National Research Council Canada

2017–18

Departmental Plan

The Honourable Navdeep Bains, P.C., M.P.,
Minister of Innovation, Science and Economic Development

The Honourable Kirsty Duncan, P.C., M.P.,
Minister of Science

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For additional copies of this publication, please contact:

National Research Council Canada
General Inquiry Office
1200 Montreal Road
Building M-58
Ottawa ON K1A 0R6

Telephone: 613-993-9101
Toll-free: 1-877-NRC-CNRC or 1-877-672-2672
TTY: 613-949-3042
Fax: 613-952-9907
Email: info@nrc-cnrc.gc.ca

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Minister's message

Our 2017–18 Departmental Plan provides parliamentarians and Canadians with information on what we do and the results we are trying to achieve during the upcoming year. To improve reporting to Canadians, we are introducing a new, simplified report to replace the Report on Plans and Priorities.

The title of the report has been changed to reflect its purpose: to communicate our annual performance goals and the financial and human resources forecast to deliver those results. The report has also been restructured to tell a clearer, more straightforward and balanced story of the actual results we are trying to achieve, while continuing to provide transparency on how tax payers' dollars will be spent. We describe our programs and services for Canadians, our priorities for 2017–18, and how our work will fulfill our departmental mandate commitments and the government's priorities.

The National Research Council of Canada plays a central role in delivering Canada's Innovation Agenda—a whole-of-government initiative to position Canada as a global centre for innovation, create better jobs and opportunities for the middle class, drive growth across all industries and improve the living standards of all Canadians. The Council is a leader in technology development, and works tirelessly with Canadian industry to help them bring new products and services to market. Its scientific and research services help keep Canada at the forefront of innovation, and provide data that is essential for sound government decision making.

It is our pleasure to present the Departmental Plan for the National Research Council of Canada for 2017–18.

The Honourable Navdeep Bains
Minister of Innovation, Science and Economic Development
Mandate Letter[i]

The Honourable Kirsty Duncan
Minister of Science
Mandate Letter[ii]

Institutional Head's message

The NRC has been a central pillar of federal science and support for innovation for 100 years. In support of the continued renewal of NRC, and to advance the federal Innovation Agenda, Ministers requested in August 2016 that the NRC assess the current state of the NRC with respect to innovation support, engagement, governance and management.

The NRC has organized itself to respond to this request through an internal NRC Dialogue. This coming year, the NRC will bring forward to the Government the results of its assessment and how we can improve our support to innovation in Canada.

We will also continue to advance a range of research initiatives and supporting projects in collaboration with our clients and partners, and assist small and medium sized enterprises through the Industrial Research Assistance Program. Taken together, these activities continue the long tradition of the NRC fostering business innovation and industrial research and development, addressing public policy objectives, and advancing knowledge.

As we embark on our second century, we will look forward to emerging opportunities to support Canadian innovation, and continue the effective management of the NRC's talented workforce, its facilities, and financial resources.

Mr. Iain Stewart
President
National Research Council Canada
Mandate Letter from the Ministers[xxi]

Plans at a glance

The Government of Canada announced in 2016 six areas[1] for action towards Canada's inclusive Innovation Agenda[iii] , which is a whole-of-government initiative aimed at making Canada a global innovation leader, driving a stronger economy and a cleaner environment fostering growth for industries and better jobs for the middle class.

NRC's priorities for 2017-18 will support the Innovation Agenda by setting the stage for NRC's next generation of high-impact R&D initiatives. To ensure success, NRC will also give priority to effective governance, management and stewardship.

Aligning with the Innovation Agenda

NRC will renew its role as a central pillar of federal science and support for innovation. NRC will complete an assessment of the organization through an internal-engagement process known as the NRC Dialogue. Towards the same objective, NRC will reach out to key government stakeholders including other members of the Innovation, Science and Economic Development Portfolio to help identify and agree on the technical and scientific problems of greatest national importance to be solved. Based on these efforts, NRC will provide a report to the Ministers in 2017 on how NRC can best align with the Innovation Agenda and implement and deliver R&D solutions of maximum value to Canadians.

Delivering on R&D Initiatives

Technology development remains critical for supporting the Innovation Agenda and the Government of Canada's commitment to building a strong economy. Through NRC's existing suite of R&D initiatives, the organization will continue to provide access to expertise and leading-edge facilities to industry, academia and other research organizations for advancing technologies aimed at strengthening Canadian industry competitiveness in global markets and improving the quality of life of Canadians.

To ensure continued relevance, NRC will maintain and enhance its facilities and expertise in pace with evolving technologies and needs of stakeholders. NRC will also prepare the process for developing the next generation of R&D initiatives to address national needs related to business innovation, scientific inquiry and public policy while contributing measurably to the Government of Canada's priorities and excellence in science.

NRC will engage with industry, governments and research organizations to identify short and longer-term priorities for increasing support and engagement in innovation, and to serve as a key

[1] These action areas are: an entrepreneurial and creative society; global science excellence; world-leading clusters and partnerships; growing companies and accelerating clean growth; competing in a digital world, and improving the ease of doing business.

partner in clusters (announced in Budget 2016[iv]) across Canada in identified priority areas. The Industrial Research Assistance Program's (IRAP) portfolio will be managed to maximize benefits to Canada, including opportunities to support growth-to-scale and export needs of small and medium-sized enterprises.

Managing Resources Effectively

NRC will effectively manage and provide stewardship of NRC talent, facilities and financial resources. In particular, NRC will sustain delivery of its internal services while adapting to changing needs to ensure the efficient and effective operation of NRC's research initiatives. For example, NRC will continue working with Shared Services Canada (SSC) to strengthen, modernize, and stabilize NRC's information technology resources. This will include adopting the enterprise services common to the Government of Canada.

NRC will respond to the on-going need to review and improve its processes for environmental stewardship. Towards this end, NRC will launch, develop and implement an Environmental Management System that includes the updating of its environmental policy and reviewing roles, responsibilities and accountabilities relating to environmental practices. NRC will additionally respond to the findings of the NRC Dialogue by implementing other effective changes in practice that will prepare the organization well for NRC's next generation of research initiatives.

NRC will focus resources where best needed to enhance delivery of internal services in a client-oriented manner. To that end, NRC will:

- revisit its program delivery model and its investment management process with a focus on governance, process efficiency and pro-active monitoring;
- identify and implement measures to continually improve its health and safety performance;
- review its procurement services with an objective to improve the user experience while reducing administrative burden and costs;
- review and rationalize real-property management to maximize utilization in alignment with program priorities; and
- focus human resource management on attracting, retaining and facilitating engagement of an agile workforce required to support the Innovation Agenda.

