



ISED'S INVOLVEMENT IN THE INTERNATIONAL TELECOMMUNICATION UNION EVALUATION REPORT



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Cat. No. Iu4-333/2020E-PDF
ISBN 978-0-660-35909-0

Aussi offert en français sous le titre *Évaluation de la participation d'ISDE aux activités de l'Union internationale des télécommunications*.

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LIST OF ABBREVIATIONS AND ACRONYMS

CNO	Canadian National Organization
CPC	Canadian Preparatory Committee
DGEPS	Engineering, Planning and Standards Branch
ITIP	International Telecommunications and Internet Policy Directorate
ICT	Information and Communication Technology
ISED	Innovation, Science and Economic Development
ITU	International Telecommunication Union
ITU-D	Telecommunication Development Sector of the ITU
ITU-R	Radiocommunication Sector of the ITU
ITU-T	Telecommunication Standardization Sector of the ITU
R&D	Research and Development
SME	Small- and Medium-Sized Enterprise
TIPB	Telecommunications and Internet Policy Branch
UN	United Nations

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EXECUTIVE SUMMARY

This report presents the results of an evaluation of Innovation, Science and Economic Development Canada's (ISED's) involvement in the International Telecommunication Union (ITU). The ITU is the United Nations (UN) Specialized Agency for telecommunications and information and communication technologies (ICTs), acting as the global focal point for governments and the private sector in developing networks, services and related standards. The ITU was established in 1865 and Canada has been a member since 1932, with ISED taking the leading role for Canada's ITU representation and for providing the annual financial contribution to the ITU.

PROGRAM OVERVIEW

Canada's key objectives in contributing to the ITU, which support the rationale for ISED's on-going involvement, are to:

- Secure Canada's interests in the international regulation of the radio frequency spectrum to protect existing radiocommunications services from harmful interference, as well as the identification of the enabling technical and regulatory conditions to permit the operation of new satellite and terrestrial services.
- Provide leadership and focus in promoting the competitiveness of the Canadian telecommunications industry's interests (e.g., by working closely with Canadian stakeholders to obtain spectrum allocations at the global conferences and to develop international standards enabling global communications).
- Ensure that the ITU's mandate remains focused on its core competencies, and is not expanded to internet governance matters outside its purview, or to areas related to Member States' national application of legal and policy principles in relation to defence, security, content and cybercrime.
- Work with other countries to harmonize policy and regulatory frameworks, promote interconnection and interoperability of global telecommunication networks and services through standardization, and deal strategically with them to facilitate access to key markets.
- Build effective consultation and information dissemination processes with Canada's key trading partners (e.g., United States, Japan, etc.).
- Promote Canadian telecommunications expertise, products and services with all ITU Member States and close to 800 Sector Members and Associates.

EVALUATION PURPOSE AND METHODOLOGY

This evaluation was required under the Financial Administration Act. The objectives of this evaluation were to examine ISED's involvement in the ITU in accordance with the Treasury Board Policy on Results. The evaluation covered the period from April 1, 2014 to March 31, 2019, and

employed multiple data collection methods, including: a document review; literature review; short survey; interviews; and financial data analysis.

FINDINGS

Relevance

Telecommunications, a \$53.1 billion sector in 2018, underpins the productivity and growth of almost every sector of the Canadian economy. The decisions and recommendations taken by the ITU, some of which are treaty-binding, impact global telecommunications, Canadian telecommunications and ICT industry, access to foreign markets, and the delivery of telecommunications and internet services to Canadian consumers.

ISED's engagement, as part of the Canadian delegation, is required at ITU meetings and conferences to help steer the policy debate in order to advance Canadian priorities and protect Canadian positions from unacceptable proposals put forth by other Member States. ISED is best placed to represent the Government of Canada due to its high level of technical expertise and ongoing engagement with Canadian industry.

ISED's annual contribution to the ITU (which helps fund the operations of the ITU) has declined significantly in recent years. Stakeholders suggest there would be significant repercussions for Canada and Canadian industry if ISED further reduced its contributory units to the ITU or eliminated its participation in the ITU, including: a loss of influence; possible detrimental effects for the Canadian telecommunications industry; and a lowered reputation at ITU meetings and conferences.

Performance

ISED has been consistently successful in meeting target goals in advancing Canada's positions and priorities at the ITU during the evaluation period. Based on stakeholder perceptions, ISED's involvement in the ITU has contributed to: helping Canadian companies exploit and develop new services and technologies; enabling global connectivity and interoperability of telecommunications networks and services; and ensuring the ITU mandate is not expanded to internet governance matters outside its purview.

ISED's involvement in the ITU has also helped Canadians benefit from innovative products, services and information technology and telecommunications infrastructure, and enabled Canadian government and industry to offer radio and satellite services to users.

Efficiency

The cost of ISED's involvement in the ITU remained relatively stable during the 2014-15 to 2018-19 period, averaging \$8.2 million annually, with a high of \$9.6 million in 2014-15 and a low of \$7.4 million in 2017-18. Variances in annual costs can be partly attributed to a reduction in Canada's contribution units (18 to 13 in 2015-16) and varying delegation sizes.

Relative to GDP, the level of Canada's contributory units to the ITU is appropriate, although the

further recent reduction in contributory units (from 13 to 11) could impact Canada's reputation and overall influence within the ITU and make it more difficult to obtain influential leadership positions.

Although the size of the Canadian delegation to support international activities is slightly below average among the top contributing Member States, they are highly regarded by the international community in terms of their capabilities. It was noted that ISED should emphasize succession planning via increased training and development opportunities.

There are opportunities for ISED to enhance the effectiveness of domestic stakeholder engagement in the radiocommunication sector (ITU-R) and the telecommunication standardization sector (ITU-T) via increased flexibility (e.g., accepting written Canadian Preparatory Committee (CPC) submissions versus having to be present at a CPC meeting), outreach (e.g., engaging more small and medium-sized enterprises), and timelier information sharing and delegation planning.

RECOMMENDATIONS

The evaluation findings led to the recommendations noted below.

Recommendation 1: Maintaining Effective ISED Representation

ISED should maintain effective representation at the ITU, including increased emphasis on succession planning via increased training and development opportunities, enabling ISED officials to maintain influential roles at the ITU.

Recommendation 2: Strengthening Stakeholder Engagement

ISED should strengthen ongoing domestic engagement, including prior to ITU meetings, by allowing greater flexibility in the conference planning process, increasing outreach among potential stakeholders, and enabling timelier information sharing and delegation planning.

1.0 INTRODUCTION

1.1 REPORT OVERVIEW

This report presents the results of an evaluation of the involvement of Innovation, Science and Economic Development Canada (ISED) in the International Telecommunication Union (ITU). The ITU is the United Nations (UN) Specialized Agency for telecommunications and information and communication technologies (ICTs), acting as the global focal point for governments and the private sector in developing networks, services and related standards. The ITU was established in 1865 and Canada has been a member since 1932, with ISED taking the lead role for Canada's ITU representation.

The purpose of this evaluation is to assess the relevance, performance, and efficiency of ISED's involvement in the ITU. The report is organized into four sections:

- [Section 1](#) provides the context and profile of ISED's involvement in the ITU;
- [Section 2](#) presents the evaluation methodology and the challenges for the evaluation;
- [Section 3](#) presents the findings; and
- [Section 4](#) summarizes the conclusions and provides recommendations.

1.2 CONTEXT

ISED's ITU work is carried out mainly by two sectors of ISED: the Strategic and Innovation Policy Sector and the Spectrum and Telecommunications Sector. The program is subject to the Government of Canada's results-based approach to management and ensuring effective reporting, decision-making, transparency, and accountability.

Canada's membership in the ITU and ISED's role conforms to Section 6 (e) of the *Department of Industry Act* whereby the Minister shall "take any action that may be necessary to secure, by international regulation or otherwise, the rights of Canada in communication matters."

AT A GLANCE:

- ISED's involvement in the ITU enhances Canada's competitiveness in telecommunications worldwide by supporting Canadian interests and requirements in the formulation of treaty-binding regulations; developing global standards; and enabling Canadian industry to use ITU processes and services.
- Telecommunications, a \$53.1 billion sector in 2018, underpins the productivity and growth of almost every sector of the Canadian economy.
- From 2014-15 to 2018-19, ISED contributed an average of \$6.1 million annually to the ITU.

1.3 OBJECTIVES AND DESCRIPTION

Canada's key objectives in contributing to the ITU, which support the rationale for ISED's on-going involvement, are to:

- Secure Canada's interests in the international regulation of the radio frequency spectrum to protect existing radiocommunications services from harmful interference, as well as the identification of the enabling technical and regulatory conditions to permit the operation of new satellite and terrestrial services.
- Provide leadership and focus in promoting the competitiveness of the Canadian telecommunications industry's interests (e.g., by working closely with Canadian stakeholders to obtain spectrum allocations at the global conferences and to develop international standards enabling global communications).
- Ensure that the ITU's mandate remains focused on its core competencies, and is not expanded to internet governance matters outside its purview, or to areas related to Member States' national application of legal and policy principles in relation to defence, security, content and cybercrime.
- Work with other countries to harmonize policy and regulatory frameworks, promote interconnection and interoperability of global telecommunication networks and services through standardization, thereby facilitating access to key markets.
- Build effective consultation and information dissemination processes with Canada's key trading partners (e.g., United States, Japan, etc.).
- Promote Canadian telecommunications expertise, products and services with all ITU Member States¹ and close to 800 Sector Members and Associates.

