to the Department, including assessments and strategic advice; and communicate with Departmental clients.

8. Manage Administrative Services

Plan, direct and coordinate all departmental administrative services provided in the Department.

1. Provide Corporate Services

- a. Provide operational/functional planning framework
- b. Provide agenda-setting and secretariat services to Departmental committees
- c. Provide briefing material for Cabinet Committee meetings and for meetings with the private sector and other important stakeholders on major horizontal policy issues
- d. Provide support for Federal-Provincial consultations and negotiations
- e. Provide guidance and advice as to the drafting, logistic control and verification of documents and follow-ups (including the support required by Regional Executive Directors in preparing Treasury Board Submissions and briefing notes)

2. Acquire Legal Support from the Department of Justice

- a. Obtain legal advice in all areas of Departmental operations
- b. Obtain legal support in the drafting of legal documents and memoranda of understanding and participate in associated negotiations
- c. Seek legal advice to assist in ensuring that Departmental operations are within the Department's legal mandate
- d. Seek legal input into the formulation of Departmental policy and the structuring of new programs

3. Provide Internal Audit and Program Evaluation

- a. Prepare internal audit and program evaluation plans
- b. Acquire resources to perform internal audit and program evaluations
- c. Perform and follow-up internal audits and program evaluations
- d. Assess/refine internal audit and program evaluation procedures and plans

4. Manage Human Resources

- a. Identify human resource requirements and develop human resource plans
- b. Provide advice on human resource issues and concerns
- c. Provide staffing
- d. Provide training and development
- e. Classify jobs
- f. Conduct staff relations
- g. Manage compensation and benefits
- h. Manage special initiatives
- i. Manage human resource utilization
- j. Manage official languages
- k. Manage employment equity
- l. Manage employee recognition (e.g. awards programs)
- m. Promote a culture of participation and empowerment
- n. Assess performance

5. Manage Financial Resources

- a. Complete financial and fiscal planning
- b. Prepare financial resource allocation and forecasting
- c. Manage expenditure and cost
- d. Manage revenue
- e. Manage financial assets and liabilities
- f. Provide reporting and accounting internally and externally
- g. Monitor performance
- h. Manage travel

6. Manage Information Resources

- a. Provide/maintain/enhance information management strategy and plan
- b. Provide information management policies and procedures
- c. Evaluate/adjust information management objectives/requirements
- d. Acquire and manage information management facilities and resources
- e. Implement and maintain information management facilities and resources
- f. Classify/catalog information resources and accountabilities
- g. Manage and implement Management of Government Information Holdings Policy
- h. Ensure informatics security

7. Manage Public and Employee Communications

- a. Promote a winning corporate culture
- b. Inform ISTC employees of Department's mission, values and objectives
- c. Establish and maintain a positive identity for ISTC
- d. Support the marketing of ISTC services and programs to clients
- e. Establish/operate Departmental committee structure

8. Manage Administrative Services

- a. Create, edit and manage distribution of directives and circulars
- b. Provide health and safety services and physical, personnel and security services
- c. Administer contracting and procurement services
- d. Provide complete facilities management services
- e. Manage materiel assets (includes inventory control)
- f. Manage passport services
- g. Create and install electronic forms
- h. Provide mail, shipping and receiving services

APPENDIX D - INFORMATION NEEDS

INTRODUCTION

This annex outlines ISTC's information needs. The three major groupings are divided into 18 specific information subjects. Within these subjects, information classes are detailed, each of which is briefly described at the end of this annex.

This outline of ISTC information needs is intended to provide enough detail to describe the breadth (though not the in-depth detail) of all the information required to support the functions, processes and activities in the ISTC Business Profile. Any more detailed or specific item of information should be able to be placed in one of the information classes given here. Thus, the lists of information classes under each subject are **not** intended to be exhaustive (as indicated by the inclusion of "etc." at the end of each). Also, no priority is implied by the order of the information groupings, subjects or classes.

INFORMATION GROUPINGS / SUBJECTS

I. INTERNATIONAL

- Foreign Governments and Agencies
- Foreign Competitors
- Foreign Socio-Economic-Political Scene
- International Trade
- International Science and Technology
- International Events

II. CANADA

- Clients
- Industry
- Science and Technology
- Other Government Organizations
- Canadian Economy

III. ISTC

- Authorities / Guidelines
- ISTC Products / Services
- Plans
- Money
- People
- Information Resources
- Management and Administration

INFORMATION GROUPINGS / SUBJECTS / CLASSES

I. INTERNATIONAL

1. Foreign Governments and Agencies

- Policies
- Programs / Products / Services
- Contacts
- Issues
- Etc.

2. Foreign Competitors

- Programs / Products / Services
- Industry Sector
- Companies / Corporations
- Multinationals
- Best Business Practices
- Associations
- Issues
- Trends / Outlooks
- Etc.

3. Foreign Socio-economic-Political Scene

- Environment
- Geographic Region
- Training
- Issues
- Etc.

4. International Trade

- Market Opportunity
- Import Substitution Opportunity
- Distribution Channels
- Volumes, Trends
- Major Trading Blocs
- Marketing Opportunity
- Tariffs
- Non-Tariff Barriers
- Standards
- Etc.

5. International Science and Technology

- Science and Technology Establishments / Capabilities
- Science and Technology Programs
- Science and Technology Developments / Initiatives
- Science and Technology Policies
- Science and Technology Expenditures
- Science and Technology Opportunities
- Issues
- Etc.

6. International Events

- Conferences
- Trade Fairs
- Trade Missions
- Etc.

II. CANADA

7. Clients

- Parliament, Cabinet, Ministers
- Companies / Corporations
- Associations
- Science and Technology Establishments / Capabilities
- Federal Departments and Agencies
- Partners
- Client Feedback
- Marketing Opportunity
- Etc.

8. Canadian Industry

- Program / Product / Service
- Industry Sector
- Customer
- Association
- Issues
- Trends / Outlooks
- Etc.

9. Canadian Science and Technology

- Science and Technology Establishments / Capabilities
- Science and Technology Programs
- Science and Technology Developments / Initiatives
- Science and Technology Policies
- Science and Technology Expenditures
- Science and Technology Opportunities
- Issues
- Etc.

10. Other Government Organizations

- Federal Departments and Agencies
- Provincial Departments and Agencies
- Policies
- Programs / Products / Services
- Contacts
- Issues
- Etc.

11. Canadian Economy

- Environment
- Geographic Region
- Location
- Socio-Economic-Political Scene
- Domestic Investment
- Training
- Domestic Trade
- Domestic Markets
- Interprovincial Barriers to Trade
- Issues
- Etc.

III. ISTC

12. Authorities / Guidelines

- Acts / Regulations
- Agreement / Treaty
- Government Policy / Priority
- Policy / Procedure
- Management Practices
- Legal Opinions
- MOUs
- Etc.

13. ISTC Programs / Products / Services

- ISTC Program
- ISTC Product
- ISTC Service
- Marketing / Promotion
- Advocacy
- Project
- Performance Measure / Feedback
- Etc.

14. Plans

Strategies / Priorities
Activity
Event
Plan
Current Work / Status
Etc.

15. Money

Allotment
Budget
Commitment
Expenditure
Forecast
Revenue
Assets and Liabilities
Etc.

16. People

Employee
Position
Staff Training
Expertise
Etc.

17. Information Resources

Library Material
Files / Records
Directories
Database
Document
Image / Picture
Voice Message
System
Etc.

18. Management and Administration

ISTC Organization
ISTC Management
ISTC Sectors / Branches / Regions
Asset
Contract
Supplier / Vendor
Etc.

DESCRIPTIONS OF INFORMATION CLASSES

(Listed alphabetically)

Activity

A defined set of tasks or responsibilities, normally of an on-going nature. (Contrasted to a project, which normally has a limited time-span).

Acts / Regulations

All Canadian acts and regulations under whose authority ISTC operates or which govern its activities.

Agreement / Treaty

A formal understanding which commits two parties to specific actions or resource contributions. These may range from the international sphere to a Canadian industry or company to a secondment agreement for departmental staff.

Allotment

The breakdown of the appropriations as designated by the department or Treasury Board.

Asset

Materiel objects owned and used by the Department in the conduct of its business, such as office supplies, furniture, and vehicles.

Assets and Liabilities

Financial assets (e.g. loans receivable) and liabilities (payables) of ISTC.

Associations

Associations of firms /individuals within a given trade, industry or profession, at the domestic or international level.

Best Business Practices

Business practices employed by successful firms abroad and in Canada.

Budget

A specified quantity of resources (dollars / PYs) assigned to an organization or project to achieve the objectives of the department.