Additionally, NRC will devote approximately 0.2% of its total program spending towards experimentation in three areas on new approaches to support improvements in programs and effectiveness.

For more information on NRC's plans, priorities and the planned results, see the "Planned results" section of this report.

Raison d'être, mandate and role: who we are and what we do

Raison d'être

The National Research Council of Canada (NRC) bridges the innovation gap between early stage research and development (R&D) and commercialization, focusing on socio-economic benefits for Canada and increasing national performance in business-led R&D and innovation. A federal leader in technology development, NRC supports Canadian industry to enhance their innovation capabilities and capacity and become more productive in the development and deployment of innovative products, processes and services for markets of national priority and importance. While keeping a primary focus on business innovation support, NRC also upholds public policy mandates, and it works to advance knowledge. With a presence in every province[2] and unique infrastructure[v], NRC combines its strong national foundation with international linkages to help Canada grow in productivity and remain globally competitive. NRC works in collaboration with industry, governments and academia to maximize Canada's overall R&D investment.

Mandate and role

Under the National Research Council Act[xx], NRC is responsible for:

- Undertaking, assisting or promoting scientific and industrial research in fields of importance to Canada;
- Providing vital scientific and technological services to the research and industrial communities;
- Investigating standards and methods of measurement;

[2] Research facilities are located in Edmonton, Penticton, Saskatoon, Vancouver, Victoria, Winnipeg, Boucherville, Chalk River, Gatineau, London, Mississippi Mills, Montreal (two sites), Ottawa (three sites), Saguenay, Charlottetown, Fredericton, Halifax, Ketch Harbour, Moncton, and St. John's.

- Working on the standardization and certification of scientific and technical apparatus, instruments and materials used or usable by Canadian industry;
- Operating and administering any astronomical observatories established or maintained by the Government of Canada;
- Establishing, operating and maintaining a national science library; and
- Publishing and selling or otherwise distributing such scientific and technical information as the Council deems necessary.

For more general information about NRC, see the "Supplementary information" section of this report. For more information on the department's organizational mandate letter commitments, see the Ministers' mandate letters on the Prime Minister of Canada's website.[vi]

Operating context: conditions affecting our work

Changes in the international economy and in the policies and priorities of trading partners, as well as the ongoing advancement of the innovation frontier, can be expected to create a dynamic environment for the work of the NRC with our clients and partners. In 2017, global growth is anticipated to pick up only slightly to 2.8% with stabilization of energy and commodity prices, after dropping to the lowest level in 2016 since the 2009 recession[3]. Advanced technology/ increasing digitization, improved labour force skills and greater productivity can all be expected to support growth, including NRC's role to enable these developments through its programs and activities.

Within the federal government context, the Innovation Agenda will be guiding NRC's direction for 2017-18 and beyond, including NRC's support to fundamental science and industrial competitiveness. The Government of Canada's Communications Policy will ensure that government science is fully available to the public, and scientists are able to speak freely about their work. In addition, the anticipated appointment of Canada's new Science Advisor will help ensure that scientific analyses are considered when the government makes decisions. Government of Canada expectations around transparency, collaboration and inclusivity will need to be integrated into NRC activities, beginning with implementation of the new federal Policy on Results, which will help strengthen NRC's performance measurement system and commitment to program delivery and reporting on results.

Other Government of Canada initiatives (e.g., centralization of services) will continue to be an overlay to NRC's activities – potentially requiring adjustment to NRC practices and approaches.

In addition, responding to the Mandate Letter of the President [xxi], the NRC will have the opportunity to bring the results of its internal NRC Dialogue assessment forward to the Government. This will include identifying possible areas where the NRC can help advance the Innovation Agenda in areas including support to innovation, engagement, governance, and management.

[3] Conference Board of Canada: Global Economic Outlook 2017" Bucking the Trend, Overcoming Uncertainty, Shocks, and Disruption with Qualitative Growth".

Key risks: things that could affect our ability to achieve our plans and results

Future R&D agendas and innovation demand are being shaped by megatrends such as aging societies, climate change, dwindling natural resources, health challenges and growing digitization[4]. Significant disruptions to the economy and society are anticipated to arise, along with demands for new skills and resources competed for globally, and increasing intensity of production and diffusion of new knowledge in order to address these grand challenges. This creates an impetus for NRC to be aware and to align itself with these new developments to ensure it is preparing the right capabilities to support future innovation in Canada. While progress has been made in redefining the career paths and promotion criteria of scientists and engineers to better manage existing talent, efforts to enhance partnerships with universities (e.g., post-doctorate fellowships) and industry is expected to enhance the flow of new talent and relevant knowledge to support delivery of NRC programs tackling the challenges presented by the megatrends above.

Other factors anticipated to affect NRC include open science and open government. Through collaborative partnerships with science-based departments and agencies, NRC has been able to expand public access to published scientific information through the launch of the Federal Science Library. Moving forward, NRC is exploring other partnerships and platforms to facilitate sharing of research data, and maximizing public release where feasible, recognizing at the same time that some data may be potentially restricted by client and stakeholder non-disclosure arrangements.

Cooperation with other Canadian innovation players, including federal and provincial research organizations, universities/colleges and industry will be critical for ensuring effective use of resources and accessing relevant leading-edge knowledge and infrastructure to advance key technologies and deliver impact. International partnerships (through its research programs, EUREKA[vii] and other IRAP activities) will also help NRC tap into the necessary intelligence and support to advance Canadian innovations, and help its clients establish a global presence. Inability to work effectively with national and international partners, or unwillingness of partners to undertake higher risk, could affect NRC progress and delivery of its programs.

Operationally, program delivery could be affected by uncertainties created by an unstable internal IT environment for research and related applications, as well as aging infrastructure and insufficient capabilities. These are highlighted below along with other significant risks anticipated to face NRC in 2017-18, including related risk response strategies.