Canada's participation in the ITU ensures that its radiocommunication service providers – both in the mobile and satellite industries – have access to globally harmonized spectrum and the corresponding equipment ecosystems. As well, participation ensures that providers operate under a well understood and evolving international regulatory framework (as reflected in the ITU Radio Regulations) that is responsive to their needs. Service providers such as Bell, Rogers, Telus, Shaw, and Telesat, as well as Canadian-based suppliers including Boeing, Airbus, and Ericsson, benefit from Canada's participation.

1.4 PROGRAM ACTIVITIES

Canada's ITU activities are primarily supported by the following groups at ISED:

- The International Telecommunications and Internet Policy Directorate (ITIP) in the Telecommunications and Internet Policy Branch (TIPB): lead for the ITU program as it relates to the ITU financial contribution, performance measurement, ITU governance and developmental sector (ITU-D) work.
- The Engineering Planning and Standards Branch (DGEPS): lead for other specific areas of

¹ Member States determine the ITU's strategic direction and budget. There are 193 sovereign states that are members of the ITU and have equal representation at its supreme decision-making body, the ITU Plenipotentiary Conference.

ITU work, namely the Radiocommunication sector (ITU-R) and Telecommunication Standardization sector (ITU-T).

Although lead directorates are assigned to each sector (ITU-R, ITU-T and ITU-D), other ISED directorates may participate in the associated work. Each of the involved directorates have broader departmental mandates and the ITU activities form a portion of their work. Each directorate is responsible for organizing and coordinating their participation at their respective ITU preparatory meetings and international treaty-binding conferences.

Table 1 describes each of the four main work areas, and identifies the branch and directorate that plays the lead role for that area, as well as the consultations, meetings, Study Groups² and conferences associated with each ITU sector.

² ITU study groups are venues for ITU members to work collaboratively in responding to the priorities of the ITU membership. Each ITU study group is responsible for progressing ITU work in a specific field of ITU's mandate. These groups develop the technical basis for ITU agreements and associated activities.

Table 1: Sector Activities, Conferences and Assemblies by Branch and Directorate

ITU Sector and Sector Activity	Lead Branch / Directorate	Key Meetings, Conferences & Assemblies
<u>ITU Governance</u> Operating principles, procedures, structures and mandate of the ITU, in the context of the evolving telecommunications sector.	TIPB/ITIP	<ul style="list-style-type: none"> • Canadian Preparatory Committee (CPC) meetings • Annual Council meeting • Plenipotentiary Conference* (treaty binding)
<u>Radiocommunication (ITU-R)</u> To ensure rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using satellite orbits, and to carry out studies and adopt recommendations on radiocommunication matters.	DGEPS	<ul style="list-style-type: none"> • Canadian National Organization (CNO) meetings • CPC meetings for World Radiocommunication Conference • Study group meetings • Conference Preparatory Meeting* (non-treaty binding) • World Radiocommunication Conference* (treaty binding) • Radiocommunication Assembly* (non –treaty binding)
<u>Telecommunication Standardization (ITU-T)</u> To develop the technical standards that ensure networks and technologies seamlessly interconnect.	DGEPS	<ul style="list-style-type: none"> • CNO & CPC meetings • Study group meetings • World Telecommunication Standardization Assembly* (non-treaty binding)
<u>Development (ITU-D)</u> To foster international cooperation to improve access to ICTs to underserved communities worldwide.	TIPB/ITIP	<ul style="list-style-type: none"> • CPC meetings • World Telecommunication Development Conference* (non-treaty binding)
<u>Other</u>	Both groups	<ul style="list-style-type: none"> • World Conference on International Telecommunications (treaty binding) • World Telecommunication Policy Forum (non-treaty binding)

Notes:

- Meetings and conferences occurring approximately every four years are denoted by a ‘*’
- DGEPS = Engineering Planning and Standards Branch
- TIPB/ITIP = Telecommunications and Internet Policy Branch/International Telecommunications and Internet Policy Directorate

Much of ISED's work at the ITU is done in Study Groups related to the three sectors (see Figure 1). The groups are venues for ITU members (representing government, industry and academia) to work collaboratively to respond to and progress ITU work in a specific field of the ITU's mandate (see Appendix B). In preparation for the ITU conferences and assemblies, each Study Group (17 in total) assembles annually, however, many Study Groups occur multiple times per year.

The ITU-R Study Groups develop the technical basis for supporting decisions taken at World Radiocommunication Conferences and develop global standards, reports and handbooks on radiocommunication matters. Standardization work is carried out by the technical Study Groups in which representatives of the ITU-T membership develop recommendations (standards) for the various fields of international telecommunications.

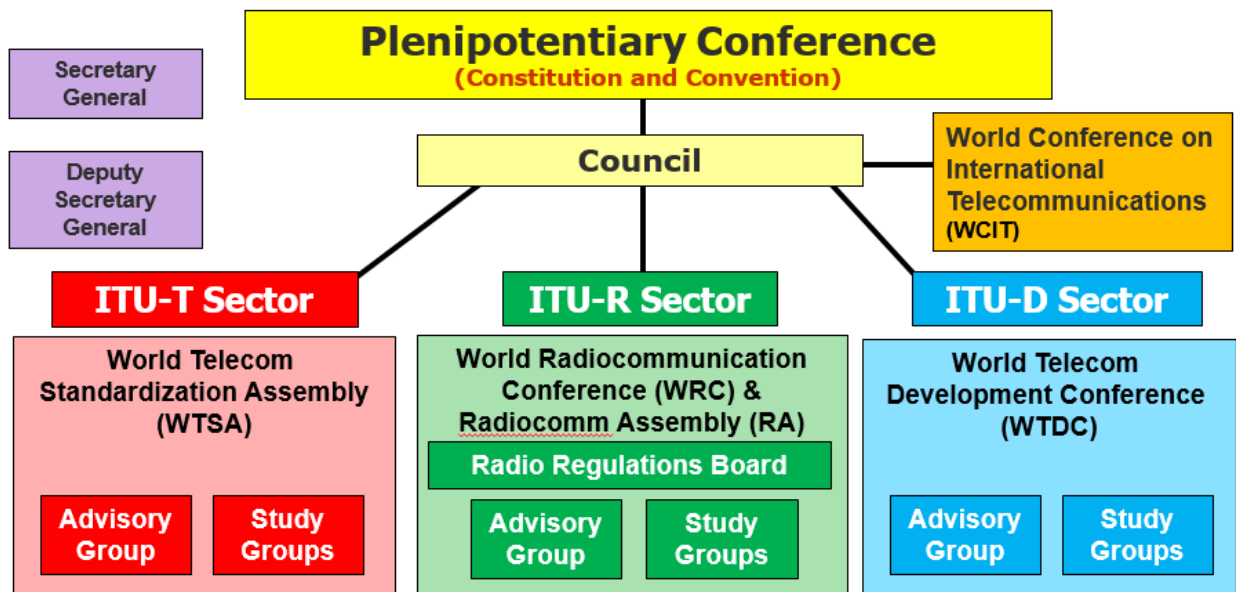
In addition, ISED consults with stakeholders to better understand their needs and priorities, as some stakeholders have competing needs and priorities that must be balanced. When appropriately considered, these needs and priorities are incorporated into Canadian positions and advanced at the ITU.

In order for the Canadian delegations to advance Canada's positions and priorities at ITU meetings and conferences, consultative work with other government departments and Canadian industry is performed well in advance of the domestic meetings (e.g., Canadian Preparatory Committee (CPC)), regional meetings (e.g., CITELE), and the various study groups (19 in total).

TIPB is involved in ITU governance, which oversees the operating principles, procedures, structures and mandate of the ITU organization, in the context of the evolving telecommunications sector. The ITU is governed by the Plenipotentiary Conference and the Council:

- Plenipotentiary Conference: The top decision-making body which determines the direction of the Union and its activities. This is the key conference related to governance.
- Council: Acts as the Union's governing body in the interval between Plenipotentiary Conferences. Its role is to consider broad telecommunication policy issues to ensure that the Union's activities, policies and strategies fully respond to today's dynamic, rapidly changing telecommunications environment.

Figure 1: ITU Structure



In support of the more formal consultation activities listed above, ISED-ITU representatives also communicate informally with stakeholders on an on-going basis. On occasion, input into

documents (e.g., Canadian contributions and position documents) is sought from stakeholders through a more formal e-mail exchange process.

1.5 STAKEHOLDERS

ISED's contribution to the ITU allows the Government of Canada, working with stakeholders (e.g., other federal government departments and Canadian companies), to reflect Canadian interests and requirements in the formulation of treaty-binding regulations, the development of global standards, and enabling of Canadian industry to use ITU processes and services to enhance Canada's competitiveness in telecommunications worldwide. ISED ascertains the requirements and interests of Canadian companies and other government departments through a national consultative process and through the ITU Canadian National Organizations (CNOs) and Canadian Preparatory Committees (CPCs) that parallel ITU activities (see Table 1).