Client Feedback

Responses from ISTC clients on their positions and views on ISTC policies, programs, products and services.

Commitment

The identification of an obligation of make a future payment against an allotment.

Companies / Corporations

An individual, firm or corporation, including partnerships.

Contacts

The names, titles, addresses and phone numbers of people in other organizations with whom ISTC relates or is in communication.

Conferences

Formal meetings held nationally or internationally to discuss political, economic or professional topics.

Contract

A formal, written agreement to supply or acquire goods or services.

Current Work / Status

Work currently underway within the department, and its status.

Customer

Customers or potential customers of ISTC clients.

Database

An organized collection of data intended for rapid, flexible retrieval.

Directories

Listings of available ISTC information holdings, including lists of other lists.

Distribution Channels

Ways of delivering Canadian goods and services to customers abroad.

Document

A body of text (in hard copy / digital / scanned format) which is regarded as a single entity. Examples are: letters, memos, reports, publications.

Domestic Investment

Investment in business and industry within Canada.

Domestic Markets

Markets for industrial goods and services within Canada.

Domestic Trade

Trade in industrial goods and services within Canada, including interprovincial trade.

Employee

A full-time (indeterminate) or term employee of ISTC.

Environment

The natural or physical environment.

Event

A specific, limited activity or set of activities, such as a conference, trade fair or meeting.

Expenditure

Resources expended against a budget.

Expertise

The skills, abilities and experience of ISTC staff.

Federal Departments and Agencies

Other parts of the federal government of interest to ISTC.

Files / Records

Paper files and records, such as are normally kept in filing cabinets and records offices.

Forecast

Anticipated resource requirements to achieve departmental objectives for a specific period of time.

Geographic Region

A geographic region inside or outside Canada. (E.g., the Pacific Rim, la Francophonie, Western Canada, Northern Ontario.)

Government Policy / Priority

Policies and priorities of the Canadian federal government.

Image / Picture

A graphic, drawing or photograph, whether in hard copy or digitized form.

Import Substitution Opportunity

An opportunity for substituting Canadian goods or services for goods or services now purchased from abroad.

Industry Sector

A designation of a group of industries in the international or national economy.

International Markets / Opportunities

Markets for Canadian goods and services around the world.

International Trade

World trade outside Canada.

Interprovincial Barriers to Trade

Measures enforced by Canadian provinces to favour or protect their own industries or suppliers at the expense of other provinces.

Issues

Areas of concern of interest as problems or opportunities to ISTC its clients on the national or international scene.

ISTC Management

The Deputy Minister, the ADMs, the REXDs, and other EXs.

ISTC Organization

The administrative structure of ISTC, including positions and the personnel who fill them, as well as major departmental committees.

ISTC Program

A program offered by ISTC to its clients, normally involving funding.

ISTC Product

A specific ISTC product provided to clients, such as a publication, study or video.

ISTC Service

A service offered by ISTC to its clients.

ISTC Sectors / Branches / Regions

Specific components of the ISTC Organization.

Leadership

The process by which ISTC represents its clients' concerns and interests to the federal government, other federal departments, provincial governments etc.

Legal Opinions

A view, judgment or appraisal about a particular matter of law provided by a lawyer to ISTC.

Library Material

Books, periodicals and other material normally kept in libraries.

Location

A specific building, complex, town or city in Canada.

Major Trading Blocs

Major trading blocs of countries around the world.

Management Practices

Procedures for managing the department, its people, assets and programs, which are not formally prescribed, but are normally followed because they are customary and normally work.

Market Opportunity

An identified situation, domestically or abroad, which may offer an opportunity for the sale of Canadian goods or services.

Marketing Opportunity

An opportunity for ISTC to market or promote its produces, programs and services.

Marketing / Promotion

The activities of ISTC which involve marketing its clients and their products / services to potential customers, and which ISTC undertakes to promote its own products, programs and services.

MOUs

Memoranda of Understanding between ISTC and another entity.

Multinationals

Firms and corporations operating in more than one country.

Non-Tariff Barriers

Barriers to international trade other than tariffs, such as import quotas or technical standards.

Parliament, Cabinet, Ministers

Members of Parliament, Parliament as a body, the federal cabinet (government), and individual ministers, including those responsible for ISTC.

Partners

Companies, governments or other bodies with which ISTC has a particularly close or ongoing relationship.

Performance Measure / Feedback

Assessments indicating how well ISTC is meeting its objectives and performing its functions.

Plan

A formulation of directions and actions over a specified time frame.

Policies

Policies of foreign, federal or provincial government departments and agencies on industry, science and technology.

Policy / Procedure

Policies and procedures promulgated by the federal government or by ISTC to govern the conduct of business.

Position

A specific authorized job within the ISTC organization.

Programs / Products / Services

Programs / products / services offered by foreign or federal or provincial government departments and agencies or companies.

Project

A planned undertaking which normally has a limited objective and specified time frame.

Provincial Departments and Agencies

Departments and agencies of Canadian provinces and territories.

Revenue

Credits in the accounts of Canada attributed to refunds of current or prior year expenditures, loan repayments or repayable contributions.

Science and Technology Establishments / Capabilities

Research establishments and their capabilities (major equipment etc.), in Canada and abroad.

Science and Technology Programs

Research programs, especially those whose results may have applications to industry, both in Canada and abroad.

Science and Technology Developments / Initiatives

New technology discoveries or applications within Canada or abroad.

Science and Technology Policies

Policies of Canadian or foreign governments concerning science and technology.

Science and Technology Expenditures

Expenditures on science and technology both within Canada and abroad.

Science and Technology Opportunities

Opportunities to apply or diffuse scientific or technological developments within Canadian industry.

Socio-Economic/Political Scene

The Canadian economy, society and politics.

Staff Training

Training of ISTC staff.

Standards

Standards imposed by countries on goods imported from abroad.

Strategies / Priorities

The overall strategies and priorities of ISTC.

Supplier / Vendor

An individual or firm which supplies goods or services to ISTC.

System

An interacting set of procedures (manual or automated) and / or hardware and software which assists a specific function.

Tariffs

Duties and tariffs imposed by countries on imported goods.

Trade Fairs

Fairs / exhibits held for the purpose of enabling businesses to publicize their products, services and capabilities.

Trade Missions

Official visits to foreign countries for the purpose of promoting trade.

Training

Occupational training of the workforce in Canada and abroad to upgrade their job skills.

Trends / Outlooks

General directions within a given industry or technology sector at the domestic or international level.

Voice Message

A recording of a voice message for later retrieval and playback.

Volumes, Trends

Volumes of international trade and trends in trading patterns.

APPENDIX E - DETAILS OF INFORMATION NEEDS ACTIONS

Introduction

To support its mandate and business, ISTC has need for a wide range of information, much of which already exists within the department, but cannot be readily accessed or exploited. There is an increasing need to provide Canadian industry with the value added information and intelligence that translates into bottom-line results. In order to be effective, this information must be timely and provide value or service to our clients, and enable Canada to establish appropriate strategies to increase its competitiveness in the world arena.

The department's major information needs can be divided into three major groups, International, Canada and ISTC. In the **international** area, ISTC needs information on socio-economic and political trends, and developments in industry, science, technology and trade at the global, regional, sector and enterprise / product levels. This information is used to identify export or import substitution opportunities for Canadian firms, and to analyze the capabilities of foreign competitors. For **Canada**, there is a need for similar types of information: socio-economic and political, and developments in industry, science and technology at the national, regional, provincial, sector, enterprise and product levels. Another important component of Canadian information is feedback from clients on what services and programs they require, and how satisfied they are with ISTC's performance. This domestic information is used to determine strengths and weaknesses within Canada and to develop policies, products, services and programs to assist Canadian sectors, firms and establishments. Information on **ISTC** is needed for the effective and efficient management of the department and its resources in support of its vision.

It is essential that the basic needs of the department for resource and information management be satisfied in order to provide the needed foundation for the effective delivery of products and services to clients. Some of these needs will be satisfied through the use of text-based systems and a number of projects rely on text search and retrieval technology.

In summary, this information and intelligence are needed essentially for three purposes:

- to provide timely, value-added information and intelligence to both external and internal clients in support of Canada's industrial, scientific and technological development and competitiveness
- to enable the federal government to develop appropriate strategies, programs, services and policies which will strengthen Canada in these areas

- to provide effective and cost-efficient management of the department and its resources in support of the above

Assessment of Current Situation

The current Directories project has given some indication of the utility of providing on-line access to existing directories and indices to departmental information, thus allowing people to determine what information exists on a given subject, and where it can be found. This provides capabilities for people to better access the information they need and to avoid information overload.

