REQUIREMENTS FOR THE FULL RESPONSE TO THE RFP

All applications must include the following elements:

1. Program Application Form

2. Completed proposal that contains the following sections:
    a. Executive Summary
    b. Implementation
    c. Collaboration and Engagement
    d. Governance and Management

3. Appendices
    a. An outline of engagement activities over the next 2 years (until approximately March 2021)
    b. Organizational chart for the governance structure
    c. Competency matrix for the planned Board of Directors, if available
    d. Resumes and biographies for all listed applicants on the Application Form
    e. Letters of Support

Please note:

The appendices provide further details on several sections and still under development and/or require clarification from ISED. They will be posted as part of the complete proposal package on Monday, May 6.

We thank the community for comments received to date. We are processing through the comments on sections A), B) and C) and will be incorporating themes as best as possible before final proposal to ISED due on Monday, May 6.

Section A) Executive Summary

Building on the stakeholder-led consultation process in place over the past 4 years, this proposal is for the creation of an organization to coordinate funding and strategic directions for national activities related to the Advanced Research Computing (ARC), Data Management (DM), and Research Software (RS) components of Canada's DRI ecosystem to enable better DRI access and outcomes for Canadian researchers. It will establish a central hub for planning, coordination, integration and collaboration across these components and ensure decisions are driven by the national interest. A more predictable and cost effective DRI funding environment will be enabled by the development and implementation of a strategic plan for future DRI investments. It will also work with the federal government and other players in the DRI ecosystem to ensure that its funding strategy meets the principles of the DRI contribution program. DRI investments will be safeguarded through a focus on the retention of highly qualified personnel (HQP) and strengthening cyber security.

The new organization will be responsible to ensure integration and interoperability across the three component as well as with the regional/provincial and local delivery layers and with other national DRI organizations such as CANARIE.

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.

Providing a vibrant DRI ecosystem that enables researchers to access the digital research services they need to help build and sustain Canada's social and economic prosperity for future generations will be the goal of the new organization.

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 to inform the national DRI activities related to ARC, DM, RS, cyber security, and HQP going forward. 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 the continued availability and evolution of national DRI services, infrastructure oversight and funding, and the retention of HQP across the country will be a priority. A phased and collaborative approach will be taken to building and executing a plan that is appropriate for and cognizant of the needs of all stakeholders.

Implementation Goals*
The organization's implementation goals for its first 2 years of operations will be:
- incorporate and establish the new organization based on a culture of service and engagement;
- develop a "start-up" operational plan for the first 2 years of activities;
- establish and begin a strategic planning process including a researcher priority needs engagement process;
- develop an operational plan for years 3 through 5 of the organization
- refine the strategic plan and develop an investment framework
- transition and evolve national services, oversight and funding of national ARC, RS and DM activities with a focus on the retention of HQP; and
- develop a set of performance indicators

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

Planned implementation activities for the first 2 years include:

Year 1 Activities

1. *Incorporation of the organization as a not-for-profit corporation*, an applicant Board is needed undertake the incorporation activities including undertaking additional consultations with the DRI ecosystem to confirm a number of details required to incorporate the organization and establish the inaugural board (e.g. definition of members, the processes for becoming a member, composition of inaugural Board, process to select Board members, etc.). The inaugural board will then assume responsibility for the recruitment of a CEO through an open and transparent process. The new CEO, with Board guidance, 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. This operational plan will articulate the priorities for the organization's first 2 years of start-up activities. As the organization evolves through its start up phase the operational plan be modified as required.

3. *A strategic planning process* will be launched to develop a 5 year strategic plan for the organization. This plan will be built through broad stakeholder engagement and include the 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 first step in the strategic planning process and essential to informing the organization's strategic directions and operational work plan. The approach taken must engage researchers across disciplines to identify and validate the priorities for the national layer of ARC, DM, RS, and cyber security. It will also benchmark against other jurisdictions.

4. *A plan to transition and evolve existing national layer infrastructure and services and to retain the 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 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. Guided by the strategic plan, the operational plan will articulate and prioritize key organizational activities based on considerations such as importance of activity, risk, timing, and ease of delivery. A set of initial performance indicators

to measure DRI program and service impact on and benefit to Canadian researchers will also be developed.

6. *Refinement and completion of the strategic plan*. As the new organization grows and matures the strategic plan will need to be refined, especially in its early years of operation. It is expected that priorities will start to stabilize in year 2.

7. *An investment framework* will be developed as a component of the strategic and operational plans. The framework will be informed by the researcher needs assessment process and the strategic priorities. 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, institutional funders and others.

8. *Key national infrastructure and services from existing national service providers and organizations* will begin to be integrated with the organization based on the transition plan articulated in year 1. The successful retention of HQP will be a critical component of this process.

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 three DRI pillars overseen by this organization. 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, DRI partners and stakeholders 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 inform 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 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.