Other government departments require adequate access to radio spectrum and satellite orbits and protection from system interference for national defence, public safety, law enforcement, weather prediction, civil aviation, space program, and maritime safety purposes. These government departments include:

- Global Affairs Canada
- Public Safety Canada
- Canadian Space Agency
- Department of National Defence
- Canada Radio-television Telecommunications Commission
- Transport Canada
- Heritage Canada
- Environment and Climate Change Canada
- National Research Council
- Health Canada
- Fisheries and Oceans Canada

Other government departments, agencies and Crown corporations collaborate with ISED in the development of Canadian positions on key issues such as ITU governance, critical infrastructure protection, internet governance, and information protection. In addition to participating in Canadian consultations, representatives from other government departments may attend ITU meetings and conferences as part of the Canadian delegation.

Further, many Canadian companies and other organizations participate directly in the ITU as either Canadian Sector Members, Associates or Academia, often in Study Groups that are of particular relevance to their organization or firm.³

³ For a list of Canadian Sector Members and Associates, see https://www.itu.int/online/mm/scripts/gensel9?_ctryid=1000100495&_ctryname=Canada.

1.6 PROGRAM COSTS AND RESOURCES

ISED's financial contribution to the ITU enables the Government of Canada, working with other stakeholders including Canadian telecommunication carriers, service providers and manufacturers, to participate in the ITU to enhance Canada's competitiveness in telecommunications worldwide.

Under the ITU system, Member States are required to commit themselves to a level of contribution (based on a unit system) and not to a specific annual contribution amount. The selection of the contributory unit amount is made at ITU Plenipotentiary conferences. For example, at this time, a single contributory unit is valued at 318,000 Swiss francs for Member States. Member States can choose to provide up to 40 contributory units per year. While the system of contributory units is intended to provide budgetary predictability and stability for the ITU, it can have the opposite effect for Member States due to fluctuations in currency exchange rates.

ISED's participation in the ITU includes three primary cost elements:

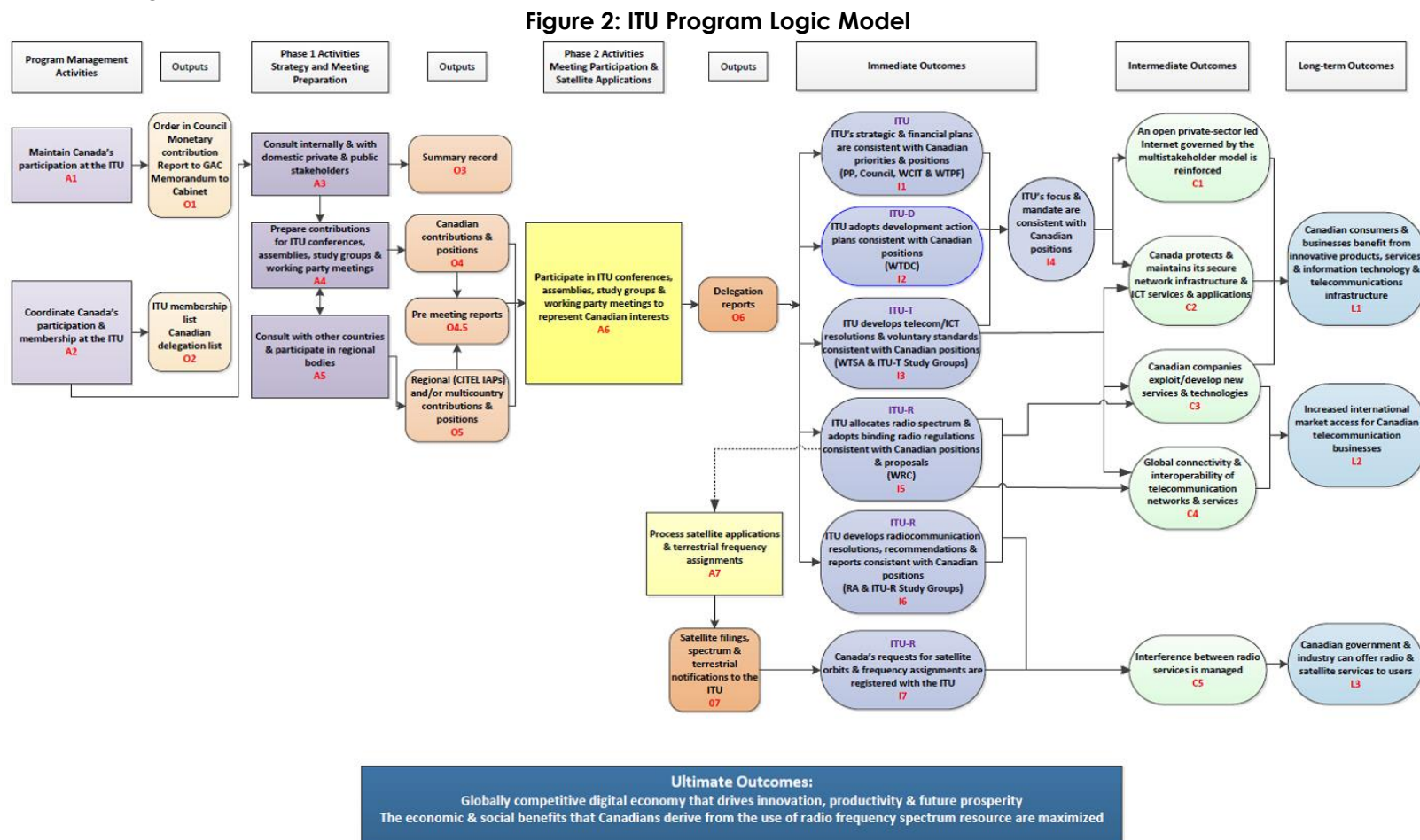
- **Canada's financial contribution to the ITU⁴:** ISED covers the full cost of the annual financial contribution to the ITU on behalf of Canada. From 1965 to 2015, Canada contributed 18 units per year, with the actual amount in Canadian dollars fluctuating depending on the value of the exchange with the Swiss Franc. This level was reduced to 13 units in 2016 (about \$5.5 million per year) and will drop to 11 units in 2020 (as announced at the 2018 Plenipotentiary Conference). This reduction was partly due to a 50% decrease in the value of the Canadian dollar relative to the Swiss Franc between 2010 and 2015 – which would have significantly increased the cost of maintaining Canada's previous contribution level to the ITU.
- **ISED's staff costs:** The two ISED branches directly involved in ITU activities aggregately employed about 16 full-time equivalents (FTEs) on ITU activities in 2018-19 (slightly more than \$1.8 million dollars in salary). The average annual salary costs were \$1.7 million over the 2014-15 to 2018-19 period.
- **ISED's travel costs:** This includes travel for meetings, conferences, and assemblies. The 2018-19 travel costs for the two ISED branches were slightly more than \$600,000. The average annual travel costs were almost \$450,000 over the 2014-15 to 2018-19 period.

For a detailed breakdown in ISED's participation costs for the 2014-15 to 2018-19 period, see Section 3.3.

⁴ The funds are chargeable to Industry Vote 10 – Grants and Contributions. There is no Contribution Agreement, but there are Terms and Conditions. ISED's annual contribution covers the operational and staffing costs of the ITU.

1.7 LOGIC MODEL

The ITU Program logic model is presented in Figure 2. A logic model is a visual representation that links a program's activities, outputs and outcomes; provides a systematic and visual method of illustrating the program theory; and shows the logic of how a program, policy or initiative is expected to achieve its objectives. It also provides the basis for developing the performance measurement and evaluation strategies.



2.0 METHODOLOGY

This section provides information on the evaluation context, objectives, scope and approach, issues and questions, data collection methods, and limitations.

2.1 EVALUATION CONTEXT

Industry Canada's (now ISED's) involvement in the ITU was last evaluated in 2015 and covered the period from 2009 to 2014. The evaluation found that there is a continued need for the Department to be involved in the ITU, in working groups and preparatory meetings, as well as the major conferences themselves. In addition, the evaluation found that the Department achieved the majority of its immediate outcomes.

The 2015 evaluation recommended the adoption of a strategic approach to determining the size and composition of the Department's part of the Canadian delegation for ITU-related meetings; continuing to improve the measurement and reporting of outcomes; and examining the foundational documents so that program priorities are identified and made explicit.

2.2 OBJECTIVES

An evaluation of ISED's involvement in the ITU is required under the *Financial Administration Act*. The objectives of this evaluation were to examine ISED's involvement in the ITU in accordance with the Treasury Board Secretariat *Policy on Results*.

2.3 SCOPE AND APPROACH

This evaluation was managed and conducted by ISED's Audit and Evaluation Branch and covered the period from April 1, 2014 to March 31, 2019. The evaluation was calibrated to build on the findings from the 2015 evaluation, maximize the use of secondary research, and make targeted use of primary research to focus on the progress toward the immediate, intermediate and long-term outcomes identified in the updated logic model. The evaluation also examined the continued relevance and efficiency of ISED's involvement in the ITU.