A start has been made towards linking together major corporate databases (RAMS, PRISM, BOSS and the Establishment System). ISTC also has preliminary automated linkages to external systems such as WIN and PEMD (EAITC). In addition, some progress has been made at creating a common Company/Client System (CCS), which is now being used locally in many headquarters branches and most regions. However, it is not being effectively used to its full potential as a corporate system. To realise its full potential, there is a need for some effort to encourage the use of the capabilities offered.

In the area of **corporate information**, however, there are still significant areas of opportunities and needs in terms of quality and availability. The most important of these are:

- making consolidated information for and about clients available from a common, consolidated source, or a series of linked sources
- making available timely information about major governmental or departmental initiatives or policies
- increasing the availability and ease of access to information on the international / foreign front concerning markets, competitors etc.
- providing ready access to information about other departments and agencies (federal, provincial or international) whose mandates or programs are of concern to ISTC or its clients
- providing staff with easy access to information regarding who is in what job, or who or what organization is responsible for what functions
- developing clear and consistent ways of measuring the department's effectiveness, in order to improve products and services
- improving the availability of reliable, up-to-date human resource information, especially in the key areas of training and skills

- reducing the amount of information within the department that is only available in paper form, accessible mostly only to the small group of people who have hard copies or know about its existence. A pointer or index to this data would be very useful.

There is a strong requirement for standards and procedures to make possible the sharing of existing information within the department. Some of these standards and procedures are technical in nature, and have been summarized under Information Technology. The more important ones, however, concern common names, definitions and validation rules for common data, and the assignment of clear "custodial" responsibilities for the quality and availability of major corporate data classes.

The corporate culture, generally speaking, needs to include much stronger support for the concept of the sharing of information across organizational boundaries. There needs to be a greater recognition of information as a corporate resource and for the guardianship of information to become less parochial. The major systems continue to emphasize central agency requirements, however, and serve primarily the needs of functional specialists.

Major corporate-level application systems have been designed and implemented: RAMS for finance, and PRISM for program management and reporting. Managers RAMS has been recently successful at making financial information more easily available to all departmental managers.

A major concern, however, is that the existing corporate systems do not really reflect or support the new direction of the department towards providing information of strategic value to our clients rather than for internal use. A much greater emphasis must be placed on the development of systems that directly produce or deliver products and services to both external and internal clients. As noted above, however, some of these developments will have to await the completion of initiatives for the improvement of ISTC's internal information and resource management procedures and systems.

List of Information Needs Actions

The recommended Information Needs Actions are listed in Chart E-1 on the next page.

CHART E-1 - INFORMATION NEEDS ACTIONS

INTERNATIONAL

- **Conduct a horizontal SIP with EAITC on International Information needs (I-1)**

CANADA

- **Conduct a horizontal SIP on client information and client needs (I-2)**
- **Develop an Integrated Company Client System (I-3)**
- **Review the role of the Establishment System in providing company client information (I-4)**
- **Develop an Improved Program Support System (I-5)**
- **Study data sharing with other agencies, and making such data accessible within ISTC (I-6)**

ISTC

- **Implement an Improved on-line Telephone Directory (I-7)**
- **Develop an Improved Human Resource system (I-8)**
- **Expand Pointers / Directories to available information (I-9)**

INFORMATION NEEDS - INTERNATIONAL**ACTION NUMBER I-1****Name of Action** International Strategic Information Plan**Responsible Manager** ADM POLICY**Description**

This action will be a horizontal SIP carried out across all functions and organizations of the department using or providing international information. It will be jointly undertaken by ISTC and EAITC.

Rationale / Benefits

Information on international governments, sectors, multinationals and competitors needs to be made more available to those who need it. Most of this information exists within the department, or from other departments, (mostly EAITC), but is not readily accessible. It must be determined whether it is economically feasible for ISTC to provide all the international information which staff might need.

The purpose of this SIP, then, would be to review the real client information needs in this area, the current situation regarding availability and accessibility, and make practical recommendations regarding future initiatives, as well as to avoid duplication of information/data collection/systems development.

Implementation Considerations

This project should follow the standard ISTC SIP methodology.

This action is closely linked to the action involving a SIP on Clients, which will determine client needs for international information. It must look closely at current systems providing such information, such as WIN, PEMD, MIDAS, Trade Data Statistics, Industry Profiles, BOSS and CCS.

This action must include representatives from all parts of the department, especially the regions, which require international information. It should, in particular, determine, with EAITC, key common information needs and how they could best be satisfied on a joint, cooperative basis without redundancy.

YEAR	EST. COST	PYs	EST. TIME
1992/93	ISTC \$50,000 EAITC \$50,000	0.5	6 months

Name of Action Strategic Information Plan on Clients

Responsible Manager ADMs ITRO / CGSI

Description

This action will be a horizontal SIP carried out across all functions and organizations of the department, using or providing information about and for clients. Its purpose will be:

- to determine client needs, expectations and feedback regarding products and services from ISTC
- to determine what information ISTC needs to maintain about its external and internal clients

Rationale / Benefits

Because of ISTC's fundamental orientation towards service to clients, information for and about clients has the highest priority for the department. Currently existing information is not available in a common, consolidated form. Certain types of information (especially on client feedback, client needs and expectations, and ISTC interactions with clients) are not readily available. Furthermore, the number of separate "company / client" systems in use constitutes a major problem in terms of duplicated effort.

Thus, the purpose of this SIP would be to determine the corporate-level needs for a common company client system and database and to build upon existing work and application systems e.g. the BOSS review, the Management of Company Information review, etc. Once this is determined, then local company client systems, meeting specialized needs, could be build to interface with it.

Implementation Considerations

This project should follow the standard ISTC SIP methodology. It should build on earlier studies regarding BOSS, and the whole company/client area.

This study must include representatives from all parts of the department, especially the regions, which require company client information, as well as clients and associations themselves to determine their expectations and information needs and means by which they can be satisfied by the department.

In this context, it will be necessary to review and evaluate alternate delivery mechanisms and the means of packaging and delivering information to clients. This capability will be supported by the implementation of Electronic Data Exchange (see T-6).

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	1.0	12 months

Name of Action Integrated Company Client System

Responsible Manager ADMs ITRO / CGSI

Description

This action will build upon the current version of CCS, to create an integrated system for capturing and making available data on all types and sizes of clients, companies and establishments of interest to the department. CCS would capture client feedback, and departmental interactions with clients.

Rationale / Benefits

See the Rationale under the SIP on Clients (I-2) above.

The benefits of this system would include:

- access by all parts of the department to current, consistent information on all types of clients
- elimination of the current duplication of effort and information (both inside and outside the department), and thereby a reduction in cost and an increase in efficiency
- development of an integrated CCS throughout the department
- linkages to other systems through the Establishment system so that data only needs to be entered once to update all of the associated files and data bases

Implementation Considerations

Development of the functionality proposed for this system may result in a series of linked sub-systems rather than a single all-encompassing system. Note that it may need to include information on international establishments and competitors.

This action must take full account of the ongoing work of the CCS User Group, which is actively proposing ongoing maintenance and enhancements to CCS. The \$400K proposed for 1992/93 below includes \$300K for this ongoing activity. It is essential to continue to upgrade the current CCS, pending the development of the "ultimate" system, or risk the potential loss of existing user buy-in and setting back by several years user willingness to participate.

Rules would have to be in place regarding updates, and certain portion of the data would have to be given extra protection (for privacy reasons).

The requirements and feasibility studies in 1992/93 will take into account and build on ongoing activities in the area. Beyond this there will be the development and implementation of an integrated CCS in 1993/94 and 1994/95.

This action is closely linked to I-4 (Establishment System Review) and I-2 (SIP on Clients), as well as M-4 (Information Standards and Classification).

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$400,000	2.0	6 months
1993/94	\$500,000	2.0	6 months
1994/95	\$500,000	2.0	6 months

INFORMATION NEEDS - CANADA

ACTION NUMBER I-4

Name of Action Establishment System Review

Responsible Manager ADM FPA / IMB

Description

Study the operations of the Establishment System to improve its effectiveness in serving users.

Rationale / Benefits

The Establishment System is now nearly 10 years old. It was designed to provide a common identification of "establishments" with which the department did business. It is a key part of the corporate database, and has close links with BOSS, WIN, RAMS, PRISM and PEMD.

Currently, however, it is perceived as not meeting user needs, and as somewhat cumbersome. A review of the system would provide clear recommendations as to its future role in the department, and in the evolving set of new applications systems.

Implementation Considerations

This study should include representatives from all organizations who would directly or indirectly use the Establishment system.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	0.5	6 mths.

