

Proposed Implementation, Collaboration and Engagement Content

Section A) Executive Summary

This proposal is for the creation of an organization to coordinate funding and strategic directions for national DRI activities related to Advanced Research Computing (ARC), Data Management (DM), and Research Software (RS). It will establish a central hub for planning, operations, coordination and collaboration that will make decisions in the national interest and lead to a more predictable and cost effective digital research infrastructure (DRI) funding environment by implementing a strategic plan for future DRI investments across these three DRI activity areas. It will also work with the federal government and other partners in the DRI ecosystem to secure 40% of the overall DRI ecosystem costs through cost matching or contributions (cash and/or in kind).

These three key pillars of the national layer of the DRI ecosystem will be coordinated by this new body, ensuring integration and interoperability. The organization will also coordinate with regional/provincial and local delivery layers, taking into account differentiated service delivery models, as well as other national DRI organizations such as CANARIE. A vibrant ecosystem that will enable researchers to access the DRI they need to help build and sustain Canada's social and economic prosperity for future generations will be the result.

DRI investments will be safeguarded by focusing on support for and retention of highly qualified personnel (HQP) and strengthening cyber security. Past system fragmentation challenges will be addressed by ensuring a seamless DRI system that is researcher-focused, accountable, agile, strategic, sustainable and rooted in a shared vision.

The new organization will build on a stakeholder-led consultation process undertaken in the past 3 years to create a collective vision to transform the Canadian DRI landscape for the 21st century.

Section B) Implementation

Implementation plans for the organization over the first 2 years will focus on the activities required to incorporate a new organization and the strategic and operational planning required for the national DRI activities related to ARC, DM, RS, cyber security, and HQP. A strong focus on engagement across stakeholder communities will be a key feature of this planning process, with a view to building a shared vision for the organization and to establishing the relationships it will need to realize its mission and goals.

As the new organization evolves and matures, ensuring a smooth transition of national DRI services, infrastructure oversight and funding, and retention of HQP across the country will be a priority. A phased and collaborative operational approach will be taken to building a plan that is appropriate for and cognizant of the needs of all stakeholders.

The following provides an overview of the planned implementation activities for the first 2 years of the organization's operations:

Implementation Goals*

The organization's implementation goals for its first 2 years of operations will be:

- incorporate and establish the new organization;
- develop a "start-up" operational plan for the first 2 years of activities;
- develop an organizational strategic plan for national DRI activities related to ARC, DM, RS, cyber security, and HQP that includes a researcher priority needs engagement process;
- develop a transition plan for existing infrastructure and services;
- develop an operational plan for years 3 through 5 of the organization;
- continue to refine the strategic plan;
- create an investment framework;
- begin transition of national services, oversight and funding of national infrastructure, with a continued focus on the retention of HQP; and
- develop a set of performance indicators

**These goals have been articulated in the absence of an established organization. Changes may be required once the organization is incorporated and operationalized.*

Year 1 Activities

1. ***Incorporation of the organization as a not-for-profit corporation***, including an applicant Board, will need to happen immediately to get the organization up and running. Focused consultations will be undertaken to confirm a number of details that are required to establish the organization and put the inaugural board in place (e.g. definition of members, the processes for becoming a member, etc.). Once an inaugural board is in place, recruitment of a CEO can happen through an open and transparent process. The new CEO will develop the organizational structure and staffing plan.
2. ***A "start-up" operational plan for the first 2 years of operations*** will be developed and implemented on a priority basis. This operational plan will articulate the priorities for the organization's first 2 years of start-up operations. It will be modified as the organization evolves over its start-up period.
3. ***A strategic planning process*** to develop a 5 year strategic plan for the organization will be launched during the first year. This plan will be built through broad stakeholder engagement and include articulation of the organization's vision, mission, high level science goals, and objectives for ARC, DM, and RS across the national layer of the DRI ecosystem. It will also address key challenges that cut across the DRI landscape, including support for HQP and strengthening cyber security; provide strategic direction on collaboration and coordination with other layers of the DRI ecosystem; and set expectations for organizational culture.

A researcher priority “needs assessment” process will be a critical part of the strategic planning process. This process will engage researchers at a national level across disciplines to identify and validate the priorities for ARC, DM, RS, and cyber security. It will also benchmark against other jurisdictions. This process will be essential to informing the organization's strategic directions and operational work plan.

4. **A transition plan for existing national layer infrastructure and services and for the successful retention of talent (HQP) across the country** will also begin to be developed. The organization will work collaboratively with existing national service providers and organizations to understand and articulate the requirements for the successful retention of talent (HQP) across the country and transition of infrastructure and services. It will also work across the three delivery layers (national, provincial/regional, and local) to ensure strong coordination.

Year 2 activities

5. **An operational planning process** that establishes the organization’s work plan for years 2 to 5 will be undertaken. Guided by the strategic plan, the operational plan will articulate key organizational activities that will be prioritized according to considerations such as importance of activity, risk, timing, and ease of delivery. A set of initial performance indicators will also be developed to measure DRI program and service impact on and benefit to Canadian researchers.
6. **Refinement and completion of the strategic plan.** As the new organization grows and matures the strategic plan will need to be updated, especially in its early years of operation. Given that the organization is in start-up mode, it is expected that its priorities will start to stabilize in year 2.
7. **An investment framework** will be developed as a component of the strategic and operational plans. This framework will be informed by the researcher priority assessment process and the strategic plan. It will identify key areas for strategic investment within the existing funding envelope provided by the federal government and through cost-matching funds available from provincial/territorial and institutional funders.
8. **Integration of key national infrastructure and services** from existing national service providers and organizations will begin based on the transition plan from year 1 and with a continued focus on the successful retention of HQP.
9. **Performance measures will be established.** As the organization develops it will need to articulate outcome and efficiency measures that are aligned with its strategic goals.