2.4 EVALUATION ISSUES AND QUESTIONS

The evaluation addressed the following questions:

Relevance

1. Is there a continued need for ISED to be involved in the ITU and to what extent is the ITU addressing this need? What are the risks if participation is reduced or eliminated?

Performance

2. To what extent has ISED's involvement in the ITU contributed to the achievement of the expected immediate outcomes?
3. To what extent has ISED's involvement in the ITU contributed to the achievement of the expected intermediate outcomes?
4. To what extent has ISED's involvement in the ITU contributed to the achievement of the expected long-term outcomes?

Efficiency

5. Is resource utilization reasonable relative to the production of outputs and progress being made towards expected outcomes?

2.5 DATA COLLECTION METHODS

Multiple lines of evidence were used to address the evaluation questions. The data collection methods included a document review, literature review, short survey, interviews, and financial data analysis.

Document Review

A document review was conducted to gain a thorough understanding of ISED's involvement in the ITU and to provide insights into relevance, performance and efficiency. The review included:

- Program foundational documents (e.g., Treasury Board Submissions, 2017 Performance Measurement Strategy, 2015 evaluation, etc.);
- Government priority setting documents (e.g., Budgets, Speeches from the Throne, mandate letters, etc.);
- Other key program documents (e.g., final reports of ISED's most recent stakeholder consultation, the most recent CNO/ITU Telecommunication Standardization Manual, etc.); and
- Documentation related to the major ITU-related conferences which took place during the evaluation period, including preparatory documents (e.g., briefing books, objectives reports and high level summaries), post-conference delegate reports, and post-conference survey reporting completed by heads of delegations.

Literature Review

A literature review was conducted to ascertain whether ISED's commitment to the ITU is reasonable compared to the financial commitment of other countries considering the sizes of their economies and telecommunications sectors. The review also looked at other spectrum and telecommunications associations and organizations and Canada's (and ISED's) roles there.

Short Survey

A short e-mail survey was conducted with 18 Canadian stakeholders (ISED officials, Canadian Sector Members and Associates, and other federal government departments). A small sample of subject matter experts were surveyed on the importance of the program's objectives and the degree to which they are achieved. Follow-up interviews were then conducted with survey respondents to obtain more in-depth responses.

Interviews

The objective of the interviews was to gather in-depth information related to the relevance, performance, and efficiency questions. The interviews were semi-structured in nature to help collect qualitative information from a range of key stakeholders. Interviews were conducted either in-person or by telephone, as required. Stakeholders interviewed as part of the evaluation included 25 representatives from the following five groups:

- ISED management and staff involved with the ITU (5);
- Canadian companies/organizations participating in the ITU as Sector Members or Associates (7);
- Other government departments/agencies implicated by ISED's involvement in the ITU (5);
- ITU officials (3); and
- Representatives of other allied ITU Member States (5).

For the first three types of respondents, a two-part process was used. Respondents were first asked to participate in the survey and were then interviewed to have them expand on their responses in the survey. The latter two groups were not surveyed, as they would not have the same in-depth knowledge of the projected outcomes of ISED's involvement in the ITU and, thus, would not be able to provide responses that are as informed.

Financial Data Analysis

Financial information on ISED's involvement in the ITU (e.g., travel costs, salary costs, and ITU contributions) was collected to examine the evaluation issue of efficiency.

2.6 LIMITATIONS

Lack of Quantitative Information

The evaluation approach relied heavily on qualitative information provided by stakeholders. Although more performance tracking data was available for this evaluation compared to the two previous evaluations, the overall level of quantitative information available remains minimal. To mitigate this, the evaluators utilized several different qualitative lines of evidence (document review, literature review, rapid impact survey, interviews and financial data analysis) and triangulation of data.

Potential for Stakeholder Bias

Stakeholders interviewed for this evaluation may have had a vested interest in the group that they represent. As such, the findings may be biased towards more favourable outcomes for the

group interviewed. The evaluation tried to mitigate this by interviewing participants across five different stakeholder categories and by incorporating other lines of evidence (e.g., document review, literature review and rapid impact survey) into the analysis.

Attribution

For some of the intermediate and long-term outcomes, it was difficult to assign attribution to ISED's involvement in the ITU. For example, for the intermediate outcome 'global connectivity and interoperability of telecommunication networks and services', numerous other international organizations are involved, with the ITU being only one player. The evaluation tried to mitigate this by utilizing several different lines of evidence.

3.0 FINDINGS

3.1 RELEVANCE

3.1.1. *Is there a continued need for ISED to be involved in the ITU and to what extent is the ITU addressing this need? What are the risks if participation is reduced or eliminated?*

Key Finding: ISED's continued involvement in the ITU is critically important for Canadian industry and consumers for advancing and protecting Canadian telecommunications and information and communication technology interests.

There is a continued need for ISED to be involved in the ITU, as ISED's engagement is critical to advance and protect Canadian telecommunications and ICT interests, which comprise a significant part of the Canadian economy.

- Telecommunications underpins the productivity and growth of almost every sector of the Canadian economy and was a \$53.1 billion sector in 2018 (an increase of 5.6% from 2017).
- The decisions and recommendations taken by the ITU, some of which are treaty-binding, impact: global telecommunications; Canadian telecommunications and ICT industry; access to foreign markets; and the delivery of telecommunications and internet services to Canadian consumers.
- Interviewees noted that ISED must be present at the ITU to influence the policy debate in order to advance Canadian priorities (e.g., develop standards which support Canadian companies) and protect Canadian positions from unacceptable proposals put forth by other Member States (e.g., regulation of the internet). Companies and other organizations who are not official representatives of a Member State are not permitted to participate on behalf of a Member State in negotiated decisions.
- ISED is best placed to represent the Government of Canada due to its high level of technical expertise and ongoing engagement with Canadian industry.
 - Global Affairs Canada collaborates with ISED and provides advice on matters related to the United Nations system. However, as many of the ITU meetings are of a highly technical nature, their engagement and participation in the ITU has been limited mainly to providing ISED with guidance on candidacies and voting instructions at ITU Plenipotentiary Conferences. Global Affairs Canada also provides ISED with specific guidance and instructions on matters of a sensitive diplomatic nature raised at ITU meetings.

The document review highlighted that the ITU is addressing this continued need and remains essential to Canadian stakeholders, including: Canadian telecommunications carriers, service providers and manufacturers; government; consumers; civil society; and academia.

- The ITU has sole responsibility for regulating the allocation and use of the radio frequency spectrum and satellite orbital positions internationally. As well, the ITU is responsible for standardizing telecommunications equipment, networks and services, and promoting the development of telecommunications and ICTs in developing countries.
- The radio frequency spectrum is essential for many of the communication applications that Canadians depend on in their daily lives. For example, without the ITU, spectrum and orbital positions would cease functioning properly, impacting audio and television broadcasting, mobile telephony, wireless internet access, aviation and transport, as well as other services such as research, space services, defence, public protection and disaster relief.

Examples provided during stakeholder interviews illustrate the relevance of the ITU to Canada.

- Satellite data is used for many purposes, including weather forecasting at Environment and Climate Change Canada. If there were no radio regulations established at the ITU, there would be increased electromagnetic interference (i.e., a disturbance generated by an external source that affects an electrical circuit). The disturbance might degrade the performance of the circuit or even stop it from functioning. For satellite data, the effects of this could range from an increase in errors to a total loss of data.
- The ITU-T sector has developed some of the most widely used security standards in the world (e.g., the X.509 certificate, which is of importance to ISARA, a Canadian security solutions company specializing in creating production-ready, quantum-safe cryptography for computing ecosystems). Common standards are critical to the interoperability of ICTs and enable global communications by ensuring that countries' ICT networks and devices are 'speaking the same language'.
- For CIENA, a U.S.-based global supplier of telecommunications networking equipment, software, and services (with significant operations in Canada), the ITU-T sector is relevant because one of the ITU-T Study Groups develops significant optical (light) transmission standardization work that affects CIENA's products – there are no other technical standards bodies that cover this type of work.

Many stakeholders interviewed suggested that there could be significant repercussions for Canada and Canadian industry if ISED further reduced the number of contributory units (from 11 units) or eliminated its participation in the ITU.

- **Loss of power in decision making** – ISED's influence in decisions made at the ITU could be reduced and could compromise Canada's interests (e.g., the ability to negotiate spectrum, which is critical for radiocommunication system operators (e.g., mobile operators) and Canadian consumers, would diminish). As well, some countries could be

able to drive their agendas more freely, undermining, for example, democratic ideals like open internet access.

- **Detrimental effects for Canadian industry** – domestic companies trying to reach other areas of the world could be disadvantaged, as their technology might not be aligned with the standards set at the ITU.
- **Loss of influence** – the ability to reach decisions that are consistent with Canadian positions and maintaining a seat on the ITU Council and obtaining chairmanship positions could be impacted by recent successive decisions to reduce the Canadian financial contribution to the ITU (potentially perceived as a disengagement of Canada in questions relating to international telecommunications).
- **Lowered reputation** – as a G7 country, ITU participation is considered to be a responsibility for Canada. Since Canada often acts as an intermediary in disputes between other countries, these countries could experience a negative impact from Canada's withdrawal. Further, it could be seen as Canada stepping back from the UN system, which would be inconsistent with Canada's foreign policy approach of promoting multilateralism and cooperation.