Name of Action Program Support System

Responsible Manager ADM FPA / COMPTROLLER

Description

An improved user-friendly project information system for the management of funded programs.

Rationale / Benefits

The current PRISM (and related systems) does not support the current business of the department -- in particular the need for a quick and flexible response to the emergence of small programs associated with sector campaigns.

A new system should both support a central accounting and control function, and respond to a diversity of management information requirements that tend to be unique to each program.

The core of a new system has been established (COOPERATIVE PROCESSING FACILITY). What is now required are "house rules" as to how each program specific information system should be developed -- taking into account both the need for coordination of data across the department, and the need for freedom to develop a system that meets local needs.

A new system could take full advantage of today's more flexible and user-friendly database technology, and be designed so that modular units for new programs could be added relatively easily.

Implementation Considerations

To implement this initiative requires two major pre-conditions. First, the data requirements must be integrated with those of the Company Client System, the Establishment System and the Re-Engineering of Administrative Processes. Secondly, this initiative is premised on the completion of the current Co-operative Processing Model.

A common core would be developed, to which modules for individual programs could easily be added. Implementation would take place on new technology architecture permitting the introduction of co-operative processing, distributed processing, and/or client/server approach. It would be necessary to include links to other initiatives, RAMS and the new CCS.

Requirements and feasibility studies will be performed in 1992/93. Following this, the design and implementation would occur in 1993/94 and beyond. Total resource requirements are estimated at \$1.7 million.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$200,000	2.0	8 months
1993/94	\$750,000	3.5	12 months
1994/95	\$750,000	3.5	12 months

INFORMATION NEEDS - CANADA

ACTION NUMBER I-6

Name of Action Information Sharing with Departments

Responsible Manager ADM POLICY

Description

This action will provide information on the programs and services provided by other federal and provincial departments and agencies. Initially, this would be done through the Directories / Pointers initiative (I-9), but later at least some of this information would probably be available in full text form. Access to external databases would also be possible, permitting information stored by other organizations to be directly acquired by departmental users.

This action would also continue and strengthen information sharing efforts with other departments and agencies, particularly with other components of the Minister's portfolio.

Rationale / Benefits

Currently, this type of information may be available within the department, or already exists in other federal or provincial departments and agencies, but is mostly in hard copy, and generally only to those limited areas which happen to possess these documents.

Such information would be very valuable to staff throughout the department for purposes of answering client queries (the one-stop-shopping concept), and for determining possibilities for joint projects or other forms of cooperation with other departments and agencies, or for purposes of liaison and advocacy.

This action will promote better access and sharing of such information, and reduce current duplication of effort.

Implementation Considerations

Needs and possible solutions would be determined first. These would be considered together with the results of the SIP performed for International Information (I-1), as well as the acquisition of Text Information Software (T-9).

For Inter-Departmental Information Sharing, the first step would be to determine which other departments and agencies should be looked at. Then, an initiative is needed to oversee the necessary negotiations and agreements and to facilitate information exchange with other agencies.

As with all full-text systems, careful analysis will be required to determine exactly which documents should be captured and stored by the system, how long they should remain, and so forth. Otherwise, the costs may become prohibitive.

Ideally, this information would become directly accessible by clients.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	1.0	12 months

Name of Action Telephone Directory

Responsible Manager ADM FPA / ASB

Description

Will expand on the information available in the existing telephone directory, making up-to-date information available on-line, available and accessible to all, regarding individuals and organizations (for example):

- name
- location
- title
- responsibilities
- skills/knowledge
- business functions

Rationale / Benefits

It will never be practical to automate all the information needed by people within the department. In many cases, the most efficient strategy is to find the person who is the expert in the area under discussion, and contact him/her to find out what information exists and where to get it. The availability of an on-line directory that provides information regarding an individual's skills, knowledge and responsibilities, as well as routine name, location, telephone number, etc., would support that goal. It could also include a description of ISTC's goals and objectives, its functions, and how it carries on its business.

The current hard-copy telephone book is simply becoming out of date, and cannot easily be searched except in the alphabetic order in which it is arranged. An on-line system could be kept up to date, and could be searched on any field(s) in the database.

Implementation Considerations

This system will have to be universally accessible to departmental staff, be up-to-date and timely, and in some cases, should be accessible to persons outside the department.

It will depend on the existence of a reliable, high-capacity departmental network.

A major issue regarding this system will be the need for effective update responsibilities and mechanisms to ensure that the information is kept current.

The results of the current Directories pilot will need to be taken into account in this action.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	0.5	3 months

Name of Action Human Resource System

Responsible Manager ADM FPA / HRB

Description

The system will capture and make available human resource information for all users, including line managers. Facilities provided will include on-line input and retrieval by end users and the availability of on-line help screens and forms to assist users to input and access information. The system will be able to produce organization charts as well as provide access to executive ad-hoc and standard reporting capabilities for the use of managers. Some non-sensitive, non-confidential information will be accessible to all staff, and, (perhaps) by outsiders. Information content will include current work assignments, and employee skills and training

Rationale / Benefits

HRIMS will provide for better management and control of ISTC resources through the provision of more complete, accurate and timely information regarding all employees. All human resource information will be captured by HRIMS and stored, enabling enquiry, evaluation, analysis, extraction and consolidation, and will assist with the management of and assistance with: human resource requirements and plans, staffing, training and development, job classification, compensation and benefits utilization, official languages, skills and knowledge, employee recognition, performance evaluation, etc., as well as providing basic Human Resource information to Personnel and ISTC management.

Implementation Considerations

A phased approach should be adopted with final implementation occurring in the third year after project start. During year one, the project will commence with a Requirements study to determine the specific data that needs to be captured, by whom and for whom, and to develop a logical model of a system that would satisfy the needs of the defined users. This will be integrated with the current HRB study being performed in this area. Users from outside of HRB must be involved throughout all phases of the project.

This will be followed in the same year by a feasibility study that will consider alternative approaches to implementing the findings of the Requirements study. This will include consideration of packaged software and their customization needs, as well as the costs and risk factors associated with a custom built product. This study will look at the Human Resources component of the Common Information Management (CIM) initiative at Treasury Board, as well as existing or planned human resource systems in other departments.

Depending upon the final recommendation, changes required to the packaged software selected (if that is to be the approach) will be defined, the package acquired, and customization commence in year two. If the approach is custom development, the system will be designed in year two and partial implementation will occur.

It is recommended that implementation be staged so that HRB and human resources functional staff will be the first to be on-line so that they can acquire the necessary skills in usage of the system and so that they can provide evaluatory feedback to the design team. When HR functional specialists are satisfied, access to the system should be made available throughout FPA for the same evaluatory/feedback purposes. Final design and implementation activities will conclude in year three.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	2.0	6 months
1993/94	\$500,000	3.0	6 months
1994/95	\$1,000,000	4.0	12 months

Name of Action Pointers / Directories to Information

Responsible Manager ADM FPA / IMB

Description

The suite of directories would have search capabilities enabling identification of available information, the format in which it is available, and where it is located. It would include all types of information (text, data, images, videos etc.), and could include pointers to external information sources (commercial services, research networks, other agencies etc.).

There would be two phases to this action:

- expansion of the current directories project (Access ISTC); and
- development of full-text applications in priority areas

Rationale / Benefits

Much of the information needed by departmental people already exists within or outside the department. The problem is knowing what information exists on a given subject, and where it is. Much of this information is in the form, not of formatted databases, but text, documents, and (increasingly) images and graphics. It would not be practical to store all of this information directly on a computer. Rather, the most cost-effective approach for most of it is to set up a series of directories or pointers which can be searched by the user in order to determine where to find the required information. A directories approach to providing information to people in ISTC would also alleviate the current problem of information overload.

Once the directory / pointer system has been proven, it will be time to look at implementing full-text applications. One possible area would be documents relating to ISTC programs, policies, products and services.

Implementation Considerations

This action recommends an expansion and strengthening of the ongoing Directories project, and the widening of access to these directories / pointers. Ideally, all departmental staff should have access to the complete set of directories.

This action must be undertaken in conjunction with the current ongoing MGIH (management of government information holdings) project, which is fulfilling Treasury Board requirements for establishing an inventory of holdings.

It should be noted that the major cost of a system like this is keeping it up to date as new information is received. Thus, serious consideration should be given to the level of detail included in the directories. (The lower the level of detail, the greater the maintenance effort.) A related issue is the need to appoint custodians to be responsible for the maintenance of specific directories. Also, departmental staff will have to be made aware of this facility, and trained in its use.

This system should be made available to all people within the department, and to some organizations outside the department. Ideally, it should even be possible to make a subset of the database directly accessible by clients.