[4] OECD (2016), OECD Science, Technology and Innovation Outlook 2016, OECD Publishing, Paris: http://dx.doi.org/10.1787/sti_in_outlook-2016-en

Risks	Risk response strategy	Link to the depart-ment's Programs	Link to mandate letter commitments or to government-wide and departmental priorities [5]
Insufficient capabilities & expertise to respond to scale and scope of Innovation Agenda	• Implement actions to respond to NRC Dialogue around workforce management • Develop new talent attraction approaches to increase the flow of students and post-docs and provide them with training and mentorship in research and business • Implement new HR management system to support hiring, onboarding, learning and performance management. • Define career paths and align promotion criteria for research professionals. • Track staff engagement and collaboration. • Brand NRC as a top employer and professional group driving innovation in Canada Measures: Employee feedback, time to hire, staff utilization	TDA, SI&M, IRAP	Clean & Innovative Economy Managing Resources Effectively
Unable to remove barriers & establish common ground for successful and timely collaborations	• Increase NRC collaboration with academia, provincial and other research organizations, including national fora to engage in strategic alliances to deliver on Innovation Agenda • Engage in cluster and technology road-mapping with other innovation system players to address clearly defined needs of Canada and industry • Seek policy solutions to increase collaboration across the federal and provincial community to maximize return on investment to Canadians Measures: Increased levels of engagement – e.g., joint collaborations; client & stakeholder feedback	TDA, SI&M, IRAP	Clean & Innovative Economy Aligning with Innovation Agenda
Inability to deliver leading edge research as a result of aging scientific and unreliable IT infrastructure	• Real-property will be managed in a way that aligns utilization with program priorities • Work with Shared Services Canada (SSC) to strengthen, modernize, and stabilize NRC's information technology resources Measures: Improve NRC Facility Condition Index, and track IT infrastructure stability	TDA, SI&M, IRAP	Clean & Innovative Economy Delivering on R&D Initiatives

[5] Aligning to government-wide priorities (budget themes) and departmental priorities

Planned results: what we want to achieve this year and beyond

Programs

Technology Development and Advancement (TD&A)

Description

This program develops and advances technologies to enhance the prosperity of Canadian industries in support of federal priorities such as the federal Science, Technology, and Innovation Strategy. This includes national-scale flagship technology-development initiatives having sufficient critical mass to contribute demonstrably to national prosperity. To bring new and innovative products and processes to the marketplace, companies must advance the emerging and maturing technologies embodied in applied developments and prototypes to a level where the risk is sufficiently reduced to be acceptable from business, investment, and regulatory perspectives. The program bridges this critical technology gap through mission-oriented research and development services, and specialized technical services such as custom design and fabrication, testing, prototyping, up-scaling, and demonstration in specialized facilities.

Planning highlights

The Program will focus on supporting the Innovation Agenda by advancing technologies that will contribute to socio-economic prosperity, to a clean environment, and to improve job opportunities for Canadians.

A suite of large-scale proactive, multi-disciplinary and multi-year outcome-focused research initiatives within ten subprograms[viii] is well underway. Researchers from NRC access the organization's national facilities, and collaborate together and with external partners and clients to advance these research initiatives. Notable success has already been demonstrated in such areas as manufacturing technologies, life sciences, information and communication technologies, alternative energies, and natural resources. For example, custom work for Bombardier made it possible for the company to launch its CRJ jet, the world's most energy-efficient aircraft in its class (Aeronautical Product Development Technologies[ix]). Likewise, custom work for TeraXion has helped it become a major player in global communications (Advanced Photonic Components[x]) while Calgary's Kent Imaging adopted NRC technology into its novel instrumentation that gauges healing without touching or

NRC's TD&A Subprograms for Canadian Industry and Canada

- **Aerospace**
- **Aquatic and Crop Resource Development**
- **Automotive and Surface Transportation**
- **Construction**
- **Energy, Mining and Environment**
- **Human Health Therapeutics**
- **Information and Communications Technologies**
- **Medical Devices**
- **Ocean, Coastal and River Engineering**
- **Security and Disruptive Technologies**

disturbing tender wounds (Health Technologies[xi]). These are just a few of TD&A's successes that are evidenced by the increasing trend of major technology deployments – from four in 2013-14 to 18 in 2015-16, as illustrated in past Departmental Performance Reports[xii] and in the Planned Results table below. During 2017-18, TD&A will build on its past successes in delivering targeted research, technology development and demonstration, and direct technology support to further Canadian industry – elements that are crucial for Canadian companies to thrive in a highly competitive global market[6].

TD&A will focus on enhancing scientific and technical capabilities to support the Innovation Agenda. For example, work is being proposed to continue for two new state-of-the-art research facilities relating to: 1) aircraft cabin comfort and environment research (e.g., lighting, ventilation, noise, vibration control), and 2) the advancement of clean energy-storage technologies – both to strengthen the global competitiveness of Canadian industries in the related sectors. These facilities would enable large-scale, proactive, outcome-oriented, multidisciplinary initiatives that bring together talent and resources from across all NRC research initiatives in collaboration with clients.

To help ensure Canada's long-term innovation success, the Program will work to ensure that its activities continue to meet the R&D and technology service needs of Canadian industries seeking to grow and export their products in the evolving global and national landscape. TD&A will engage with industry, governments and research organizations to identify short and longer-term priorities for increasing support and engagement in innovation and to serve as a key partner in clusters (announced in Budget 2016[iv]) across Canada in identified priority areas.

TD&A will explore longer term scientific and technical solutions to emerging industrial and policy challenges. It will provide leadership in identifying and enabling Canadian collaborations and a global presence in future game-changing technologies that are critical to the long-term success of the Innovation Agenda. The Cities of the Future initiative for example, seeks to identify how NRC can work with stakeholders to develop game changing technologies to support future sustainable urban growth in Canada and the world through solutions for such challenges as: better infrastructure and infrastructure management, efficient transportation, localized manufacturing and production, clean technologies, and better resource and waste management.

TD&A will strengthen collaborative relationships with key research partners to deliver on national R&D priorities. The National Institute for Nanotechnology (NINT) is a joint initiative between NRC, the University of Alberta, and the Government of Alberta. It realizes new scientific insights in nanotechnologies and it advances new nano-enabled products. During

[6] To protect commercial interests, the present report respects constraints on disclosure of on-going proprietary work.

2017-18, NRC will seek to renew its NINT partnership, and address evaluation recommendations including ensuring clarity of governance in a new partnership model, and implementing effective performance management to support its mandate and strengthened partnerships and impacts.

TD&A will position itself to implement the next generation of research initiatives such as intelligent transportation systems, and technologies for clean growth and for competing in the digital world. For example, TD&A will act as a catalyst in the area of photonics, bringing together Canadian stakeholders in industry, academia and government to grow the photonics ecosystem in Canada at all stages of the value chain.

Quantum Breakthrough

NRC and the University of Waterloo are partnering to achieve critical breakthroughs to enable next-generation quantum computing, including most recently a technique for shifting the frequency (colour) of single ultrafast photons.

To provide leadership in protecting Canada's communities from the effects of climate change, NRC experts in construction research will partner with Infrastructure Canada to study how climate change affects buildings and core public infrastructure (e.g. bridges, roads) and how this risk can be mitigated. This will include developing decision support tools and codes for designing and rehabilitating structures for resiliency to climate change and extreme weather events.

In addition, TD&A will plan to allocate a proportion of its research activities towards global science excellence in support of public good, such as developing new and better vaccines.

Experimentation on program ideation approach
NRC will plan to invest approximately 0.2% of TD&A program spending to test different approaches to generating ideas for new initiatives to support development of the pipeline of future research activities.