3.2 PERFORMANCE

3.2.1 *To what extent has ISED's involvement in the ITU contributed to the achievement of the expected immediate outcomes?*

Key Finding: ISED has been consistently successful in meeting target goals in advancing Canada's positions and priorities at the ITU during the evaluation period.

In general, the majority of respondents to the short survey completed for the evaluation indicated that Canadian priorities and positions related to the seven immediate outcomes (addressed below) are usually adopted by the ITU. However, since the ITU process is based on consensus, the ITU does not always implement decisions fully in Canada's favour.

Outcome #1: Consistency of ITU's strategic and financial plans with Canadian priorities and positions

Through ISED's participation at Plenipotentiary Conferences and Council, Canada is able to influence the direction of programs and activities for all ITU sectors. ISED encourages effectiveness and efficiency (results-based management), financial accountability, transparency, and the optimal use of Member States' contribution (e.g., avoid duplicating efforts internally and externally).

Between September 2016 (the beginning of performance tracking data) and March 2019 (the end of the evaluation period), ISED attended three meetings pertaining to the Council (two meetings) and the Plenipotentiary Conference (one meeting). In the 2017 and 2018 Council meetings, performance tracking data shows that 90-100% of Canada's high priority positions

were adopted, while the 2018 Plenipotentiary Conference advanced 90% of Canada's high priority positions – meeting the target of 80-100%. Although performance tracking was not performed for Council 2016, ISED successfully advanced Canada's telecommunications and ICT priorities and positions according to the 2016 Delegation report.

Interviewees noted that in an intergovernmental organization with limited resources, where the membership is confronted with different challenges and decisions are made by consensus, it is expected that countries such as Canada will be willing to make compromises in the name of multilateralism and international cooperation. This could explain why, in some instances, Canadian telecommunications priorities are not entirely reflected in the ITU priorities. Canada is mainly looking for a consensus-based strategic plan that represents Canadian interests. According to interviewees, it is most important that there is a clear link between financial and strategic plans. It was noted that ISED has been successful in pushing the ITU on results-based budgeting and working with allies. Further, it was mentioned that plans should not provide a “backdoor” for other countries to try to expand the ITU's mandate (e.g., governance over technologies).

Outcome #2: Consistency of ITU Development action plans with Canadian positions

Through ISED's participation at the World Telecommunication Development Conference, Canada is able to shape the ITU-D work programs and guidelines to promote capacity building initiatives and avoid replicating activities already undertaken in other ITU sectors.

ISED attended the 2017 World Telecommunication Development Conference, where Canadian priorities and positions were advanced in the form of Inter-American proposals⁵ during the conference. Of the proposals submitted, 28 out of 29 (96%) were either adopted in full or reflected in modifications to existing resolutions – meeting the target of 80-100%. The Canadian delegation played a key role in advancing one of the 29 proposals which focused on “broadband technology and applications for greater growth and development of telecommunication/information and communication services and broadband connectivity”.

Interviewees indicated that the ITU develops an action plan on the key priorities and initiatives for each region – ISED has been instrumental in the development of key priorities for the Americas region (e.g., capacity building and training on spectrum-related matters). However, since ISED has reduced its contributions to the ITU, it was repeated by various interviewees that ISED's ability to get leadership positions and maintain strong views at some of the international committees has diminished. Non-allied countries are getting more leadership positions and driving agendas more often than previously.

⁵ Inter-American proposals (IAPs) are adopted from the Inter-American Telecommunication Commission (CITEL), an entity of the Organization of American States (OAS), which promotes the development of telecommunications/ICTs in the Americas.

Outcome #3: Consistency of ITU telecommunications/ICT resolutions and voluntary standards with Canadian positions

Under the ITU-T sector, ISED participates in the World Telecommunication Standardization Assembly and ITU-T Study Groups to promote and advance Canada's telecommunications/ICT resolutions and standards. ISED was able to advance 100% of Canada's high priority positions at the 2016 Assembly – meeting the target of 80-100%. Notable achievements at the 2016 Assembly included: limiting ITU's role as it relates to internet governance matters outside the purview of the ITU; supporting new resolutions to increase the efficiency of the organization and support a bottom-up approach to technical standardization for industry; recognizing the need for ITU-T to strengthen collaborative relationships with the global standards development community; and strengthening Canada's leadership in the ITU-T with the appointment of a Canadian as the Chair of the Telecommunication Standardization Advisory Group.

The Canadian delegation's success at the 2016 Assembly can be attributed to its ability to prepare and establish positions for essentially all agenda items through its leadership and contributions at the various ITU-T Study Groups and comprehensive preparatory meetings prior to the Assembly. The preparatory meetings provided a forum for all telecommunications and ICT stakeholders, government, and private industry to come together to discuss and advise the Canadian delegation on issues for the 2016 Assembly.

Other ITU Member States interviewed for the evaluation suggested that if other allied countries are not involved in telecommunications and ICT standards and World Telecommunication Standardization Assembly resolutions, then standards could get approved based on different value systems.

Outcome #4: Consistency of ITU's focus and mandate with Canadian positions

Through engagements with Member States and Sector Members and Associates at the Plenipotentiary Conference, Council, World Telecommunication Development Conference and World Telecommunication Standardization Assembly, ISED aims to ensure that the ITU mandate and core focus remains consistent with Canadian positions. Between September 2016 and March 2019, ISED attended five meetings pertaining to the Plenipotentiary (1), Council (2), World Telecommunication Development Conference (1) and World Telecommunication Standardization Assembly (1). All five meetings advanced 90-100% of Canada's positions – meeting the target of 80-100%. As for Outcome #3, the leadership and contributions at the various ITU-T Study Groups played a role in helping to meet the target.

Interviewees stated that ISED has been successful at ensuring there is no mandate creep, such as issues related to cyber-security and internet-related matters that go beyond the mandate of the ITU. The ITU's mandate excludes policy decisions on security, defence, cyber crime or internet content. ISED has ensured that the work of the ITU remains on the infrastructure of the networks – not the content on the networks (which is each country's responsibility).

Outcome #5: Consistency of ITU's allocation of radio spectrum and adoption of binding radio regulations with Canadian positions and proposals

The decisions at the World Radiocommunication Conference tend to be aligned with the interests of Canadian stakeholders, thereby positioning Canadian industry and stakeholders to take advantage of opportunities in the digital world through new spectrum-enabled services and related innovative technologies.

The World Radiocommunication Conference held in late 2015 occurred prior to performance tracking, therefore no performance metrics are available. Nonetheless, based on the 2015 Delegation Report, it was determined that Canadian positions and objectives agreed to between government and industry stakeholders prior to the conference were advanced (the conference held in late 2019 fell outside of the evaluation period). The Conference Preparatory Meeting held in early 2019 best represents the radio spectrum and regulation issues relevant to the 2019 World Radiocommunication Conference. At the early 2019 Conference Preparatory Meeting, ISED advanced 90% of Canada's high priority positions – meeting the target of 80-100%.

ISED officials noted that Canada is consistently successful with advancing Canadian positions and proposals at the WRC – Canada is usually able to obtain an improvement of the international satellite regulatory framework and negotiate new spectrum allocations for services, as well as the associated rules for their use, that are consistent with the interests of the government, private sector, and consumers.

ISED officials indicated that there has never been a situation where Canada has had to take a position where it would not sign the final acts of a World Radiocommunication Conference. Thus, there is almost always a consistency with Canadian positions.

Outcome #6: Consistency of ITU radiocommunication resolutions, recommendations and reports with Canadian positions

By attending the Radiocommunication Assembly and the various ITU-R Study Groups and Working Party meetings, and through ISED's contributions to these meetings, ISED can ensure that the radiocommunication resolutions, reports and recommendations are well-aligned with the radio services offered by Canadian stakeholders and that Canadian technologies and expertise are exposed to international audience.

Although the Radiocommunication Assembly is non-treaty binding, ISED's involvement ensures that appropriate recommendations and programme of work for the ITU-R are in place to support the development of the existing and innovative Canadian radiocommunication systems. Similar to the 2015 World Radiocommunication Conference, the 2015 Radiocommunication Assembly was held prior to performance tracking (September 2016), therefore no performance metrics are

available (in addition, no Delegation Report exists).⁶ However, almost all ITU-R recommendations and all reports are approved at the Study Group level and are in line with Canadian views – very rarely does Canada put a country note/reservation on a document indicating difficulties.

