

2018 Federal Budget – CARL Brief to House of Commons’ Standing Committee on Finance

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Executive Summary

The Canadian Association of Research Libraries (CARL) recommends that the federal government:

1. In accordance with recommendations from the Leadership Council on Digital Research Infrastructure, invest for the next five years (2018-2022) in building national research data management (RDM) infrastructure. This advances innovation in Canada and strengthens Canada's contribution to the global advancement of science and knowledge. The required annual investment for RDM is \$5M growing to \$10M per year over the five years.
2. Invest \$30M over the next five years (2018-2022) to support a coordinated national initiative to digitize Canada's rich documentary heritage, and to build the digital infrastructure required to make this material available to all Canadians.
3. Invest \$2M annually for the next five years (2018-2022) to support and extend the Federal Science Library as part of Canada's open science commitment. This will enable federal researchers to gain access to the latest global information resources and research developments and will showcase Canadian science to the world. It will also help to build the framework for a national collaborative data sharing network that will benefit all of Canada.

We thank you for considering these recommendations.



Introduction

The Canadian Association of Research Libraries (CARL) is the leadership organization for Canada’s research library community. The Association includes the 29 major university libraries across the country. CARL’s mission is to enhance the capacity of Canada’s research libraries to partner in research and higher education, seeking effective and sustainable scholarly communication and public policy encouraging of research and broad access to scholarly information.

CARL thanks the Standing Committee on Finance for seeking the views of Canadians on their priorities for the 2018 Federal Budget. We are pleased to submit three recommendations for consideration. This submission focusses on measures to advance innovation and help Canadian institutions be more productive.

Recommendations

1. **Enabling Access to Research Data**

Canada’s three major research funding councils and the Canada Foundation for Innovation invest more than \$3.5 billion dollars yearly to support Canadian researchers and their research activities. The data that are generated through the research process are an invaluable commodity for the research community and should be preserved and made available for future consultation. The Tri-Agency “Statement of Principles on Digital Data Management” acknowledges “The ability to store, access, reuse and build upon digital research data has become critical to the advancement of science, supports innovative solutions to economic and social challenges.”¹ This will remain a priority as they work towards finalizing a Tri-Agency policy on data management.

We are pleased to see that Canada’s Open Government Commitments (2016-2018) support this agreement, particularly Commitment 14: Increase Openness of Federal Science Activities (Open Science)² whereby the Government has committed to “develop and implement an open access policy for scientific research funded through grants and contributions; and, work toward the development of policies on digital data management for research funded through the Granting Councils.”

¹ <http://www.science.gc.ca/default.asp?lang=En&n=547652FB-1>

² <http://open.canada.ca/en/content/third-biennial-plan-open-government-partnership#toc5-3-4>



To be able to effectively carry out this commitment, sustained investment in a coherent national infrastructure supporting research data management is critical. A national infrastructure provides access to research data that is collected, managed, and preserved digitally across the country. Without this national research data management infrastructure, vast amounts of Canadian research data have been and will continue to be lost.

CARL recognizes and thanks the government for its 2016 Budget commitments to invest an additional \$95 million per year to Canada’s granting councils. But it encourages the government to provide targeted support for research data management, which is essential to realizing the full value of these and future investments in Canada’s research. Other countries such as Australia and the United States have invested \$72M and \$125M respectively over a five year period³ to support their research data initiatives.

A number of initiatives have been launched to address locally some of the data management challenges with which Canadian researchers are currently struggling. Research Data Canada (RDC), launched in 2013, began work to develop a shared national strategy. CANARIE currently provides modest funding to this coordinating organization. CARL launched the [Portage Network](#) with an aim to strengthen RDM capacity at universities through their libraries. The Portage Network’s goal is to ensure that Canada’s researchers will have access to modern data management policies, practices and tools. For example, Portage provides a data management planning tool and expert services supporting its use.

The Leadership Council for Digital Research Infrastructure (LCDRI) is a member-driven coalition of organizations with an interest in or responsibility for overseeing Canada’s digital research infrastructure ecosystem. The Council works to ensure “...that Canada’s researchers have access to the advanced digital technologies and human expertise that they need for projects involving big data and complex computation.”⁴ Working collaboratively with RDC and LCDRI, CARL is part of a community-based process that is developing a paper on the future of data management in Canada for the Minister of Science.

Our new world of big data opens up an unparalleled possibility for scientific break-through. To realize the full promise of this new world, our researchers must be able to discover and access data easily. And they must be able to do so across provincial lines – a researcher in British Columbia must be able to discover and access data from a researcher in Toronto or Halifax. In order to achieve this vision, Canada needs a national,

³ See the Australian National Data Service at <http://ands.org.au/ardc.html> and Data Infrastructure Building Blocks at https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504776

⁴ <http://digitalleadership.ca/>



federated approach to data management that leverages the significant talents and investments of local institutions.

CARL recommends: In accordance with recommendations furnished September 2017 from the LCDRI to Innovation, Science and Economic Development Canada (ISED), invest for the next five years (2018-2022) in building national research data management infrastructure. The estimated required annual investment is \$5M growing to \$10M over the five years. This will advance innovation in Canada and strengthen Canada's contribution to the global advancement of science and knowledge.

2. Investing in the digitization of Canada's documentary heritage

Canada's major research libraries hold vast documentary collections that are vitally important and that convey the history of our great nation and its people. These collections support research and learning. Although students and researchers consult physical documents, digitization enables Canadians anywhere to access historical and cultural documents.