Planned results

Departmental Results	Departmental Result Indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Canadian industries commercialize advanced technologies	Technology deployment[7]	21	March 2018	4	12	18
	Client / stakeholder feedback[8] on benefits: jobs, sales, R&D	85%	March 2018	72% of 71 respondents	90% of 117 respondents	86% of 127 respondents

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
278,362,056	289,847,651	283,483,638	283,502,488

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
1,831.1	1,874.7	1,850.1

[7] This is a measure of NRC's success in advancing technologies to the point of client and stakeholder readiness and commitment to exploit technologies commercially. It is counted in terms of the number of clients or stakeholders who expressed (e.g., through press releases or company public reports) a commitment, during the reporting period, to exploit innovations that have already been successfully developed or advanced by or with NRC.

[8] The proportion of surveyed clients and stakeholders who report an increase in jobs, sales, R&D expenditures or other positive benefits as result of services received from NRC.

Industrial Research Assistance Program (IRAP)

Description

The program contributes to the growth and prosperity of Canadian small and medium sized enterprises (SMEs) by stimulating innovation, adoption and/or commercialization of technology-based products, services, or processes in Canada. This is done through: 1) technical and related business advice and networking facilitated by a cross-Canada network of field professional staff; 2) cost-shared merit-based contributions; and 3) contributions supporting employment of post-secondary graduates. This program uses funding from the following transfer payments: Contributions to Firms; Contributions to Organizations; Youth Employment Program (YEP); Contributions to Canadian HIV Technology Program (CHTD); Business Innovation Access Program (BIAP); and Canada Accelerator and Incubator Program (CAIP).

Planning highlights

With mature and proven innovation-support infrastructure, IRAP is well-poised and committed to contribute demonstrably to the following areas for action for advancing the Innovation Agenda as expressed in the NRC President's mandate letter from the Ministers[xxi]:

- an entrepreneurial and creative society;
- growing companies and accelerating clean growth;
- competing in a digital world; and
- improving the ease of doing business.

This reflects also the mandate letters to the Minister of Industry, Science and Economic Development, as well as the Minister of Small Business, who have been asked to ensure that an innovation agenda be launched that includes the positive impacts and key investments to help Canadian businesses grow. Consequently, these activities and support will include the activities undertaken as well as collaborations of IRAP.

IRAP will assist SMEs through contributions of non-repayable funding for cost-shared innovative projects based on merit. Experts at IRAP will continue to provide SMEs with technology and business advice without charge and will connect them with partner

Growing Firms to Scale

IRAP helps start-up companies grow through such services as:

- **advisory and funding that support clients' R&D projects through all stages of the innovation process (core IRAP program);**
- **connecting clients to critical national and international networks and with industry experts, potential business partners, and opportunities for other government services (Concierge Service);**
- **supporting clients' hiring recent graduates (YES);**
- **providing non-repayable contributions to outstanding accelerators and incubators of technology that are well-poised to make a difference (CAIP);**
- **assisting Canadian firms go "global" by supporting Global Affairs Canada delivery programs (CanExport); and**
- **supporting whole of government effort, through Accelerated Growth Services, to target high potential firms in Canada.**

organizations that can provide further assistance and advice on financing, research and development, intellectual property, and technology transfer. IRAP will focus on advancing the growth and scale of these firms to become global competitors through a variety of core and additional activities including the government-wide Accelerated Growth Services and IRAP's newer Multi National Enterprise initiative.

IRAP recognizes the importance of high quality jobs for the middle class. It will further support job creation in Canadian SMEs by supporting the placement of graduates in SMEs through Employment and Social Development Canada's Youth Employment Strategy (YES)[xiii] .

IRAP's Concierge Service will continue to provide a single access point where innovative Canadian SMEs can access information on funding, expertise, facilities and equipment to help them grow through innovation.

IRAP's Canada Accelerator and Incubator Program (CAIP)[xiv] will continue to advance efforts to establish a critical mass of outstanding business incubators and accelerators that can develop innovative, high-growth firms representing superior early-stage investment opportunities.

NRC will also integrate IRAP's international programs and initiatives under a coherent program to accelerate clients' entry into and growth in global markets as well as improving the ease of doing business abroad.

IRAP will continue to deliver the CanExport Program in partnership with Global Affairs Canada (GAC) to assist SMEs in developing new export opportunit**ies**, particularly in high-growth priority markets and sectors. It will also pursue the delivery of the Canadian International Innovation Program (CIIP) in partnership with Global Affairs Canada (GAC) to foster and support collaborative industrial research and development projects with high potential for commercialization between Canada and partner countries.

Past evaluations for IRAP have demonstrated that there can be increased returns on investment for larger projects, as such, the program seeks to establish a balance in its target of number of clients that allow for appropriate client reach and with business opportunity. Although mid-way through its evaluation cycle, IRAP has also benefitted from the evaluation of the activities undertaken through the CAIP initiative. As part of this evaluation, the network of IRAP Industry Technology Advisors supporting CAIP activities will be identifying and sharing best practices of CAIP participants to streamline administrative processes as well as activities.

Experimentation on the Use of Service Vouchers for SMEs
Approximately 0.2% of IRAP funding will be allocated to explore a new approach to support SMEs through service vouchers.

Planned results

Departmental Results	Departmental Result Indicators	Target[9]	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Innovative businesses grow in Canada	SME jobs supported (through contributions)	5,500	March 2018	14,124	9,240	10,980[10]
	SMEs served (through funding by the *Contributions to Firms* transfer payment program)	1,500	March 2018	2,200	2,564	2,341
	SME client feedback[11] on growth	85%	March 2018	Not available	82%	87%

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
269,123,074	269,123,074	262,028,318	244,936,528

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
411.0	409.0	409.0

[9] IRAP's performance targets reflect the sun-setting of two programs (BIAP and CHTD). IRAP will continue to provide support to innovative SMEs in their development of technologies for commercialization.

[10] The higher number of SMEs services reflected higher funding of BIAP ($12M additional), in addition to incremental youth funding ($16M) relative to normal baseline funding.

[11] This is the percentage of surveyed IRAP clients funded through Contribution to Firms transfer payment program and who reported having experienced growth in terms of: 1) employees or; 2) revenue from goods and services or; 3) net operating profit. Data is compiled from an on-line survey completed by firms 6 months following their fiscal year end. The survey is administered for 5 years following project completion, therefore some time is required to develop a baseline against which a target can be based. Pending development of the performance target, IRAP will be aiming for client growth (revenue, jobs) exceeding that of a comparable non-client control group.