Outcome #7: Canada's requests for satellite orbits and frequency assignments are registered with the ITU

There are two metrics for this outcome, but there are no performance targets – data is only collected for tracking and analysis of trends for statistical purposes (data covers the 2014-15 to 2018-19 period):

- There were 1,228 registered Canadian frequency assignments recorded in the Master Register by the ITU versus 3,970 returned Canadian frequency assignments to ISED for non-compliance with the Radio Regulations or for incomplete coordination. The registration of frequency assignments implies that ISED has fulfilled its international obligations, as defined by the ITU. Most of the 3,970 frequency assignments are returned by the ITU to ISED for incomplete coordination. Ultimately, these frequency assignments are registered with limited protection with respect to those of the countries with which the coordination remains incomplete. Although not ideal, this limitation in terms of protection has not led to any report of interference by Canadian operators to ISED. ISED and the involved Canadian operators continue to work for the completion of these coordination processes.
- There were 47 satellite coordination agreements obtained to protect already registered assignments. The conclusion of these additional coordination agreements improves the protection from harmful interference for these frequency assignments.

Other Member States highlighted that requests for satellite orbits relate more to the needs of the private sector than the needs of the government. However, governments are always aware of what satellites are being launched and are involved in the coordination of satellites and in what orbits they reside due to close cooperation with the private sector.

3.2.2 To what extent has ISED's involvement in the ITU contributed to the achievement of the expected intermediate outcomes?

Key Finding: Based on stakeholder perceptions, ISED's involvement in the ITU has contributed to: helping Canadian companies exploit and develop new services and technologies; global connectivity and interoperability of telecommunications networks and services; the management of interference between radio services; and ensuring the ITU mandate is not expanded to internet governance matters outside its purview.

⁶ Performance data exists for the 2019 World Radiocommunication Conference, but its timing (November 2019) lies outside of the scope of the evaluation (April 1, 2014 to March 31, 2019).

The performance targets for most intermediate outcomes are based on stakeholder perception, where evidence indicates that ISED's involvement in the ITU has contributed to the achievement of these five outcomes.

Outcome #1: An open private sector-led Internet governed by the multi-stakeholder model is reinforced

The internet's infrastructure is operated across borders and by diverse groups of stakeholders. To tackle the complex challenges of enabling internet access, it is important to implement an inclusive and collaborative approach that brings government, businesses and other stakeholders to the table. This multi-stakeholder approach should emphasize core attributes of inclusiveness, transparency, collective responsibility, accountability, effective decision making, and a distributed and interoperable governance system.⁷

To date, the ITU mandate does not include internet governance, a responsibility of individual countries – meeting ISED's target. ISED officials, as well as a representative from Australia, indicated that the multi-stakeholder model is reinforced with the support of other allied countries, but can be challenging since some countries do not understand the governance of the internet, and the ITU does not have a mandate to be involved. ISED officials want the ITU to be focused on the capacity building issues associated with internet governance. This will remain an issue as some countries want a treaty to govern the use of the internet.

Outcome #2: Canada is protecting and maintaining its secure network infrastructure and ICT services and applications

ICTs have become an integral and essential part of everyday life for many people. A thriving Canadian digital and innovation economy depend on the confidence in using ICTs in business, governments, and academia. The confidence in using ICTs is built on the availability of secure network infrastructure, service and applications, as well as privacy protection.

The Plenipotentiary conference and World Telecommunication Standardization Assembly set the directions on cybersecurity that the three ITU sectors will execute. ITU-T Study Group 17 (Security)⁸ is responsible for building confidence and security in the use of ICTs, including studies relating to cybersecurity, security management, countering spam and identity management. In a 2018 Study Group meeting, significant progress was made in advancing Canadian priorities that include deterring proposals that attempt to expand ITU's responsibilities beyond its mandate, as well as steering discussions towards alignment with Canadian telecom and ICT industry interests in regards to: architectures; security; countering spam; facilitating the identification and sharing of software security vulnerabilities; privacy; and facilitating the exchange of security incident information.

⁷ ITU Document WTDC-17/48-E, 25 September 2017

⁸ Study Group 17 (security) coordinates security-related work across all ITU-T Study Groups to facilitate more secure network infrastructure, services and applications.

One ISED official interviewed noted that ISED would never accept a decision, resolution or recommendation by the ITU that would infringe on Canada's national sovereignty, infrastructure or services/applications. It was suggested that other federal government departments (e.g., Public Safety, CSIS) may share responsibility for this outcome, given their role in the overall protection of Canada's network infrastructure and ICT services and applications.

Outcome #3: Canadian companies exploit/develop new services and technologies

ISED will often promote positions at the ITU that will allow Canadian companies to utilize their existing technologies. This contributes to Canadian consumers and businesses benefiting from innovative products, services, and information technology and telecommunications infrastructure.

ISED officials pointed out that the ITU helps companies and others penetrate global markets. For example, the ITU supported greater market access for ISARA (a Canadian security solutions company) by looking to incorporate ISARA's technical aspects in some of the cryptographic and identity management infrastructure standards that the ITU-T runs. By building aspects of a company's technology into the standards, it becomes possible to increase market access. However, one (out of seven) Sector Members interviewed indicated that Canadian companies constantly exploit/develop new services on their own and that ISED's involvement in the ITU has had minimal impact in this regard.

Outcome #4: Global connectivity and interoperability of telecommunications networks and services

Global connectivity and interoperability of telecommunication networks and services facilitates international online trade and commerce. This is enabled through the deployment of equipment and services governed by international standards and international treaties and agreements. Interoperability also ensures that networks in different countries can interconnect and interwork with each other. ISED officials indicated that all connectivity and interoperability recommendations must be agreed upon by all Member States, and therefore tend to be fully aligned by consensus.

Some Canadian Sector Members noted having benefitted from the global connectivity and interoperability of telecommunications networks and services that the ITU enables. For example, the telecommunications equipment, software and services that CIENA supplies is enabled via the first interoperable industry 100 gig line system and the Passive Optical Network.

Outcome #5: Interference between radio services is managed

Other nations typically approach Canada directly or through the ITU to resolve cases of interference that they have experienced from radiocommunication stations under the Canadian jurisdiction. A specific example is a case of interference involving government radar across the Arctic – there were reports from the space science community enquiring about

interference coming from Canada's radar. ISED got involved and worked with the licensee to significantly reduce the interference.

Due to the lack of predictability of the annual number of interference cases received or sent, and the speed at which the cases are resolved, ISED has not established targets for this outcome. However, the level of harmful interference and whether it is stable or decreasing over time is used as a key indicator. Based on the number of interference investigations over the 2014-15 to 2018-19 period (2,554 in total), this appears to be the case, as the number of investigations were stable and ranged from 450 to 623 per fiscal year. Of these 2,554 investigations, 11 international interference cases occurred – five between broadcasting radio operations (e.g., AM, FM, TV) and six involving terrestrial stations. Considering there are 345,230 broadcast and terrestrial stations that are licenced and operating in Canada, the annual average of 511 investigations comprises only a small percentage (0.14%). The international interferences cases reported (11 over the entire period) are typically resolved through bilateral negotiations with minimal involvement of the ITU. Furthermore, the limited cases of interference reported could be linked to the actual effectiveness of the various procedures adopted by the ITU to prevent their occurrence.⁹

Even though ISED has been able to satisfactorily resolve cases of interferences through bilateral negotiations, the ITU (especially through the Radio Regulations Board¹⁰) represents an option that could be envisaged in the case of unresolved interference issues. In this context, the Board can, following the analysis of the report and result of investigations on an unresolved interference issue, strongly recommend a course of actions or the implementation of measures to resolve the issue. The effectiveness of the Board, in this regard, is dependent on the expertise of its elected members. It is worth mentioning that Canada was successful in getting one of ISED's well known and established technical and regulatory experts elected in 2018. ISED continues to have access to this expert for advice related to addressing and preventing international interference issues.

3.2.3 To what extent has ISED's involvement in the ITU contributed to the achievement of the expected long-term outcomes?

Key Finding: ISED's involvement in the ITU has helped Canadians benefit from innovative products, services and information technology and telecommunications infrastructure; increased international market access for Canadian telecommunications businesses; and enabled Canadian government and industry to offer reliable radio and satellite services to users.

⁹ Some of the procedures adopted by the ITU involve ITU notification and registration, as well as allotment plans. Further, some procedures are encouraged by the ITU, such as establishing bilateral coordination agreements and arrangements.

¹⁰ The Radio Regulations Board consists of 12 members elected at the Plenipotentiary Conference. The duties of the Board include, but are not limited to: approving rules of procedure to be used in application of the provisions of the radio regulations addressing matters which cannot be resolved through application of the above rules of procedure and considering reports of unresolved interference investigations; providing advice to Radiocommunication Conferences and the Radiocommunication Assemblies; and considering matters relating to frequency assignments registration.

Outcome #1: Canadian consumers and businesses benefit from innovative products, services, and information technology and telecommunications infrastructure

ISED officials noted that Canadian consumers and businesses benefit from innovative products, services and information technology and telecommunications infrastructure, particularly in the ITU-T sector where standards facilitate the use of a particular technology. One difficulty is when a company tries to commercialize its R&D, it falls more into the technical standards realm and can then become time consuming to get the product standardized, especially internationally, and into the consumer's hands. ISED works with Canadian companies to ensure their innovations are adopted by the ITU, which helps them sell their products. For example, some video coding companies in Montreal were able to get their intellectual property rights into the ITU standard which was then adopted internationally.