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. A non-exhaustive list is provided below.

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:

   a) Vice-Presidents of Research, research office staff and research ethics boards;
   b) Chief Librarians, Data and RDM Librarians;
   c) ARC National Host Sites (i.e. Béluga, Graham, Niagara, Cedar, and Arbutus); and,
   d) 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 provincial/regional players include but are not limited to:

   1) Regional ARC-serving organizations (i.e. ACENET, Calcul Quebec, Compute Ontario, and WestGrid);
   2) Provincial Research Funding Agencies/Ministries (e.g.Ontario Ministry of Economic Development, Job Creation and Trade (MEDJCT), les Fonds de recherche du Québec, le Ministère de l'Économie, de la Science et de l'Innovation du Québec, Research Nova Scotia, Innovate NL, New Brunswick Innovation Foundation, BC

Knowledge Development Fund, Alberta Economic Development & Trade, Innovation Saskatchewan, and Research Manitoba); and

3) 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]).

4) 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))

The engagement of the regional groups or organizations may be facilitated through their partner organizations in the national layer e.g. CARL, CANARIE.

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 in the planning for or delivery of its programs and services. These include;

a) Alliance of Canadian Comprehensive Research Universities (ACCRU)
b) Canada Foundation for Innovation
c) Canadian Association of Graduate Students (CAGS)
d) Canadian Association of Research Administrators (CARA)
e) Canadian Association of Research Ethics Boards (CAREB)
f) Canadian Association of Research Libraries (CARL)/Portage
g) Canadian Federation for the Humanities and Social Sciences (CFHSS)
h) Canadian Research Knowledge Network (CRKN)
i) Canadian University Council of Chief Information Officers (CUCCIO)
j) CANARIE/Research Data Canada (RDC)
k) CASRAI
l) Compute Canada
m) Federal Research Funding Agencies
n) National Research Council
o) U15
p) Universities Canada

In addition, the organization will need to consider the most appropriate way of engaging with discipline specific research associations (e.g. CASCA), colleges, cégeps, polytechniques, research hospitals, and industry.

Section D) Governance and Management

D1. Governance

Community feedback on the governance model was solicited. The input received supported an open model of governance with different levels of membership with the view that researchers must be represented strongly in the governance of the organization shared broadly by all those who responded. There was also agreement that voting privileges should be retained by the research community, with some representation from other DRI stakeholders, as appropriate. This proposal provides the broad principles and framework upon which the final governance model will be built pending require further discussions with the community.

Board Competencies

The Board will need seasoned Directors with the right mix of skills and experience. Directors will need to have a deep knowledge of the community that the organization serves. In addition Board members should have the following broad competencies among their members: understanding of research; Board governance and oversight experience; strategic planning; business and risk management and an ability to drive strategy to execution. A more detailed Board skills and competency matrix will be developed as part of the next phase.

Board Composition

Given the scope of the new organization's mandate across three DRI components and its need to coordinate across a highly diverse stakeholder environment, it will be critical to ensure that the Board of the new organization represents this diversity.

Care will need to be taken to ensure that the composition of the Board represents the above broad competencies as well as identified skills that represent the diversity of the national research enterprise. This includes: geography, discipline, diversity between established and emerging researchers, and equity, diversity and inclusion (EDI) considerations.

The inaugural Board for the new organization will be a maximum of [15] directors with its composition reflecting the diversity of the membership and the communities it serves. A critical component of the Board will be researcher representation. It is recommended that at least 2 members of the User Council be appointed as Directors to ensure that there is a strong researcher voice on the Board and to reinforce the strong relationship that needs to exist between the Board and the User Council. The Board composition must also enable it to benefit from expertise external to the university/DRI community. As such the Board may include external Directors. It may also leverage external expertise by appointing external experts to its committees as advisors or observers.

Committees

In addition to key governance committees such as a Finance/Audit, Governance, etc., respondents indicated that there should be two additional committees related to the Board:

User Council

A User Council composed of a broad range of researchers will be established to provide advice and recommendations to the Board on matters related to the services provided by the organization to researchers. The User Council would work closely with staff to ensure that the services and recommendations that they are making to the Board are financially viable and reflect the needs of the broad research community. The members of the User Council (i.e. researchers) would be nominated and elected by the voting members (to be defined in incorporation phase)

Investment Committee

Funding from the federal government would be governed by a funding (i.e. contribution) agreement between the new organization and the federal government. An Investment Committee of the Board would be established. Based on analysis and advice developed by staff, this Committee would make recommendations to the Board for the allocation of funding toward the various components of the ecosystem for which the new organization is responsible on an annual basis.