Science Infrastructure and Measurement (SI&M)

Description

This program manages national science facilities and infrastructure critical to research, development and innovation by Canadian scientific and technological communities. This includes operating and administering Canada's astronomical observatories. It also fosters development and maintenance of Canada's metrological infrastructure system that provides industries and researchers access to reliable measurements that are traceable to recognized national standards maintained by the program. The program helps clients make the most of this infrastructure by facilitating access to a wide range of Canadian and international user communities and by participating in networks. In addition, the program provides stewardship of the TRIUMF sub-atomic research facility. This program uses funding from the following transfer payment: TRIUMF (Canada's National Laboratory for Particle and Nuclear Physics).

Planning highlights

This Program will continue to deliver on elements of the National Research Council Act[xx] and of the Weights and Measures Act[xv] pertaining to scientific support to the research communities of Canada, managing Canada's astronomical observatories, and investigating standards and methods of measurement from its position at the top of the measurement traceability chain in Canada. In these roles, the Program will manage national science infrastructure and scientific services, supporting global science excellence as one of the government's key areas for action for advancing the Innovation Agenda as expressed in the NRC President's mandate letter from the Ministers[xxi]. The Program will also manage infrastructure underpinning measurements that are critical to enabling trade in the global economy. In 2017-18, it will continue working with academic, industrial and government partners to ensure that national S&T facilities are managed effectively and efficiently, and remain accessible to Canadians in accordance with NRC's assigned mandate and evolving national needs. This includes prioritization of resources for ongoing infrastructure maintenance, development of a risk assessment framework, and effective performance management, consistent with TRIUMF evaluation recommendations.

Based on the 2015-16 client satisfaction survey, over 86% of the subprogram's surveyed user base reported that the subprogram's services provided at least one favourable impact on their organization. The relevance of the subprogram will be gauged in terms of emerging trends on client impact as NRC gains history on this new performance indicator.

Mapping and modelling black holes

"Astronomy is fundamentally a global discipline, and Canada's prominent role in large international observatories…strengthens our position at the cutting edge of research and exploration…Through these contributions, Canada is helping shine light into the depths of black holes at the centre of distant galaxies, and advancing our understanding of the Universe."

-Dr. Dennis Crabtree, Director of NRC's Dominion Astrophysical Observatory.

For its facilities and infrastructure to remain relevant in both the national and international landscape, the Program will maintain a forward looking view of the knowledge and technology needs of its astronomy users and the metrological infrastructure system. In addition, the Program will leverage its infrastructure to provide Canadians access to critical international R&D facilities, user communities, and networks including leading-edge observatories and one of the world's largest accessible collections of astronomical data.

SI&M will provide comprehensive support to the users of Canada's astronomical observatories and will participate in designing and building instruments that enable the astronomers to perform research at the highest level of international science.

Recognizing that the science of measurement provides the quantitative basis for all trade and for enabling new technology platforms, NRC will maintain success and momentum in developing metrology expertise and in delivering measurement solutions for Canada, engaging industry and peers in national metrology institutes from around the world. During 2017-18, NRC metrologists will provide leadership in developing an immutable definition of the kilogram as a reliable basis for trade and for discoveries in science.

Experimentation on Use of Multidisciplinary Teams
Approximately 0.3% of spending of the Science Infrastructure and Measurement Program will be dedicated to exploring how multidisciplinary teams could enhance knowledge transfer and accelerate innovations.

Planned results

Departmental Results	Departmental Result Indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
National science infrastructure and measurement standards services are valued by user communities	Client/user satisfaction[12]	85%	March 2018	Not available[13] (This was a new Result Indicator)		86%

Budgetary financial resources (dollars)[14]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
199,164,722	200,135,686[15]	157,755,761	128,743,382

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
290.5	294.8	294.8

Information on NRC's lower-level programs is available on NRC's website[xvi] and in TBS InfoBase.[xvii]. At present, there are 12 subprograms (called portfolios) active in 38 outcome-focused formal research initiatives of fixed duration.

[12] When answering the specific question on impact in the NRC customer satisfaction survey, each client could select multiple impact statements that benefited their organization. The target reflects the proportion of respondents who stated that their organization benefited from the services received.

[13] An evaluation of one of two sub-programs was started in 2014-15, including case studies and interviews with clients and stakeholders. The exercise indicated that clients have a high level of satisfaction overall, indicating progress towards the target.

[14] The values in this table include transfer payments to TRIUMF, which is managed at the Program level.

[15] The increase in 2017-18 planned spending, relative to that reported in the 2016-17 Report on Plans and Priorities, is primarily attributable to the construction of the Thirty Meter Telescope under the National Science Infrastructure subprogram as part of an international collaboration to construct the most advanced optical telescope on Earth, extending vision to the most distant reaches of the universe.

Internal Services

Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support Program delivery in the organization, regardless of the Internal Services delivery model in a department. The 10 service categories are: Management and Oversight Services; Communications Services; Legal Services; Human Resources Management Services; Financial Management Services; Information Management Services; Information Technology Services; Real Property Services; Materiel Services; and Acquisition Services.

Planning highlights

NRC is committed to continued renewal in applying best practices in governance and management. This includes informed decision-making, sound and robust financial management, and clear accountabilities and openness at all levels. These changes will be implemented by engaging the workforce in achieving its full potential.

First, NRC will sustain the internal service practices that it already does well, along with those practices that it is adapting to ensure efficient and effective operation. For example, it will remain on the path of providing its workforce modern, robust, secure and fully-integrated information technology systems as required by a leading research and technology organization. NRC will adopt enterprise services from SSC such as e-mail and GCDOCS while also leveraging technologies such as cloud computing and high-performance computing. In addition, NRC will continue to partner with academia and other research organizations for technology solutions.

Second, in 2016-17, NRC is assessing how it can best contribute to advancing the Innovation Agenda. Through an extensive, structured 'Dialogue' taking place at NRC's locations across Canada, employees are being asked for their input on specific theme areas. In 2017-18, NRC will respond to the findings of the NRC Dialogue by improving practices that will prepare NRC well for the next generation of research initiatives – from the way that NRC engages with stakeholders through to workforce

NRC Dialogue – Renewal Themes

- **Growing innovation-based global firms;**
- **Excellence in emerging and advanced science;**
- **Solutions to public policy challenges;**
- **Engagement and technology and innovation clusters;**
- **Performance framework;**
- **Governance and management; and**
- **Occupational health and safety and safety and environmental stewardship**

management and occupational health and safety.

NRC will also respond to the priority to review and improve its processes for environmental stewardship. NRC will implement an Environmental Management System, including an updated environmental policy, organizational awareness of roles, responsibilities and accountabilities and regular reporting. NRC will develop and implement an Environmental Management System to enable proactive assessment and management of environmental issues and to fulfill compliance obligations. NRC will continue to ensure effective implementation of its Contaminated Sites Work Program for protection of people and the environment from the risks associated with NRC's contaminated sites, and to enable NRC to meet the requirements of managing real property in accordance with Treasury Board policy.