Outcome #2: Increased international market access for Canadian telecommunications businesses

Interviewees said that Canadian private sector stakeholders agree that ISED's involvement in the ITU is beneficial for them in terms of facilitating and enabling increased international market access for Canadian telecommunications businesses and for networking opportunities. One Sector Member mentioned that although ISED involvement may not be directly increasing international market access, it is still an important part of conducting international business for Canadian companies. However, it was noted that international market access can be influenced by a multitude of factors (e.g., trade barriers or restrictions). Therefore, ISED's involvement in the ITU is only one contributing factor to increased international market access.

Outcome #3: Canadian government and industry offer radio and satellite services to users

ISED officials stressed that it is essential for ISED to negotiate spectrum allocations and the associated technical and operational rules to address the needs of Canadian providers and consumers to ensure that the companies which provide the services have the necessary spectrum for particular frequencies. It was noted by Environment and Climate Change Canada that it is important to have access to satellite systems in order to be able to provide weather forecasts and severe weather warnings that are derived from them. It is critical to have continued access to this spectrum for Earth observation, satellite imaging and other forms of observation or remote sensing data.

3.3 EFFICIENCY

3.3.1 Is resource utilization reasonable relative to the production of outputs and progress being made towards expected outcomes?

In examining the efficiency of ISED's involvement in the ITU, three different aspects were considered:

- Resource allocation and utilization;
- The level of ISED's contribution to the ITU; and
- ISED's delegation.

In addition, suggestions for enhancing the efficiency of ISED's engagement with stakeholders were also provided by interview respondents.

Resource Allocation and Utilization

Key Finding: The cost of ISED's involvement in the ITU remained relatively stable during the 2014-15 to 2018-19 period, averaging \$8.2 million annually.

ISED's total cost to be involved in the ITU, from 2014-15 to 2018-19, decreased by approximately 17.5%. This is largely due to the reduction in ITU contributory units (18 to 13) which took effect in 2015-16. Canada's financial contribution to the ITU makes up the largest share (74%) of the average cost per year from 2014-15 to 2018-19. ISED's operational costs (salary – 21% and travel – 5%) account for the remaining 26%.

Table 2: Costs of ISED's Participation in the ITU from 2014-15 to 2018-19

Fiscal Year	ITU Contributions	Travel Expenses	Staff Salary	Total
2014-15	\$7,646,857.46	\$443,121.09	\$1,516,408.00	\$9,606,386.55
2015-16	\$6,249,684.05	\$387,454.69	\$1,662,873.78	\$8,300,012.52
2016-17	\$5,723,451.59	\$367,628.36	\$1,834,847.48	\$7,925,927.43
2017-18	\$5,391,021.64	\$430,150.86	\$1,626,117.68	\$7,447,290.18
2018-19	\$5,483,000.00	\$607,218.85	\$1,839,429.77	\$7,929,648.62
5-Year Avg.	\$6,098,802.95	\$447,114.77	\$1,695,935.34	\$8,241,853.06

Source: ISED administrative data.

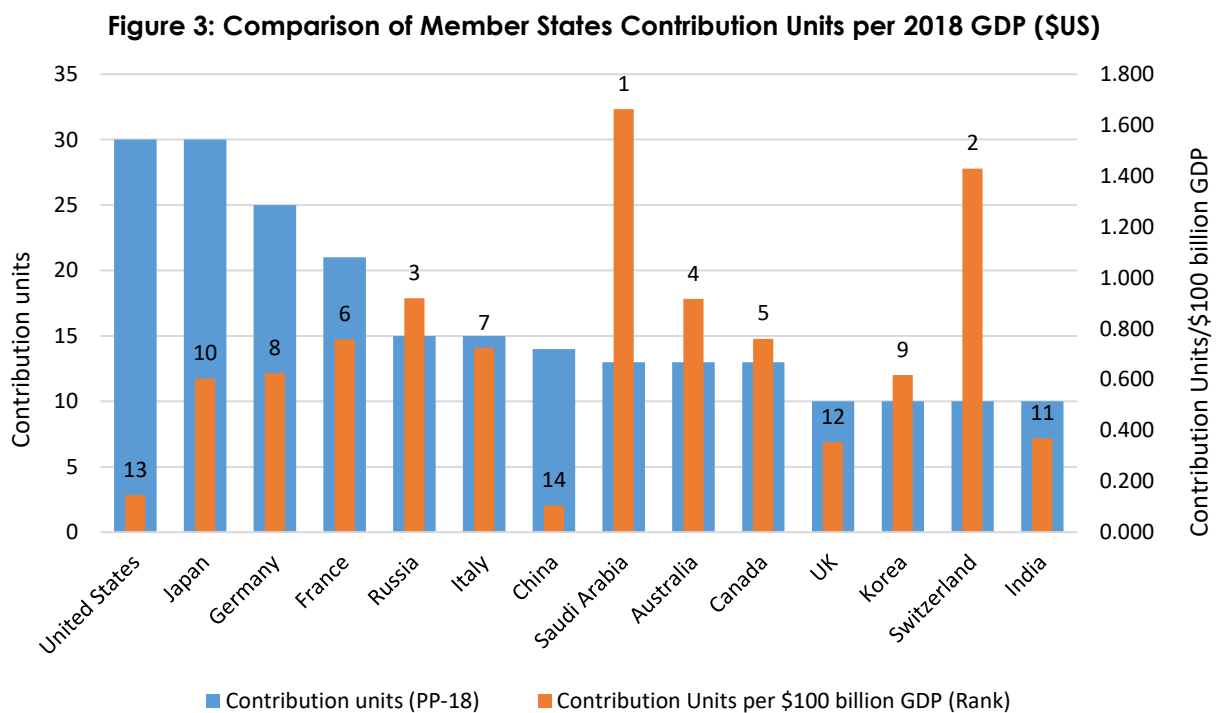
The increase in travel expenses in 2018-19 can mainly be attributed to the Plenipotentiary Conference taking place (which involves larger delegation sizes than most of the other assemblies or regular ITU meetings), as well as numerous World Radiocommunication Conference preparatory meetings which were critical to ensuring technical studies were finalized and approved.

Interviewees stated that ISED delegates are well prepared for ITU meetings related to all three sectors, but having ISED delegates in the ITU-R Sector responsible for four or five agenda items per meeting may lead to lost opportunities (e.g., if two agenda items are discussed concurrently). To reduce the number of agenda items per ISED delegate, it was suggested that ISED further leverage the involvement of industry/technical experts and officials from other federal government departments (who accurately represent Canada's positions) to participate on behalf of ISED representatives at meetings where decision-making authority is not required.

ITU Contribution Levels

Key Finding: Relative to GDP, the level of Canada's contributory units to the ITU is appropriate, although the recent reduction could impact Canada's reputation and overall influence within the ITU and make it more difficult to obtain influential leadership positions.

The evaluation compared the level of contributions to the ITU between Canada and the other Member States who contributed at least 10 units in 2018-19. Interviewees suggested that the level of financial contribution to the ITU should be proportional to a Member State's wealth (e.g., based on annual GDP). Therefore, the analysis included a comparison based on the size of each Member State's economy (in terms of 2018 GDP (\$US)).



The highest number of contributory units paid in 2018-19 per \$100 billion in 2018 GDP was Saudi Arabia (1.66 units) and the lowest was China (0.10 units). Canada, which paid the 8th highest level of contributory units, ranked 5th.¹¹

Interviewees stated that Canada's reduction in ITU contributory units could lead to Canada having less influence. This could result in increasing difficulty in maintaining the Canadian seat

¹¹ It is important to note that a country's financial commitment to the ITU includes not only annual contribution amounts, but also the costs involved of sending delegates to the various ITU meetings, conferences and assemblies. This financial commitment analysis did not factor in these additional costs, which can vary significantly by Member State. For example, Canada and China have similar contribution levels, but China's delegations to most meetings are significantly larger in comparison to Canada – China sent close to 40 delegates to the most recent Study Group 17 meeting whereas Canada only sent two. This could be an area of future evaluative work.

on the Council, obtaining leadership positions within the ITU, and having Canadian positions and interests reflected in the outcomes of ITU meetings. It was noted that a reduction in contributory units would likely be seen by industry as the government not supporting industry and not fulfilling its responsibility at the ITU, although other interviewees noted that Canadian industry would be minimally impacted by a reduction in contributory units.

Of note, other countries such as Australia allocate two units (on top of their ITU contribution of 13 units) towards a priority target (telecommunications/ICT development work in the Asia-Pacific region). This is something Canada could consider, funds permitting, to further orient and shape the work of the ITU, as well as advance Canadian interests.

ISED Delegation

Key Finding: Although the size of the Canadian delegation is slightly below average among the top contributing Member States, they are highly regarded by the international community in terms of their capabilities and are viewed as being efficient. It was noted that ISED should emphasize succession planning via increased training and development opportunities.

There was consensus among interviewees that although there are other countries who send more delegates than Canada, most do not participate in the discussions as actively as Canada. Interviewees from other Member States remarked that Canada is more efficient and tends to carry a higher workload at meetings and conferences because they are held in high regard.

Interviewees perceived the quality of ISED delegates to be high in terms of capability, skill, knowledge, preparation and consensus building. It was suggested that the quality of delegates who attend is perhaps a better benchmark than delegation size.