Diversity, Equity and Inclusion

Diversity will be considered in all aspects of the organization's operations, including but not limited to the composition of the Board, internal and external committees, and selection of candidates for leadership positions. The new organization will also need to ensure the Board represents the breadth and depth of its stakeholder community. The organization commits to achieving a gender and geographically diverse, equitable, accessible, and inclusive environment and will develop and implement policies that actively cultivate an institutional culture that values, supports, and promotes equity, human rights, respect, and accountability among all who work for or interact with the organization. Further, the organization will encourage and support individual and collaborative efforts to identify and address inequities, and will welcome and enable contributions of all voices as we engage with diverse ideas, knowledge, and perspectives in the pursuit of inclusive excellence for the public good.

Conflict of Interest

The Board will ensure that rigorous Conflict of Interest and Code of Conduct policies are in place. Individuals and organizations working with, for, or through the organization will be required to formally declare any conflict of interest before being involved in any decisions related to the organization from which they or the organizations they represent could materially benefit. Candidates for membership on the Board, or any part of the organization's governance structure, would be required to formally declare they have no conflict of interest during the selection process. If a conflict of interest is declared, its existence and nature may preclude these individuals or organizations from participation on organizational governance bodies.

Improvement of the Status Quo

Responsibility for delivering Canada's DRI ecosystem is highly distributed, involving a patchwork of actors across multiple delivery layers with no current formal structures for coordination or integration of planning and services among them. Having a national organization that provides critical strategic and operational leadership across the three DRI components, as well strong coordination with other national, regional and local providers, will improve the overall capacity of the DRI ecosystem to plan and deliver infrastructure and services to researchers. Specifically it will:

- help to ensure that all researchers across Canada have access to DRI services and platforms, regardless of their discipline, geographical location, or the size of their institution;
- enable collaborative and efficient development of the services and supporting policies, standards, protocols, processes, and procedures essential to supporting researchers in their work;
- build a collaborative culture that engages researchers and research administrators across Canada, creating awareness of and support for research best practices and facilitates access to and adoption of DRI;
- ensure that DRI tools and platforms, such as data repositories, archival storage, research software and ARC services are interoperable across Canada and internationally, facilitating reuse, access, and sharing, rather than creating barriers and siloes;
- ensure appropriate practices (e.g. peer reviewed, assessment of scientific merit, etc.) are employed to ensure appropriate allocation of resources;
- facilitate consistency of practice and approach to ARC, DM, and RS services across Canada by supporting strong communities of practice, access to networks of experts, and shared training, all of which support the development of HQP; and,
- leverage expertise and shared investment across research organizations, government, and other funders, increasing quality, impact, and financial efficiency.

D2. Leadership and management capabilities

Steering Group

The three signatories to the proposal are members of a small Steering Group brought together to lead the development of this proposal based on the following guiding principles:
- to bring forward a proposal built on the previous efforts in the community; and to,
- ensure the process allowed for additional input and comment from the community.

This group will remain in place during the evaluation process to:
- respond to any questions from and attend any required meetings with ISED;

- continue to respond to questions from and keep the community informed of the process;
- ensure an Applicant Board is in place to incorporate the required not-for-profit corporation; and,
- assist the Applicant Board in executing the required initial implementation activities.

Applicant Board

The Applicant Board will consist of three individuals with the appropriate background and skills to:

- engage in consultation with the community on the details left undetermined in the proposal and required to incorporate (i.e. definition of membership);
- undertake the legal steps to incorporate the new not-for-profit corporation;
- ensure appropriate communications with the community as the new organization takes shape;
- put in place the full inaugural board; and
- engage in initial contribution agreement discussions with ISED.

The Applicant Board will be supported in its work by topic area expertise (e.g. legal, communications, project management) and will be informed by an advisory group of functional area experts (i.e. Data, ARC and RS). The advisory group will also need to represent the breadth of research as well as the breadth of the country.

Leadership and Management Capabilities

The executive functions of the new organization will be undertaken by a President and Chief Executive Officer (CEO) with direction from the Board. Staff will be responsible for strategic and operational planning; policy development and research; oversight of all operations related to the delivery of national DRI infrastructure and services for advanced research computing, data management and research software; community engagement; communications; financial management and reporting; procurement; and other functions as may be appropriate.

To ensure that the organization is set-up for success in serving Canada's academic community, the senior team will require a strong culture of service to and engagement with researchers as well as collaboration with key stakeholders at all levels to ensure integration and alignment with other national (i.e. CANARIE), regional/provincial and local delivery layers. The senior team will also have as a core responsibility the integration of all infrastructure and services across the three DRI pillars within the organization.

To support the work of the senior team, advisory groups will be formed as necessary to leverage expertise from relevant stakeholders in the community, such as advisory groups on data management, advanced research computing and research software.

D3. Membership model

A two category/level membership model is generally agreed on by the community however additional work will be need to be undertaken by the Applicant Board (see above) to finalize the definitions of the two categories of members, determine fee structures and recruit members.