Third, NRC will focus resources where best needed to enhance and deliver successful and responsible internal services to NRC programs in a client-oriented, cost-effective manner. NRC's program delivery model and its investment management process will be revisited with focus on governance, process efficiency, and pro-active monitoring. The workforce will be managed with a view to enhancing NRC's health and safety performance. Real property will be managed in a focussed approach to utilization, rationalization and modernization aligned with program priorities. NRC's procurement services will be reviewed with an objective to improve user experience while reducing administrative burden and costs. NRC will review its existing delivery model and modify it to meet client demands in an expedient and effective manner. It will focus on efficiency and cost reduction initiatives in acquisitions, deploy technology aimed at facilitating client interface, and establish and monitor service indicators.

To further support and build the workforce needed to deliver on the Innovation Agenda, NRC will implement a new technology solution to streamline and enhance hiring, onboarding, learning and performance management in human resources. In addition, NRC will advance to a new phase in its talent attraction strategy by building an initiative to greatly enhance the number of students and post-doctoral fellows that will flow through the organization.

Budgetary financial resources (dollars)

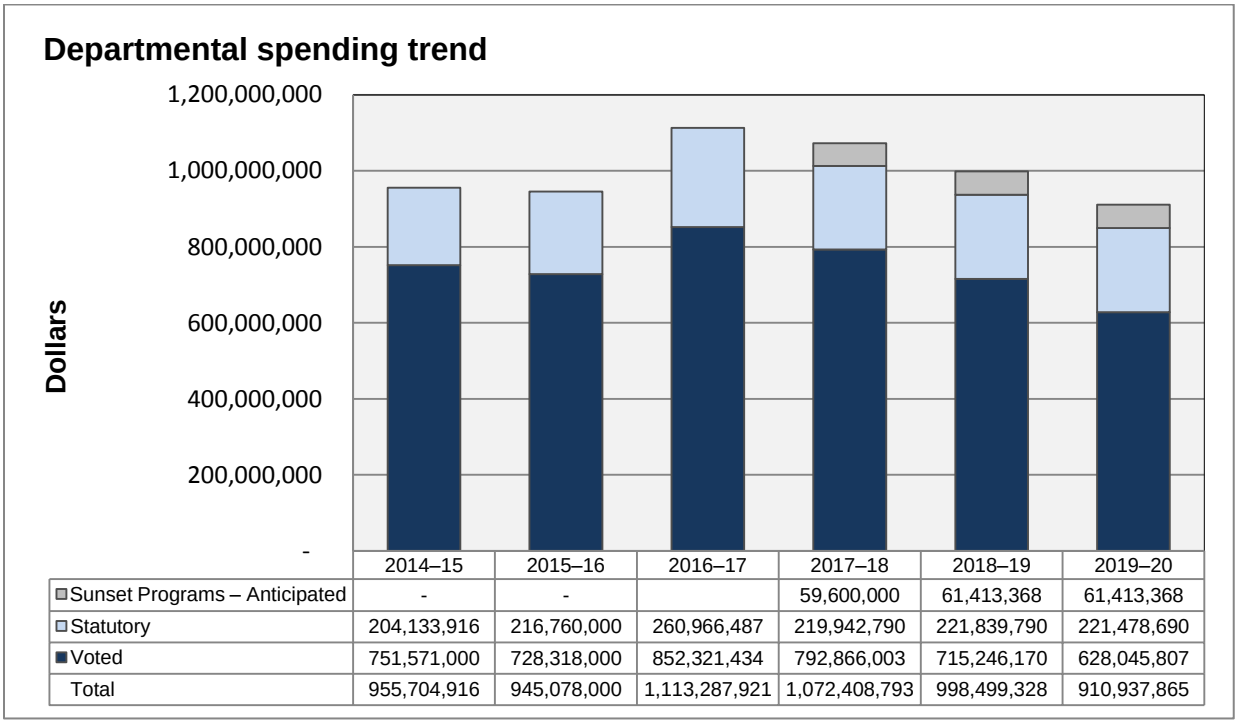
2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
253,702,382	253,702,382	233,818,243	192,342,099

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
1,005.3	1,005.3	1,005.3

Spending and human resources

Planned spending



	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Sunset Programs – Anticipated	-	-		59,600,000	61,413,368	61,413,368
Statutory	204,133,916	216,760,000	260,966,487	219,942,790	221,839,790	221,478,690
Voted	751,571,000	728,318,000	852,321,434	792,866,003	715,246,170	628,045,807
Total	955,704,916	945,078,000	1,113,287,921	1,072,408,793	998,499,328	910,937,865

Total spending in 2016-17 ($1,113.3M) has increased by $168.2M in comparison to authorities used in 2015-16 ($945.1M). This is principally due to an increase in statutory revenue spending ($48.9M), an increase from the operating and capital budget carry forward from 2015-16 ($49.3M) and increases in funding for the Industrial Research Assistance Program (IRAP) ($37M), Federal Infrastructure initiatives ($32.5M), Thirty Metre Telescope ($8.6M), and the Canadian Accelerator and Incubator Program (CAIP) ($7.2M). These increases were offset by a decrease resulting from the sunsetting of the Business Innovation Access Program (BIAP) ($9.8M).

Total spending in 2017-18 ($1,072.4M) is expected to decrease by $40.9M in comparison to 2016-17 (1,113.3M). The majority of this decrease is due to a reduction in statutory revenue spending ($43.5M). For the purpose of the above chart, total spending in 2017-18 and future years includes $59.6M for the anticipated renewal of the sunset program for the refocused National Research Council of Canada.

Total spending in 2018-19 ($998.5M) is expected to decrease by $73.9M in comparison to 2017-18 ($1,072.4M). The decrease is principally due to a reduction in funding for the Thirty

Meter Telescope (TMT) initiative ($42M) which sunsets in 2023-24, Federal infrastructure initiatives ($25.5M) and Canadian Accelerator and Incubator Program (CAIP) ($7.2M).

Total spending in 2019-20 ($910.9M) is expected to decrease by $87.6M in comparison to 2018-19 ($998.5M). The decrease is principally due to sunsetting of the Federal infrastructure initiatives ($33.1M), a reduction in the TMT funding ($28.9M), and sunsetting of CAIP ($17.4M).