Among those who remarked that ISED does not send enough delegates, it was suggested that increasing the number of ISED delegates (by one or two people) would be beneficial for training and succession planning. One Sector Member noted that Canada is behind on bringing new people along for leadership roles, which involves building networks, trust and credibility to be effective at steering ITU decisions towards Canada's objectives. Leadership roles are essential for networking and collaborating with industry representatives.

Meeting location and travel costs play a major role in the number of delegates that are able to attend each meeting (e.g., European countries send more delegates when meetings are held in Geneva versus, for example, meetings held in China). Canada rarely hosts ITU meetings due to the significant amount of financial and human resources required.

During the evaluation period, four major ITU conferences were held where ISED was present (see Table 3). In general, although the size of the Canadian delegation was slightly smaller than the average, Canada sent more delegates relative to their annual ITU contribution levels and GDP.

Table 3: Canada's Delegation Size Ranking Relative to ITU Contributions and Annual GDP

	2015 World Radiocommunication Conference	2016 World Telecommunication Standardization Assembly	2017 World Telecommunication Development Conference	2018 Plenipotentiary Conference
Meeting Location	Geneva, Switzerland	Hammamet, Tunisia	Buenos Aires, Argentina	Dubai, United Arab Emirates
Size of Canadian delegation	10 th	6 th	6 th	11 th
Canadian Delegates per ITU Contribution Unit	8 th	6 th	5 th	10 th
Canadian Delegates per \$100 billion in Annual GDP	7 th	4 th	3 rd	7 th

Note: Ranking considers only the top 14 contributing ITU Member States.

Stakeholder Engagement

Key Finding: There are opportunities for ISED to enhance the effectiveness of stakeholder engagement via increased flexibility (e.g., accepting written Canadian Preparatory Committee submissions), outreach (e.g., engaging more small and medium-sized enterprises), timelier information sharing and delegation planning.

A number of suggestions were made by interviewees to enhance the efficiency of ISED's engagement with stakeholders:

- Accept written Canadian Preparatory Committee (CPC) meeting submissions: ISED officials suggested accepting written submissions, whereby existing stakeholders who are unable to participate in a CPC meeting can register their positions in writing (similar to the UK consultation model), thereby increasing stakeholder engagement.
- Engage more small and medium-sized enterprises (SMEs): One ITU official indicated that the ITU will soon have a new category of membership for SMEs and recommended that ISED conduct more outreach among Canadian SMEs to increase SME engagement and participation in the ITU.
- Improve timeliness of reporting: Representatives from other government departments, as well as Sector Members, noted that the dissemination of post-meeting reports related to both the ITU-R and ITU-T sectors are not always timely, suggesting that service delivery standards (e.g., issuing reports within two weeks of a meeting) could be implemented.
- Earlier delegation planning: Sector Members and representatives from other government departments noted that stakeholders should be consistently consulted early on so that delegations can be planned sooner, resulting in industry knowing who is going and ISED

being able to see what kind of support industry can provide at ITU-R and ITU-T sector meetings.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Relevance

- ISED's continued involvement in the ITU is critically important for Canadian industry and consumers in Canada for advancing and protecting Canadian telecommunications and ICT interests.

Performance

- ISED has been consistently successful in meeting target goals in advancing Canada's positions and priorities at the ITU during the evaluation period. Based on stakeholder perceptions, ISED's involvement in the ITU has contributed to: helping Canadian companies exploit and develop new services and technologies; enabling global connectivity and interoperability of telecommunications networks and services; and ensuring the ITU mandate is not expanded to internet governance matters outside its purview.
- ISED's involvement in the ITU has also helped Canadians benefit from innovative products, services and information technology and telecommunications infrastructure, and enabled Canadian government and industry to offer radio and satellite services to users.

Efficiency

- The cost of ISED's involvement in the ITU remained relatively stable during the 2014-15 to 2018-19 period, averaging \$8.2 million annually.
- Relative to GDP, the level of Canada's contributory units to the ITU is appropriate, although the recent reduction could impact Canada's reputation and overall influence within the ITU and make it more difficult to obtain influential leadership positions.
- Although the size of the Canadian delegation is slightly below average among the top contributing Member States, they are highly regarded by the international community in terms of their capabilities. It was noted that ISED should emphasize succession planning via increased training and development opportunities.

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- There are opportunities for ISED to enhance the effectiveness of stakeholder engagement via increased flexibility (e.g., accepting written Canadian Preparatory Committee submissions), outreach (e.g., engaging more small and medium-sized enterprises), and timelier information sharing and delegation planning.

4.2 RECOMMENDATIONS

The evaluation findings led to the recommendations noted below.

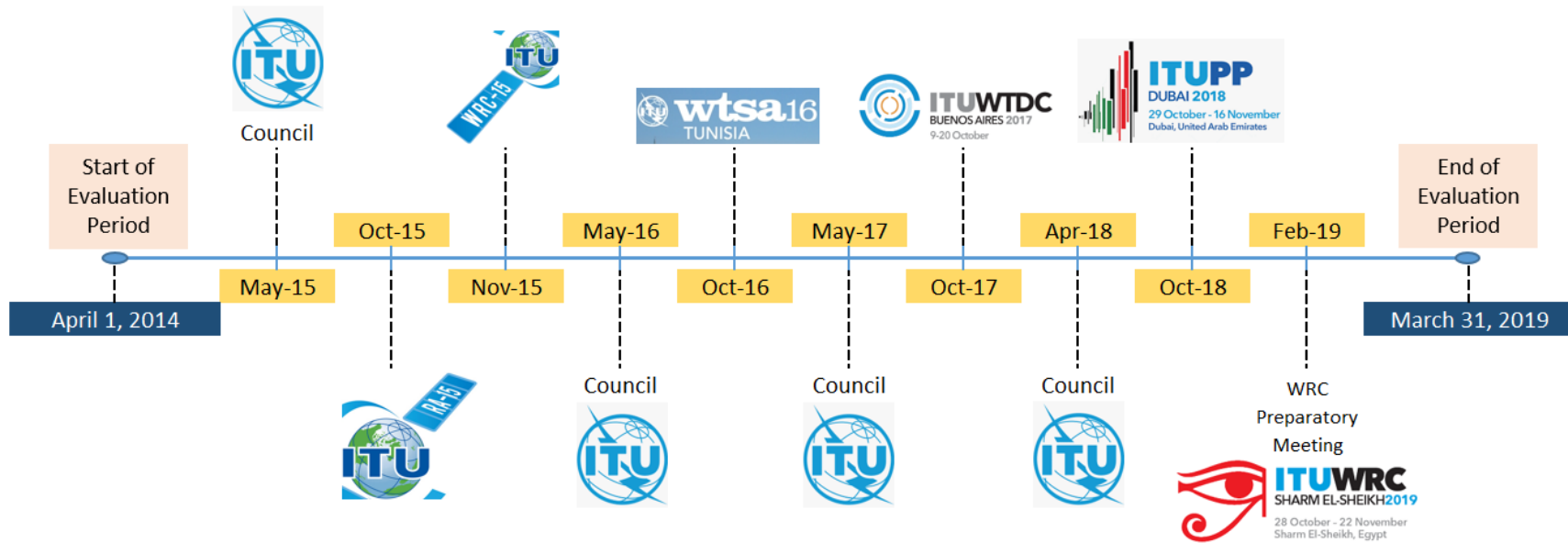
Recommendation 1: Maintaining Effective ISED Representation

ISED should maintain effective representation at the ITU, including increased emphasis on succession planning via increased training and development opportunities, enabling ISED officials to maintain influential roles at the ITU.

Recommendation 2: Strengthening Stakeholder Engagement

ISED should strengthen ongoing domestic engagement, including prior to ITU meetings, by allowing greater flexibility in the conference planning process, increasing outreach among potential stakeholders, and enabling timelier information sharing and delegation planning.

Appendix A: ITU Conference Timeline



Appendix B: ITU-R and ITU-T Study Groups

ITU-R

- Study Group 1 (SG 1) - Spectrum management
- Study Group 3 (SG 3) - Radiowave propagation
- Study Group 4 (SG 4) - Satellite services
- Study Group 5 (SG 5) - Terrestrial services
- Study Group 6 (SG 6) - Broadcasting service
- Study Group 7 (SG 7) - Science services

ITU-T

- Study Group 2 (SG 2) - Operational aspects of service provision and telecommunications management
- Study Group 3 (SG 3) - Tariff and accounting principles including related telecommunication economic and policy issues
- Study Group 5 (SG 5) - Environment and circular economy
- Study Group 9 (SG 9) - Broadband cable and TV
- Study Group 11 (SG 11) - Signaling requirements, protocols and test specifications
- Study Group 12 (SG 12) - Performance, QoS and QoE
- Study Group 13 (SG 13) - Future networks, with focus on IMT-2020, cloud computing and trusted network infrastructure
- Study Group 15 (SG 15) - Networks, Technologies and Infrastructures for Transport, Access and Home
- Study Group 16 (SG 16) - Multimedia coding, systems and applications
- Study Group 17 (SG 17) - Security
- Study Group 20 (SG 20) - Internet of Things, smart cities and communities