As with all full-text systems, careful analysis will be required to determine exactly which documents should be captured and stored on the system, how long they should remain, and so forth. Otherwise, the costs may become prohibitive.

Year One would see the expansion of the current Directories project; Year Two would see the implementation of a significant full-text application.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$100,000	1.0	6 months
1993/94	\$75,000	1.0	6 months

APPENDIX F - DETAILS OF MANAGEMENT ACTIONS

Introduction

This appendix summarizes initiatives which address management processes related to information management.

In order for the organization as a whole to achieve the vision of serving clients by delivering value-added information products, it is increasingly important to treat certain classes of information as **shareable corporate resources**. In order for this to happen, it will be necessary to modify some of the basic modes of operation and responsibilities within the organization. For example, committees and individuals responsible for the evaluation and approval of information management initiatives will need to have greater authority and accountability for corporate level priorities, decisions and funding allocations. Management too need to be supportive of these actions and actively participate in the necessary committees and steering groups in order to ensure success. In addition, staff who need to know, should be made aware of and understand corporate information management priorities and objectives.

In addition to these global realignments in information management roles, this appendix also outlines some specific initiatives addressing externally-oriented information management priorities. Finally, there are some internal management initiatives which will provide the necessary support for the others.

Assessment of Current Situation

Over the past few years, ISTC has made major strides in the information management area. The Information Management Policy was approved and implemented, and the resulting committees (IMC and IMAC) have been established and are operating. Standards need to be developed and implemented, procedures need to be put in place, and progress against the specified action items and the IMS needs to be monitored. An appreciation of the importance of information for the department, as both a product and as a means of managing its own resources, is now becoming more widespread within the senior management cadre. The MGIH (Management of Government Information Holdings) project currently underway is aimed at improving knowledge of existing information within the department.

The completion of the Information Management Strategy (IMS) in October, 1990 was a major milestone for the department, since it re-affirmed the importance of good information management practices, and made 39 specific recommendations for improvements.

Efforts in Strategic Information Planning (SIP) have been taken through the completion of such plans for a number of areas (Tourism, the former Operations Sector, and ADIB).

A major area of concern, however, remains the manner in which information and information technology are being managed within the department. Although IMC, IMAC and (recently) IMTCG are meeting, there is a widespread sense that most informatics decisions and expenditures are being made in isolation only, from the bottom up, and not in harmony with an overall departmental plan or direction. To ensure that the highest priority initiatives, i.e. those that will more quickly and more efficiently meet our clients needs for value-added information and intelligence products, corporate priorities and directives are needed with clear accountabilities for their implementation, with adequate resources, and ongoing support and monitoring. Given the decentralized nature of the department, it is normal for decisions or investments in information technology to be made locally; however, these should be consistent with corporate information strategies and directions.

Another management issue concerning information technology is the effects of the spread of PCs and LANs on people. Many job descriptions were written before the advent of the microcomputer age and do not take account of the fact that many functions are now performed with the assistance of automation technology. Job descriptions need to be modified to reflect current reality so that positions are populated by individuals with the requisite skills to utilize these new tools and so that the need for training in these skills is made more visible.

There is a continuing need to establish and enforce additional standards (technical and data) which would make possible the sharing of information across organizational lines, or (in some cases) with entities outside the department.

Several SIPs (strategic information plans) have been completed in the department. Both vertical (following organizational lines) and horizontal (following functions across organizations) need to be vigorously pursued. These should be performed in full awareness of the IMS, this CIP, and other SIPs that may be performed in the future. In order to effectively support this effort, there is a need for a clearly defined central coordinating body to support and assist the conduct of SIP's, and to ensure that the results are consistent and complementary, and are incorporated into the consolidated IMS as well as the overall Information Management Plans.

List of Management Actions

The recommended Management Actions are listed in Chart F-1 on the next page.

CHART F-1 - INFRASTRUCTURE ACTIONS (MANAGEMENT)

- **Review information management processes and roles and responsibilities (M-1)**
- **Undertake an Information culture campaign (M-2)**
- **Create a support group for strategic information planning (M-3)**
- **Implement common information standards and use a common information classification (M-4)**
- **Study re-engineering of administrative processes (M-5)**
- **Establish a task force on impact of information and information technology on people in ISTC (M-6)**

DETAILED ACTIONS - MANAGEMENT**ACTION NUMBER M-2****Name of Action** Information Culture Campaign**Responsible Manager** IMAC/IMB**Description**

This action is aimed at increasing the awareness of the meaning and importance of information, information sharing, information management and key issues involved. Such an awareness is needed on a continual basis at all levels of the department, including and especially the management level. Campaign activities will include formal and informal training, information exchanges, guest speakers, conferences and workshops.

Rationale / Benefits

Real change takes place at the level of the individual and his/her beliefs and attitudes. Thus, continued progress in information management depends on making people aware of the concepts of information as a resource, the value of shared information, and the requirements of effective information management priorities. People need to realise the fallacy of the "information is power" concept. They should also be educated in some of the techniques and mechanisms required to make information sharing possible. Thus this campaign needs to be a combination of "consciousness raising" and hard information on the means of sharing information in the department.

This will assist in gaining recognition of the obligation of delegates to committees, conferences, working groups, etc., to actually appear and participate in the proceedings of these gatherings. Their presence on a member list recognizes the skills, expertise and levels that are needed and can contribute to accomplishing the task of the group.

Implementation Considerations

IMAC should be tasked with implementing this action throughout the department. Visible support by managers, especially senior managers, of the activities planned and executed will be important.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	0.5	Ongoing
1993/94	\$50,000	0.5	Ongoing
1994/95	\$50,000	0.5	Ongoing

DETAILED ACTIONS - MANAGEMENT**ACTION NUMBER M-3****Name of Action** Strategic Information Plan Support**Responsible Manager** ADM FPA / IMB**Description**

This action is to establish within the department a central support group within IMB to provide methodological support for the various SIPs, to advise and assist in their development and undertaking, to ensure they are coordinated, consistent and complementary, and to serve as a central repository of their results.

Rationale / Benefits

Additional Strategic Information Plans (SIPs), both horizontal and vertical need to be carried out in the department. It is important that they are done in a consistent and effective manner, and that their results can be consolidated at the departmental level.

This action will ensure that the SIPs undertaken are done most productively; improve the exchange of information about SIPs the department, and avoid redoing/re-evaluating needs already identified.

Implementation Considerations

This action will require the use of effective, state-of-the-art automated tools to provide the required storage, analysis and retrieval of the SIP results.

A standard approach needs to be developed for the conduct of SIPs in order to ensure commonality, avoid the additional costs of research, investigation and training in basic concepts, tools and techniques, and establish the groundwork necessary to initiate and perform a successful SIP. A common basic methodology should be used to develop SIPs and all participants should be educated in the use of this methodology.

In conducting the SIPs, all information and business needs and processes should be identified and evaluated first, before automation possibilities are identified and determined. The SIPs should be open to the possibility of re-engineering the whole area under study.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$150,000	1.0	Ongoing

DETAILED ACTIONS - MANAGEMENT

ACTION NUMBER M-4

Name of Action Common Information Standards and Classification

Responsible Manager ADM FPA : IMB/ASB

Description

This action calls for the development and implementation of the necessary information standards and procedures to facilitate sharing of corporate information. It also calls for the use of a common information classification throughout the department.

Rationale / Benefits

Currently, information shareability within the department and among branches, sectors and regions is impeded due to an absence of certain basic common standards. This results in extensive duplication of effort and maintenance activities. Specifically:

- the same information is identified differently in different organizations and systems
- the same information is captured, stored and processed in many places, leading to extensive duplication of effort and wasted resources
- no clear policies or procedures for requesting information from another organization, or for responding to such requests exist
- different but related activities (MGIH, records management, SIPs and the library) use varying information classifications which are inconsistent and incompatible
- sharing common information should result in cost-avoidance through reduction of duplicated effort

Implementation Considerations

This action, involves the following:

- review existing standards, publish, communicate and enforce them
- establish a work group of representatives from MGIH, the library, records management, security, access to information and IMB to work towards applying the information needs classification of the CIP as a general umbrella for all information classification exercises in the department
- establish custodians for corporate information holdings

- select certain key identifiers (codes, numbers) for standardization across the department (e.g., people, clients, outside organizations), and the establishment of a common coding scheme for them
- assess the impact of this selection on current systems
- develop a set of policies and procedures for information sharing

These standards and policies / procedures should be developed departmentally with the participation and acceptance of all sectors and regions of the department.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	1.0	Ongoing
1993/94	\$25,000	0.5	Ongoing
1994/95	\$25,000	0.5	Ongoing

DETAILED ACTIONS - MANAGEMENT

ACTION NUMBER M-5

Name of Action Re-Engineering of Administrative Processes

Responsible Manager ADM FPA

Description

This action involves the conduct of a comprehensive re-engineering study to simplify and streamline the administrative, human resources and financial processes of the department, and re-develop related systems to support the new processes.