Budgetary planning summary for Programs and Internal Services (dollars)

Programs and Internal Services	2014–15 Expenditures	2015–16 Expenditures	2016–17 Forecast spending	2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
Technology Development and Advancement	344,930,416	326,830,511	374,947,521	278,362,056	289,847,651	283,483,638	283,502,488
Industrial Research Assistance Program (IRAP)	271,824,267	288,919,078	331,188,014	269,123,074	269,123,074	262,028,318	244,936,528
Science Infrastructure and Measurement	106,451,583	116,379,686	131,141,529	199,164,722	200,135,686	157,755,761	128,743,382
Subtotal	**723,206,266**	**732,129,275**	**837,277,064**	**746,649,852**	**759,106,411**	**703,267,717**	**657,182,398**
Internal Services	232,498,650	212,948,320	276,010,857	253,702,382	253,702,382	233,818,243	192,342,099
Total	**955,704,916**	**945,077,595**	**1,113,287,921**	**1,000,352,234**	**1,012,808,793**	**937,085,960**	**849,524,497**

NRC's budgetary financial profile has increased in 2016-17 in comparison to the previous two years and decreases over the following three years. For detailed variance explanations on these changes, reference the preceding discussion on Departmental Spending Trend with the understanding that the budgetary financial resources exclude the anticipated renewal of any sunset funding.

Planned human resources

Human resources planning summary for Programs and Internal Services (full-time equivalents)

Programs and Internal Services	2014–15 Full-time equivalents	2015–16 Full-time equivalents	2016–17 Forecast full-time equivalents	2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
Technology Development and Advancement	1,999.6	2,055.4	2,159.6	1,831.1	1,874.7	1,850.1
Industrial Research Assistance Program (IRAP)	356.9	356.0	363.3	411.0	409.0	409.0
Science Infrastructure and Measurement	269.9	277.2	286.2	290.5	294.8	294.8
Subtotal	**2,626.40**	**2,688.60**	**2,809.10**	**2,532.60**	**2,578.50**	**2,553.90**
Internal Services	950.7	980.0	1,004.8	1,005.3	1,005.3	1,005.3
Total	**3,577.1**	**3,668.6**	**3,813.9**	**3,537.9**	**3,583.8**	**3,559.2**

Increases in NRC's human resources since 2014-15 are attributed to normal fluctuations in the workforce in response to business objectives. The decrease in planned human resources starting in 2017-18 reflects the reduced funding stemming principally from the sunsetting of funding for the refocused National Research Council of Canada ($59.6M), which is anticipated to be renewed but is not included in the planned full-time equivalents.

Estimates by vote

For information on NRC's organizational appropriations, consult the 2017–18 Main Estimates.[xviii]

Consolidated Future-Oriented Condensed Statement of Operations

The Consolidated Future-Oriented Condensed Statement of Operations provides a general overview of NRC's operations. The forecast of financial information on expenses and revenues is prepared on an accrual accounting basis to strengthen accountability and to improve transparency and financial management.

Because the Consolidated Future-Oriented Condensed Statement of Operations is prepared on an accrual accounting basis, and the forecast and planned spending amounts presented in other sections of the Departmental Plan are prepared on an expenditure basis, amounts may differ.

A more detailed Consolidated Future-Oriented Statement of Operations and associated notes, including a reconciliation of the net cost of operations to the requested authorities, are available on NRC's website[xix].

Consolidated Future-Oriented Condensed Statement of Operations for the year ended March 31, 2018 (dollars)

Financial information	2016–17 Forecast results	2017–18 Planned results	Difference (2017–18 Planned results minus 2016–17 Forecast results)
Total expenses	1,082,118,000	986,310,000	(95,808,000)
Total revenues	193,738,000	187,313,000	(6,425,000)
Net cost of operations before government funding and transfers	888,380,000	798,997,000	(89,383,000)

NRC's 2017-18 planned expenses decreased primarily due to the Thirty Meter Telescope being recorded as capital assets as opposed to contributions during the construction phase, sunsetting of the refocused NRC program initiative offset by the anticipated payments on expired collective agreements.

Supplementary information

Corporate information

Organizational profile

Appropriate minister(s):
The Honourable Navdeep Bains, P.C., M.P., Minister of Innovation, Science and Economic Development;

The Honourable Kirsty Duncan, P.C., M.P., Minister of Science; and

The Honourable Bardish Chagger, P.C., M.P., Minister of Small Business and Tourism and Leader of the Government in the House of Commons.

Institutional head: Mr. Iain Stewart, President

Ministerial portfolio: Innovation, Science and Economic Development

Enabling instrument(s): National Research Council Act [xx], R.S.C. 1985, c. N-15

Year of incorporation / commencement: 1916

Other: NRC is a departmental corporation of the Government of Canada, reporting to Parliament through the Minister of Innovation, Science and Economic Development in collaboration with the Minister of Science and Minister of Small Business and Tourism. NRC works in partnership with members of the Innovation, Science and Economic Development Portfolio to leverage complementary resources to promote science and integrated innovation, to exploit synergies in key areas of science and technology, to promote the growth of small and medium-sized enterprises and to contribute to Canadian economic growth. NRC's Council provides independent strategic direction and advice to the NRC President and it reviews organizational performance. The President provides leadership and strategic management and is responsible for the achievement of NRC's long-range goals and plans in alignment with government priorities as reflected in his Mandate letter[xxi]. Each of NRC's Vice Presidents is responsible for a number of areas composed of research sub-programs, initiatives, centres, the Industrial Research Assistance Program, and/or a corporate branch. Vice Presidents and NRC managers are responsible for executing plans and priorities to ensure successful achievement of objectives.

Reporting framework

NRC's Strategic Outcomes and Program Alignment Architecture (PAA) of record for 2017–18 are shown below:

1. Strategic Outcome: Canadian businesses prosper from innovative technologies

- **1.1 Program:** Technology Development and Advancement
  - **1.1.1 Sub-Program:** Aerospace
  - **1.1.2 Sub-Program:** Automotive and Surface Transportation
  - **1.1.3 Sub-Program:** Ocean, Coastal and River Engineering
  - **1.1.4 Sub-Program:** Energy, Mining and Environment
  - **1.1.5 Sub-Program:** Construction
  - **1.1.6 Sub-Program:** Aquatic and Crop Resource Development
  - **1.1.7 Sub-Program:** Medical Devices
  - **1.1.8 Sub-Program:** Human Health Therapeutics
  - **1.1.9 Sub-Program:** Information and Communications Technologies
  - **1.1.10 Sub-Program:** Security and Disruptive Technologies
- **1.2 Program:** Industrial Research Assistance Program (IRAP)

2. Strategic Outcome: R&D Infrastructure for an innovative and knowledge-based economy

- **2.1 Program:** Science Infrastructure and Measurement
  - **2.1.1 Sub-Program:** National Science Infrastructure
  - **2.1.2 Sub-Program:** Measurement Science and Standards

Internal Services

Supporting information on lower-level programs

Supporting information on lower-level programs is available on NRC's website[xvi] and in the TBS InfoBase.