The organization will address previously identified challenges through broad-based strategic planning processes that cut across and between the DRI pillars. The new entity will also coordinate with other national DRI service providers such as CANARIE and

provincial/regional/local service layers to deliver seamless and interoperable DRI services for researchers across Canada, regardless of location.

Section C) Collaboration and Engagement

Collaboration and engagement with researchers and DRI partners across all layers of the DRI ecosystem will be central to the organization's success. To that end, a culture of service to researchers and engagement with the DRI community will be embedded in the organization and operationalized through 3 key mechanisms: a User Council, advisory groups, and ad hoc working groups. These 3 mechanisms, which are described below, will be used to support strategic and operational planning, as well as ongoing operations. They will also be used to support the planned implementation activities as outlined previously, including the researcher priority needs engagement process.

User Council

A User Council composed of researchers will be established to provide strategic advice to the Board on matters related to the delivery of infrastructure and services. This Council will be essential to establishing a culture of service to and engagement with researchers by providing an influential body that is embedded directly within the governance structure of the organization. The User Council will also work with the leadership of the organization to ensure that its advice to the Board aligns with the vision, mission, and goals of the organization, within its funding and operational parameters.

Advisory Committees and Ad Hoc Working Groups

Advisory Committees will be established at the operational level for each of the key DRI pillars - ARC, DM, and RS - as well as cyber security. They will be composed of issue experts and representatives from across the three layers of the DRI ecosystem and provide advice to the staff of the organization on the delivery of infrastructure and services, including training of HQP. They may also play a role in strategic and operational planning as well as foresight planning. These advisory committees will be essential to the integration and coordination of infrastructure and services across the DRI ecosystem.

Other ad hoc, operational working groups could be established to provide advice in cases in which issues cut across pillars or as new issues emerge.

Other DRI Players and Stakeholders

In addition to researchers from across all academic disciplines, the organization will need to collaborate and engage with a broad list of key stakeholders and DRI players from across and within the three layers - local, provincial/regional, and national - of the overall DRI ecosystem. This list will include, but not be limited to:

Local

There are a number of offices and individuals across the institutional layer of the DRI ecosystem that will need to be engaged. They include:

- Vice-Presidents of Research, research office staff and research ethics boards;
- Chief Librarians, Data and RDM Librarians;
- ARC National Host Sites (Béluga, Niagara, Graham, Cedar, and Arbutus); and,
- Chief Information Officers and IT staff.

Provincial/Regional

There are a number of key stakeholders and DRI players from the provincial/regional layer of the DRI ecosystem that will need to be engaged. The engagement of the regional groups or organizations may also be facilitated through their partner organizations in the national layer (e.g. CARL, CANARIE, etc.)

The provincial/regional players include but are not limited to:

- Regional ARC-serving organizations (i.e. ACENET, Calcul Quebec, Compute Ontario, and WestGrid);
- Provincial Research Funding Agencies/Ministries (e.g. Ontario Ministry of Research and Innovation, les Fonds de recherche du Québec, le Ministère de l'Économie, de la Science et de l'Innovation du Québec, Nova Scotia Research & Innovation Trust, Innovate NL, New Brunswick Innovation Foundation, BC Knowledge Development Fund, Alberta Economic Development & Trade, Innovation Saskatchewan, and Research Manitoba);
- Regional Research and Education Networks (i.e., ACORN-NL [Newfoundland], ACORN-NS [Nova Scotia], Aurora College [Northwest Territories]; BCNet [British Columbia], Cybera [Alberta], MRnet [Manitoba], NB Advanced Network [New Brunswick], PEI Advanced Network [Prince Edward Island] ORION [Ontario], RISQ [Quebec], SRnet [Saskatchewan], and Yukon College [Yukon]); and,
- Provincial and Regional Library Organizations (e.g. Council of Prairie and Pacific University Libraries (COPPUL), Ontario Council of University Libraries (OCUL), Bureau de coopération interuniversitaire (BCI), and the Council of Atlantic University Libraries (CAUL))

National Layer

There are a number of key stakeholders and DRI players across the national layer of the DRI ecosystem that the new organization will need to engage and/or consult with in the planning for delivery of its programs and services. These include;

- Alliance of Canadian Comprehensive Research Universities (ACCRU)
- Canada Foundation for Innovation
- Canadian Association of Graduate Students (CAGS)

- Canadian Association of Research Administrators (CARA)
- Canadian Association of Research Ethics Boards (CAREB)
- Canadian Association of Research Libraries (CARL)/Portage
- Canadian Federation for the Humanities and Social Sciences (CFHSS)
- Canadian Research Knowledge Network (CRKN)
- Canadian University Council of Chief Information Officers (CUCCIO)
- CANARIE/Research Data Canada (RDC)
- CASRAI
- Compute Canada
- Federal Research Funding Agencies
- National Research Council
- U15
- Universities Canada

In addition, the organization will need to consider the most appropriate way of engaging with colleges, cégeps, polytechniques, research hospitals, and industry.