Management and staff required to carry out functions and activities of an administrative nature would receive guidance and information, and automated support where appropriate, on a timely basis.

Rationale / Benefits

As in most organizations, the current administrative procedures, even when automated, are largely a reflection of the paper-based world that existed prior to automation. In many cases, this reflects the requirement to have a piece of paper with a signature, or to have a complete hard-copy file of all the documents related to a particular case or event.

Current technology, however, including imaging, telecommunications, and electronic signatures, is making possible the elimination not only of much of the paper involved, but also of some of the actual steps in the process. Also, the application of expert systems technology could make it possible for most people to complete routine administrative tasks directly, rather than filling in forms and sending them off to specialists for processing, which often results in returns because of errors, missing information etc.

The results of this action, then, will be the streamlining and simplification of these processes, thereby saving time, resources and effort on the part of management, administrative people, and all departmental employees.

Implementation Considerations

This action should be undertaken in full recognition of the Common Information Management (CIM) initiatives underway at Treasury Board, in the areas of human resources, finance, materiel assets and real property. It should also look at related initiatives in other departments.

During 1992/93 and 1993/94, a Business Area Analysis will be conducted for basic administrative processes. This will include the required re-engineering of the actual processes and information flows. It can be expected that implementation of associated information systems will occur in Year 1994/95, and may likely require substantial financial resources (perhaps up to \$2 million).

This action will require input from all parts of the department, since everyone is impacted by these fundamental administrative processes.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	1.5	8 months
1993/94	\$75,000	1.5	8 months
1994-95	\$2,000,000	4.0	12 months

DETAILED ACTIONS - MANAGEMENT

ACTION NUMBER M-6

Name of Action Impact on People

Responsible Manager ADM FPA : HRB

Description

Establish a task force to investigate and report on the effects of information and information technology on work patterns, skill sets, job classifications, training requirements of people who work in ISTC, and make any necessary changes required.

Rationale / Benefits

The growing importance of information in work activities, and the introduction of new information technology, especially microcomputers and LANs, has had a major impact on how people do their work, the skills and training they need, and their overall attitude to their jobs. In many cases, the result has been job enrichment or empowerment (more interesting and challenging work), but this has not always been accompanied by a raise in pay or change in classification. In other cases, the result has been less job satisfactions (e.g., professionals doing their own typing, frustrations from insufficient training, etc.).

People need to be prepared and trained for the introduction of new hardware, software, applications and processes. It can no longer be assumed that the impact of these changes in the workplace can be readily assimilated by the people occupying affected positions.

Thus, the overall impact of information and technology should be studied, with a view to minimizing the disruptive or negative effects, and maximizing the benefits.

There is also a need to review classifications and job descriptions, recognizing the need for people to have the ability to use information and access technology.

Implementation Considerations

This action should build on and expand the efforts currently under way, especially the Status of Women pilot study, and the PS 2000 initiative, with its emphasis on empowerment. It is important to ensure that information regarding potential and imminent technological change is communicated throughout the department in a timely fashion. In order to accomplish this, a communications strategy should be in place that will ensure that this occurs.

This action should also identify the type of training that might benefit the individuals being impacted and promote job satisfaction.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	0.5	6 months

APPENDIX G - DETAILS OF TECHNOLOGY ACTIONS

Introduction

This appendix outlines some specific technology initiatives that need to be put in place to support the department's needs over the next three years. These initiatives will provide the technical tools and framework necessary to achieve an improved information sharing capability and thereby provide better service to clients.

To ensure that we do not build throw-away systems, we must ensure that the adjustments required for the technology base are first made. Technical design of systems is partly dependent on the underlying technology.

We have seen how management actions are necessary to ensure that scarce resources are indeed directed to our highest priorities. The technology actions are extremely important not only in terms of future development of systems which will help us serve our clients better, but also to ensure that ISTC's significant investment in existing technology is optimized and harmonized.

In conjunction with these initiatives, certain fundamental management actions need to be taken. These are necessary prerequisites to provide the foundation and environment within which the particular information needs of the department can be successfully satisfied.

Assessment of Current Situation

Two years ago, the Office Automation System Architecture (OASA) study laid a firm foundation for the future directions of PCs, LANs and central systems within the department, as well as the establishment of electronic mail and a high speed network which would allow all workstations to access the corporate mainframe systems. This architecture has been largely implemented, and the basics of a high speed network will be in place by the end of this fiscal year. An electronic mail facility is now in place linking all parts of the department, and it will be upgraded once the new network is in place.

The importance of textual data to the department has been recognized, and the dISTCover system is being used in pilot mode. More recently, an initiative has been launched to evaluate and acquire a standard text management software package for the department.

Although almost every one of the approximately 2400 PCs in the department is now attached to a LAN, this connectivity is being used primarily for E-Mail and word processing, with only limited file transfers or file sharing. The development of actual application systems on LANs which share a common database has been proceeding slowly, mostly through the various Company Client Systems.

There is a need for further development of a comprehensive technology architecture for the department. This architecture would include long-term planning for networking, including both voice and data, with significant attention paid to the needed capacity for anticipated volumes of data transfer. This was addressed by the original OASA, but has not yet been completed.

This technology architecture should, however, go much further than the corporate network and electronic mail. In the database area, more powerful and flexible tools now exist than are being used for current corporate systems, and it is essential that ISTC investigate ways in which such new tools could improve its ability to develop more user-friendly systems quickly and effectively.

An associated technology issue concerns the use of appropriate types and sizes of computers, and the location of databases and processing power. The current industry trend is towards networked microcomputers and workstations. The department needs to define one or a small number of specific templates for different types of application systems, in order to permit the rapid and effective development of such systems for new programs and services.

Although some initial steps have been taken in the area of textual data, it is clear that more needs to be done to tap this vast resource of information and intelligence within the department. This is only partly a technical issue; the real decisions will involve setting priorities for which information should be put on-line, and which needs only an automated index or pointer system.

List of Technology Actions

The recommended technology actions are listed in Chart G-1 on the next page.

CHART G-1 - INFRASTRUCTURE ACTIONS (TECHNOLOGY

- **Conduct a technology review (T-1)**
- **Create a technology opportunities group (T-2)**
- **Implement electronic information exchanges with outside (T-3)**
- **Implement technology standards and methodologies (T-4)**
- **Develop application templates (RAD) (T-5)**
- **Update departmental database software (T-6)**
- **Implement departmental text information software (T-7)**
- **Study and upgrade departmental telecommunications (T-8)**

TECHNOLOGY ACTIONS

ACTION NUMBER T-1

Name of Action Technology Review

Responsible Manager ADM FPA / IMB

Description

Review, update and extend the OASA (Office Automation and System Architecture) initiatives, in the light of new requirements, including those information needs identified in this CIP.

Rationale / Benefits

The objective is to provide a basic corporate technological strategy for the department, which is an essential pre-requisite in order to establish a framework within which information needs can be satisfied. The various initiatives within the OASA were intended to cover many of the facets of the basic technology infrastructure for the department. Some of these have been started - and some of them have been included in this CIP report. It is necessary to review the outstanding items to see if they still need to be implemented, and if so, in what timeframe and at what cost. The OASA then needs to be updated to reflect those changes, and any other new requirements.

Implementation Considerations

The responsible manager within IMB should be charged with reviewing the OASA and making recommendations. This is, however, a **user-driven** activity, which necessitates the active involvement of all sectors and regions in the department, as ultimate users of the technology framework.

It is essential that this action take into account information needs identified in this CIP and their technological requirements.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	0.5	6 months

TECHNOLOGY ACTIONS

ACTION NUMBER T-2

Name of Action Technology Opportunities Group

Responsible Manager ADM ITRO / ITIB

Description

Create a small group (including non-technical users) to investigate possible business application of new informatics technology, within standard departmental technology standards/strategy. This will include the identification and dissemination of the best current practices.

Rationale / Benefits

This action is aimed at doing research into ways in which ISTC can exploit new informatics tools, within existing departmental technology, and in keeping with departmental standards, to:

- deliver existing products and services more efficiently or effectively
- reach new client groups
- provide whole new types of products and services

The benefits are:

- possible cost reductions
- better service to clients
- reinforcement of the department's image as the innovative user of technology

Implementation Considerations

This action is not a one-time project, but an on-going effort. Thus, it should be staffed or funded on a continuing basis.