Supplementary information tables

The following supplementary information tables are available on NRC's website[xvi].

- Departmental Sustainable Development Strategy
- Details on transfer payment programs of $5 million or more
- Disclosure of transfer payment programs under $5 million
- Horizontal initiatives
- Upcoming evaluations over the next five fiscal years
- Upcoming internal audits for the coming fiscal year

Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the Report on Federal Tax Expenditures[xxii]. This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs. The tax measures presented in this report are the responsibility of the Minister of Finance.

Organizational contact information

National Research Council Canada
NRC Communications
1200 Montreal Road, Bldg. M-58
Ottawa, Ontario, Canada K1A 0R6
Phone: (613) 993-9101 or toll-free 1-877-NRC-CNRC (1-877-672-2672)
Fax: (613) 952-9907
TTY number: (613) 949-3042
E-mail: info@nrc-cnrc.gc.ca

Appendix A: definitions

appropriation (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

Core Responsibility (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a Core Responsibility are reflected in one or more related Departmental Results that the department seeks to contribute to or influence.

Departmental Plan (Plan ministériel)

Provides information on the plans and expected performance of appropriated departments over a three-year period. Departmental Plans are tabled in Parliament each spring.

Departmental Result (résultat ministériel)

A Departmental Result represents the change or changes that the department seeks to influence. A Departmental Result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

Departmental Result Indicator (indicateur de résultat ministériel)

A factor or variable that provides a valid and reliable means to measure or describe progress on a Departmental Result.

Departmental Results Framework (cadre ministériel des résultats)

Consists of the department's Core Responsibilities, Departmental Results and Departmental Result Indicators.

Departmental Results Report (Rapport sur les résultats ministériels)

Provides information on the actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

full-time equivalent (équivalent temps plein)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

government-wide priorities (priorités pangouvernementales)

For the purpose of the 2017–18 Departmental Plan, government-wide priorities refers to those high-level themes outlining the government's agenda in the 2015 Speech from the Throne, namely: Growth for the Middle Class; Open and Transparent Government; A Clean Environment and a Strong Economy; Diversity is Canada's Strength; and Security and Opportunity.

horizontal initiatives (initiative horizontale)

A horizontal initiative is one in which two or more federal organizations, through an approved funding agreement, work toward achieving clearly defined shared outcomes, and which has been designated (e.g. by Cabinet, a central agency, etc.) as a horizontal initiative for managing and reporting purposes.

Management, Resources and Results Structure (Structure de la gestion, des ressources et des résultats)

A comprehensive framework that consists of an organization's inventory of programs, resources, results, performance indicators and governance information. Programs and results are depicted in their hierarchical relationship to each other and to the Strategic Outcome(s) to which they contribute. The Management, Resources and Results Structure is developed from the Program Alignment Architecture.

non-budgetary expenditures (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (rendement)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

Performance indicator (indicateur de rendement)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

Performance reporting (production de rapports sur le rendement)

The process of communicating evidence-based performance information. Performance reporting supports decision making, accountability and transparency.

planned spending (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts that receive Treasury Board approval by February 1. Therefore, planned spending may include amounts incremental to planned expenditures presented in the Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

plans (plan)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

Priorities (priorité)

Plans or projects that an organization has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired Strategic Outcome(s).

program (programme)

A group of related resource inputs and activities that are managed to meet specific needs and to achieve intended results and that are treated as a budgetary unit.

Program Alignment Architecture (architecture d’alignement des programmes)

A structured inventory of an organization’s programs depicting the hierarchical relationship between programs and the Strategic Outcome(s) to which they contribute.

results (résultat)

An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization’s influence.

statutory expenditures (dépenses législatives)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

Strategic Outcome (résultat stratégique)

A long-term and enduring benefit to Canadians that is linked to the organization's mandate, vision and core functions.

sunset program (programme temporisé)

A time-limited program that does not have an ongoing funding and policy authority. When the program is set to expire, a decision must be made whether to continue the program. In the case of a renewal, the decision specifies the scope, funding level and duration.

target (cible)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (dépenses votées)

Expenditures that Parliament approves annually through an Appropriation Act. The Vote wording becomes the governing conditions under which these expenditures may be made.

Endnotes

i Minister of Innovation, Science and Economic Development Mandate Letter, http://pm.gc.ca/eng/minister-innovation-science-and-economic-development-mandate-letter

ii Minister of Science Mandate Letter, http://pm.gc.ca/eng/minister-science-mandate-letter

iii Canada's inclusive Innovation Agenda, https://www.ic.gc.ca/eic/site/062.nsf/eng/home

iv Budget 2016, http://www.budget.gc.ca/2016/docs/plan/budget2016-en.pdf

v NRC research facilities, www.nrc-cnrc.gc.ca/eng/solutions/facilities/index.html

vi. Mandate letters to the Ministers, http://pm.gc.ca/eng/mandate-letters

vii EUREKA, http://www.nrc-cnrc.gc.ca/eng/about/global/eureka.html

viii Subprograms of Technology Development and Advancement, http://www.nrc-cnrc.gc.ca/eng/rd/index.html

ix Aeronautical Product Development Technologies research initiative, http://www.nrc-cnrc.gc.ca/eng/solutions/collaborative/aeronautical_product_dev.html

x Advanced Photonics Components research initiative, http://www.nrc-cnrc.gc.ca/eng/solutions/collaborative/apc_index.html

xi Health Technologies research initiative, http://www.nrc-cnrc.gc.ca/eng/solutions/collaborative/health_tech_index.html

xii NRC Departmental Performance Reports, http://www.nrc-cnrc.gc.ca/eng/reports/index.html

xiii Youth Employment Strategy, http://www.youth.gc.ca/eng/common/yes.shtml

xiv Canada Accelerator and Incubator Program, http://www.nrc-cnrc.gc.ca/eng/irap/caip/index.html

xv Weights and Measures Act, http://laws-lois.justice.gc.ca/eng/acts/W-6/

xvi National Research Council Canada, www.nrc-cnrc.gc.ca

xvii TBS InfoBase, https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

xviii 2017–18 Main Estimates, http://www.tbs-sct.gc.ca/hgw-cgf/finances/pgs-pdg/gepme-pdgbpd/index-eng.asp

xix 2017-18 Consolidated Future-Oriented Statement of Operations, http://www.nrc-cnrc.gc.ca/eng/reports/2017_2018/future.html

xx National Research Council Act, http://laws.justice.gc.ca/eng/N-15/index.html

xxi NRC President's Mandate letter, http://www.nrc-cnrc.gc.ca/eng/about/corporate_overview/mandate.html

xxii Report on Federal Tax Expenditures, http://www.fin.gc.ca/purl/taxexp-eng.asp