On June 3, 2016, Minister Joly announced the National Heritage Digitization Strategy (NHDS). It is a roadmap for the development of the shared standards, tools and infrastructure so that users from jurisdictions across Canada are able to easily access their documentary heritage, and so that our memory institutions are able to properly preserve it. While the directions put forward in the NHDS are encouraging, sufficient and sustained federal investment is now required to build a coordinated national digitization program.

Other countries are investing in national initiatives to digitize and preserve their national heritage. Canada should find inspiration in the already successful initiatives in New Zealand, Netherlands, Sweden, European Union and United States.

A coordinated approach to the digitization of Canadian memory institutions' collections should consider access, discovery and preservation of collections, including published and archival materials, and address collections housed in all types of memory institution in all regions.

Early work conducted under the NHDS brought together experts from across Canada representing libraries, archives, historical societies, museums/galleries, universities, and the private and not-for-profit sectors. These experts are developing standards and a content strategy to guide digitization of Canada's rich treasures.

By supporting a national digitization program, the Government of Canada would:

- Promote cultural literacy by providing increased access to Canadian cultural material;
- Remove barriers to knowledge by providing equal access to heritage content for all Canadians;



- Contribute to a feeling of shared Canadian identity, based on diversity and inclusion;
- Create greater educational opportunities to promote research and understanding of Canadian culture;
- Encourage innovation and creativity by inviting artists and entrepreneurs to engage with Canada’s cultural content and to use and reuse it to create new works with value to Canadians and the economy;
- Provide global perspective on Canada’s culture by connecting national collections with international ones; and,
- Support democracy by providing easy access to credible information.

CARL recommends: That the Government of Canada invest \$30M over the next five years (2018-2022) to support a coordinated national initiative to digitize content and to build the digital infrastructure required to make Canada’s rich documentary heritage available to all Canadians.

3. Open Government / Open Science

In our submission to the Canada’s Action Plan on Open Government 2016–18, CARL lauded the government’s efforts to advance a policy of ‘open by default’, and thus to improve information access and transparency across all areas of government. Open science is a global trend to ensure publicly funded research results, including publications and data, are shared and made available free-of-charge and without undue restriction to the world. Open science impacts both government research and academia. It adds value to research outputs by breaking down silos, accelerating the flow of knowledge into society and facilitating cross sector and cross domain connections. CARL supports the federal government’s efforts towards the adoption of open science by “...focus[ing] on increasing the accessibility of government science, helping to ensure Canadians are informed of opportunities to engage in federal science and technology (S&T) activities, and exploring ways to enhance the impact of government data and information.”⁵

This movement is of great importance to the research enterprise, but the publishing of results is only one part of the research cycle. Earlier in the process, researchers must have access to the latest global information and publications in their professional field. Such resources are critical to identifying, scoping, and undertaking new research projects.

Canada’s Open Government Commitments (2016-2018) Commitment 16: Align Open Data across Canada (Open Data Canada) and Commitment 14: Increase Openness of Federal Science Activities (Open Science)

⁵ <http://open.canada.ca/en/content/third-biennial-plan-open-government-partnership#toc5-3-2>



both address this goal⁶. The Federal Science Library (FSL) is key to making government research and resources available to researchers everywhere. A partnership of seven government departments,⁷ the FSL provides a single portal to the collections and repositories of their seven federal libraries. With a public website launched in March 2017, it puts science, technology and health information at the fingertips of GC knowledge workers and Canadians.

The existing FSL infrastructure can be extended to include all government departments, allowing greater and yet more cost effective access to government research and published information resources. But this requires sufficient investment to ensure this suite of software, systems, platforms, and licensed information is available across government and integrated to create the solid S&T knowledge infrastructure required for Canadian science and innovation.

The seven departments currently involved spend approximately \$1 million dollars per year in operational and licensing costs for the integrated FSL platform. There are a number of departments that no longer have libraries or platforms available for users. Additional investments could develop FSL platforms for these departments, making all government departments inclusive to the Open Data and Open Science commitments.

By fully supporting the FSL on a permanently sustainable basis, the Government will have developed a foundational framework which can then be built on to also be one step closer to meeting Canada’s commitment to “expand collaboration with provincial, territorial, and municipal partners on further standardizing and harmonizing the delivery of open government data across jurisdictions”⁸.

CARL recommends: That the Government invest \$2M annually for the next five years (2018-2022) to support and extend the Federal Science Library as part of Canada’s open science commitment. This will enable federal researchers to gain access to the latest global information resources and research developments and will showcase Canadian science to the world, thereby helping ensure Canada is a leader in scientific, technical, and medical research and development. It will also help to build the framework for a national collaborative open government data sharing network that will benefit all of Canada.

⁶ <http://open.canada.ca/en/content/third-biennial-plan-open-government-partnership#toc5-3-4>

⁷ Agriculture and Agri-Food Canada (AAFC), Environment and Climate Change Canada (ECCC), Fisheries and Oceans Canada (DFO), Health Canada (HC) / Public Health Agency of Canada (PHAC), National Research Council Canada (NRC), Natural Resources Canada (NRCan), Health Canada (HC) / Public Health Agency of Canada (PHAC)

⁸ <http://open.canada.ca/en/content/third-biennial-plan-open-government-partnership#toc5-3-4>



Conclusion

We thank the Committee for this opportunity and would be pleased to expand upon any of these matters if invited to do so. Please contact:

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