It is vital that this effort include significant input and review by those people in the department who are actually developing and delivering products and services, to ensure that the recommendations are practical and can be applied to the solution of real problems.

Pilot projects, as appropriate, could be undertaken to test the potential benefits of the technology opportunities being considered.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$50,000	0.5	Ongoing
1993/94	\$50,000	0.5	Ongoing
1994/95	\$50,000	0.5	Ongoing

TECHNOLOGY ACTIONS**ACTION NUMBER T-3****Name of Action** Electronic Information Exchange**Responsible Manager** ADM FPA : IMB**Description**

Investigate and implement electronic data exchange with clients and outside parties, including clients, other government departments, Provincial governments, etc.

Rationale / Benefits

This action investigates the possibility of gathering and disseminating information electronically, rather than in hard copy (paper) format, for example, to increase the exchange of electronic mail to outside agencies, something that occurs now in some Regions. This flow could be two-way: from ISTC to outside parties, and from outside parties to ISTC.

The benefits of such exchange include:

- faster data transfer, and more current data
- reduced need to re-key or scan received data, in order to process it by computer

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$150,000	1.0	6 months

TECHNOLOGY ACTIONS

ACTION NUMBER T-4

Name of Action Technical Standards and Methodologies

Responsible Manager ADM FPA : IMB

Description

Develop or acquire required standards, methodologies and procedures in the areas of: technology acquisitions; application development (including CASE); data modelling and database design; technical interfaces; and information security.

Rationale / Benefits

These standards and methodologies are key to the efficient and effective evaluation and implementation of new technologies, databases, and application systems. These in turn are the necessary tools for the delivery of data and the satisfaction of the information needs of both external and internal clients.

They will ensure the use of consistent and industry-standard practices, and will reduce the amount of training required by technical staff. They will also assist in making the department's information systems compatible with each other, and thus facilitate the sharing of corporate data.

Implementation Considerations

This project will require:

- the identification of needed standards and methodologies
- a study for each to see if they can be purchased on the market, and if this would be most cost-effective (even with some customization)
- the purchase or development of the required documents
- the development of the procedures required to change or enhance existing applications, data and technology acquisitions
- the development of communications plans for the new approaches
- the piloting of selected tools in selected areas
- the development of training plans for those people who will use the standards and methodologies to be implemented

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$150,000	0.5	8 months

TECHNOLOGY ACTIONS

ACTION NUMBER T-5

Name of Action Application Templates (RAD)

Responsible Manager ADM FPA : IMB

Description

Develop standard application development templates for most commonly developed types of systems enabling the application of Rapid Application Development (RAD).

Rationale / Benefits

Currently, no defined technical "templates" exist for developing new application systems, and the use of RAD (rapid application development) has not been applied within the department. These templates will improve the quality and speed of the development and implementation of proposed application systems. This will be true not only of systems developed by IMB, but, even more importantly, of those done by "user developers" throughout the department.

A template is a specification for the approach to building the system (prototyping, RAD etc.), together with such decisions as:

- database software, programming languages etc.
- the "architecture" of the system (mainframe, LAN, client-server etc.)

One or more templates should be developed for the commonly-built types of application systems.

The benefits of such templates are:

- they relieve the project of making many unnecessary decisions, or reinventing the wheel
- they foster uniformity and compatibility among systems, thereby reducing staff training costs and making maintenance faster and cheaper

Implementation Considerations

This initiative is dependent on the Technical Standards and Methodologies developed under Action Number T-4, the acquisition of and standardization on a CASE tool, and requires the implementation of Management Action M-2 regarding communication throughout the department in order for it to be successful.

These templates must be well-documented and readily available to all those who need access to them. In addition, a training and communications plan must be developed for these templates to ensure their effective use.

The use of templates for application development should be piloted on selected small/medium projects, suitable for the application of RAD, in order to develop familiarity and address application issues before becoming a global standard.

YEAR	EST. COST	PYs	EST. TIME
1993/94	\$75,000	0.5	4 months
1994/95	\$75,000	0.5	4 months

TECHNOLOGY ACTIONS

ACTION NUMBER T-6

Name of Action Departmental Database Technology

Responsible Manager ADM FPA : IMB

Description

Select and acquire up-to-date database software and related software tools.

Rationale / Benefits

There is a need for database software that will support future and existing LAN based systems and client/server architecture. These new approaches will support the ISTC thrust for decentralization of data and processes, while allowing the required information sharing and central standards.

This will probably mean the acquisition of database software that utilizes relational technology and the world- and Canadian-standard SQL (structured query language) interface. In addition, modern products offer a wide variety of integrated tools which make the development of applications easier and more effective, and which enable end users to access databases on their own with a minimum of training. Finally, modern products make it much easier to implement the concepts of "cooperative processing" or "client-server", which will almost certainly be a major thrust within the industry, since they also put information closer to the end user.

Thus, more modern software would improve development productivity and increase end-user information access. It will support the many "user developers" outside IMB in building and maintaining effective systems to meet the needs of clients.

Implementation Considerations

Such a study should be carried out using a standard software evaluation methodology, and must include involvement of users/developers. Activities would include:

- specifying requirements
- surveying available products
- evaluating products against requirements
- selecting most appropriate product

This study must recognize the need to preserve the investment made in existing systems. As well, management must be made aware of the need for this new technological approach and the changes that it will bring to existing operations. Ongoing management support for this initiative is a necessity.

It is expected that, beyond the initial study, the estimated costs of acquiring and installing the selected software and technical equipment will be considerable, up to \$1 million.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	0.5	6 months
1993/94	\$500,000	1.5	6 months
1994/95	\$500,000	1.5	6 months

TECHNOLOGY ACTIONS**ACTION NUMBER T-7****Name of Action** Text Information Software**Responsible Manager** ADM FPA : IMB**Description**

Obtain and install corporate text software.

Rationale / Benefits

All elements of ISTC expect to make extensive use of the Text Information System to search for material to support their functions and to provide advice/service to clients. If possible, the facilities provided by this system should be made directly available for use of the clients of the department.

Implementation Considerations

A study of the needs of a cross section of potential users will be performed in order to determine the selection criteria to be adopted when evaluating available full-text software packages. A short list of the most suitable software will be evaluated against that criteria and the best available package that meets the majority of users needs will be acquired and installed.

The package which will be implemented in the department, in the Directories project, will provide valuable experience in text management.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$300,000	0.5	6 months

TECHNOLOGY ACTIONS**ACTION NUMBER T-8****Name of Action** Departmental Telecommunications Upgrade**Responsible Manager** ADM FPA**Description**

Complete the telecommunications requirements study, with a view to upgrading telephone facilities and other communications networks as required for data, voice, images and video conferencing.

Rationale / Benefits

One of the most critical pre-requisites for information sharing within the department is the existence of a telecommunications network linking all sites where ISTC staff work. In the future, this network will probably have to connect to networks of clients, partners, other agencies etc.

It is vital, therefore, that this network:

- have the needed capacity, or the ability to be expanded as traffic grows
- provide the needed compatibility between the various sites and technologies involved

Implementation Considerations

The study and the resulting report must pay due regard to the inter-governmental routing standards/networks, and must involve close liaison with GTA.

The cost estimates are in two parts: the first for the initial study to determine the needs and the optimal solution, and the second to put the required upgraded network facilities in place.

YEAR	EST. COST	PYs	EST. TIME
1992/93	\$75,000	0.5	6 months
1993/94	\$500,000	2.0	12 months
1994/95	\$500,000	2.0	12 months

APPENDIX H - RELATIONSHIP OF CIP ACTIONS TO INFORMATION MANAGEMENT STRATEGY

OVERVIEW

The **ISTC Information Management Strategy (IMS)** of October 1990 provided a basic framework for meeting the challenges of the 90's in our management of information.

It recognized that, with an information intensive mandate, ISTC is becoming a knowledge department. In promoting international competitiveness and excellence in Canadian industry, science and technology, the department is shifting its business focus to emphasize the production of information-based knowledge outputs to its clients. The business work and the value added products and services the department provides to its clients are increasingly dependent on its information and knowledge base.

The IMS was a recognition, therefore, that a top priority for the department is to strengthen its information management function.

To do so, the IMS established four **Strategic Objectives** for ISTC to achieve in Information Management:

- Increase its effectiveness in meeting the needs of its clients and partners;
- Improve its ability to access and share information;
- Achieve productivity gains in its work; and
- Enhance its ability to manage its resources.

The IMS also identified six **Strategic Thrusts** under which 39 specific initiatives were to be undertaken in the department. These thrusts are:

1. **Strategic Information Planning**
2. **Build a Supportive Culture**
3. **Best Available Technology and Strong Technical Support**
4. **Infrastructure**
5. **Flexible Implementation**
6. **Easy Access to ISTC Information**

The IMS described strategic information planning as the key initiative for the department. For this reason, the IMS recommended as a first priority initiative the development of a **Corporate Information Plan (CIP)** for ISTC.

This CIP was:

- to identify from a corporate perspective the information needed in the department to carry out its business in serving its clients; and
- to recommend specific actions for the department to take to better meet those information needs.

CIP ACTIONS

The result of this IMS recommendation and the ensuing project undertaken is this CIP report. It identifies the corporate information needs of the department and assesses the outstanding issues which involve them. It also recommends that the department undertake 23 specific actions to address these issues. These actions will meet specific information needs of the department and also provide the underlying infrastructure needed in management matters and technology concerns. (Further details of these CIP actions and the issues they address are provided in Appendices E, F and G).

These CIP actions will build upon, strengthen and carry forward the IMS Strategic Thrusts and a number of initiatives which were identified under them.

Overall, the CIP actions are ones which support and reinforce the IMS thrusts. In some cases, the CIP actions provide more detailed and specific projects to be undertaken in areas the IMS was only general in. In other cases, the CIP actions take the IMS further and represent an expansion of its original directions as stated. In all cases, the CIP actions are seen as a natural extension of the IMS and as a way to carry forward in specific, actionable items the IMS strategy for information management in ISTC.

The specific relationship between the CIP actions and the IMS Strategic Thrusts and initiatives is provided below. Each CIP action is placed under the individual Strategic Thrust it predominantly supports; and then its relationship to the IMS initiatives under that thrust is summarized.

IMS STRATEGIC THRUSTS AND CIP ACTIONS

1. STRATEGIC INFORMATION PLANNING

CIP Project and Report
International SIP (I-1)
SIP on Clients (I-2)
SIP Support (M-3)

2. BUILD A STRONG SUPPORTIVE CULTURE

Information Culture Campaign (M-2)
Impact on People (M-6)

3. BEST AVAILABLE TECHNOLOGY AND STRONG TECHNICAL SUPPORT

Technology Review (T-1)
Technology Standards and Methodologies (T-4)
Application Templates (RAD) (T-5)
Departmental Database Technology (T-6)
Text Information Software (T-7)
Telecommunications Update (T-8)

4. INFRASTRUCTURE

Review of Processes and Responsibilities (M-1)

5. FLEXIBLE IMPLEMENTATION

Integrated Company Client System (I-3)
Establishment System Review (I-4)
Program Support System (I-5)
Human Resource System (I-8)
Re-engineering of Administrative Processes (M-5)
Technologies Opportunities Group (T-2)

6. EASY ACCESS TO ISTC INFORMATION

Information Sharing with Other Agencies (I-6)
Telephone Directory (I-7)
Pointers/Directories to Information (I-9)
Information Standards and Classification (M-4)
Electronic Information Exchange (T-3)

IMS STRATEGIC THRUST 1. Strategic Information Planning

Complete the development of a corporate Strategic Information Plan and provide support for the development and maintenance of organizational and functional Strategic Information Plans (SIPs).

CIP ACTIONS:

International SIP: Conduct a horizontal SIP with EAITC on international information needs (I-1)

SIP on Clients: Conduct a horizontal SIP on client information and client needs (I-2)

SIP Support: Create a support group for strategic information planning (M-3)

The CIP project and resulting report was a significant completion of the IMS priority recommendation to develop a corporate strategic information plan in the department. Carrying out SIPs on international information and on clients will be a concrete expression of the IMS call for focusing on horizontal SIPs in priority areas. A SIP support group will assist the development of these and other SIPs in the department.

IMS STRATEGIC THRUST 2. Build a Supportive Culture

Continue to develop an ISTC corporate culture which develops and reinforces the values associated with managing and sharing information.

CIP ACTIONS:

Information Culture Campaign: Undertake an information culture campaign (M-2)

Impact on People: Establish a task force on the impact of information and technology on people in ISTC (M-6)

These CIP actions will reinforce the IMS thrust to ensure that ISTC develops a corporate culture which is supportive of information values and skills. The CIP proposes a special campaign in the department to increase awareness of information management. The task force on the impact on people in their work is a direct, specific expression of the IMS stated concern to manage the impact of technological changes on ISTC employees.

IMS STRATEGIC THRUST 3. Best Available Technology and Strong Technical Support

Provide the best available technology and strong technical support to all ISTC staff, including completion of (OASA), continuous upgrading of information technologies,

establishment of a Research and Promotion Unit, and compliance with legislative and central agency requirements.

CIP ACTIONS:

Technology Review: Conduct a technology review to establish a technology strategy and framework for the department (T-1)

Technology Standards and Methodologies: Implement required technical standards and methodologies (T-4)

Application Templates (RAD): Develop standard templates for developing common types of application systems, including RAD techniques (T-5)

Departmental Database Technology: Update the current departmental software used for corporate databases to take advantage of current tools and flexibility (T-6)

Text Information Software: Implement a standard software package for text management within the department (T-7)

Telecommunications Update: Study departmental telecommunications facilities and upgrade them as required to meet future demands (T-8)

These CIP actions complement and extend the IMS implementation of OASA. The technology review will include a review and update of OASA implementation, as well as the establishment of a current technology strategy for the department. Technology standards, including the development of application templates, cover new ground beyond the IMS. The upgrades in the departmental database software and in departmental telecommunications support the IMS requirement to upgrade equipment, software and facilities on a continuous basis. The text software package reinforces current efforts to focus on text information and acquire a suitable software package in the department.

IMS STRATEGIC THRUST 4. Infrastructure

Provide and effectively operate an Information Management infrastructure.

CIP ACTIONS

Review of Processes and Responsibilities: Conduct a comprehensive review to improve the basic processes and clarify the specific roles and responsibilities in information management (M-1)

This CIP action supports the IMS view that the information management infrastructure should be completed, and that it should be reviewed. It is more specific and insistent, however, on the need to review all the relevant processes involved (e.g., resourcing, monitoring) and the basic operations of IMC and IMAC.

IMS STRATEGIC THRUST 5. Flexible Implementation

Develop the systems and technology required to support the department's business functions: client services, leadership, policy, promotion and intelligence; administrative support; and funded programs.

CIP ACTIONS

Integrated Company Client System: Develop an integrated Company Client System in the department based on the existing systems (I-3)

Establishment System Review: Conduct a review of the current Establishment System to determine its role and operation in providing client information in the department (I-4)

Program Support System: Review PRISM and develop a new corporate Program Support System to support all users in the department (I-5)

Human Resource System: Implement an improved Human Resource System in the department (I-8)

Re-engineering of Administrative Processes: Conduct a re-engineering study of administrative processes in the department to streamline and simplify them (M-5)

Technology Opportunities Group: Create a group to identify opportunities and implement technology-based delivery methods and products for clients (T-2)

The CIP action to develop an integrated CCS in the department will carry forward the IMS initiative to complete the development of a network of electronically stored and shared information on ISTC clients. The reviews of the Establishment System and PRISM extend the IMS initiatives aimed at improved relationships between corporate systems and decentralized approaches. The improved human resource system and the study to re-engineer administrative processes are supportive of this IMS thrust to improve these administrative processes. The Technology Opportunities Group will work to implement technology based innovations in the department's products and services and deliveries to clients, as envisioned in the IMS.

IMS STRATEGIC THRUST 6. Easy Access to ISTC Information

Undertake projects leading to an improved ability to easily identify and access ISTC's information holdings.

CIP ACTIONS

Information Sharing with Other Agencies: Study means of sharing information with other departments, and of making information about other departments more accessible to people in ISTC (I-6)

Telephone Directory: Implement an improved on-line telephone Directory, to include information on responsibilities and skills (I-7)

Pointers/Directories to Information: Extend the number and accessibility of directories and pointers to information available within ISTC and outside (I-9)

Information Standards and Classification: Implement common information standards and use a common information classification (M-4)

Electronic Information Exchange: Implement methods of improved electronic information exchange with external clients and partners (T-3)

The CIP actions involving information sharing and electronic information exchanges with external clients and partners provide direct support to the IMS intent on establishing better information sharing and access by ISTC people to the outside. Both actions related to the Telephone Directory and other information pointers/directories reinforce and build on the IMS priority for directories, as evidenced in the Directories Pilot. The IMS drive for better access to information is supported by the action for common information standards and a common departmental information classification so that information can be shared among different systems.

