2023-24 Corporate Plan

Accelerating Discovery

Funded by the Government of Canada

Canada

Digital Research Alliance of Canada | Alliance de recherche numérique du Canada

Table of Contents

Our vision

To catalyze world-class Canadian research for the benefit of all.

Our mission

As a trusted and inclusive partner, the Digital Research Alliance of Canada fosters national and global collaboration to provide researcher-centric, sustainable, and integrated digital research infrastructure.

Our values

HEARTFELT HUMILITY
We cultivate safe spaces through mutual recognition and respect.

FEARLESS ENGAGEMENT
We seek out new perspectives and celebrate alternate viewpoints.

UNWAVERING HONESTY
We act with integrity.

STEADFAST ACCOUNTABILITY
We honour our commitments and outcomes.

AUTHENTIC COLLABORATION
We build dynamic relationships.

Guiding principles

To ensure we meet the long-term DRI needs of Canada and to help deliver against our mission, we are guided by six principles:
RESEARCHER-CENTRIC
STRIVING FOR EXCELLENCE
COLLABORATIVE
SERVICE-ORIENTED
ACCOUNTABLE AND TRANSPARENT
DIVERSE AND INCLUSIVE

Letter from the CEO

On behalf of the Digital Research Alliance of Canada, it is my pleasure to present the 2023-24 Corporate Plan.

This plan focuses on key objectives and activities for the fiscal year in the areas of funding, infrastructure, research support, technical services and national ecosystem engagement. As we embark on the second year of our 2022-25 Strategic Plan, we will implement a new service model, funding model and multi-year funding proposal with funders, partners and stakeholders.

Together with our ecosystem partners, we will continue to work towards a pan-Canadian ecosystem that is rooted in our shared vision of researcher-focused, strategic and sustainable digital research infrastructure.

This work is made possible through the support and leadership of our funder, the Government of Canada. We look forward to supporting researchers and accelerating discovery in the year ahead.

George Ross
Chief Executive Officer
Digital Research Alliance of Canada

Introduction

The Digital Research Alliance of Canada (the Alliance) advances the national Digital Research Infrastructure (DRI) Strategy of the Government of Canada by ensuring that Canadian researchers have access to the cutting-edge digital tools and services they need to engage in fundamental and applied scholarship. In this regard, the Alliance coordinates and delivers national services in advanced research computing (ARC), research data management (RDM) and research software (RS), while also funding DRI activities that promote innovation and expand the network of support and resources that are available to academic and research communities.

Working closely with its DRI partners, the Alliance will devote 2023-24 to building a pan-Canadian ecosystem that is rooted in a shared vision of a researcher-focused, strategic and sustainable DRI. Specifically, the Alliance will:

- Administer funding on behalf of the federal government which includes harmonization of DRI program requirements and expanding eligible costs to reflect essential provincial and local investments in DRI.
- Renew aging compute infrastructure to ensure continuation of service provision.
- Expand the network of support for the research community to leverage a unified approach to service provision that engages assets from across the country.
- Establish technical services that can be utilized by all users and benefit from economies of scale (login and access management, cybersecurity policies and practices).
- Convene the national ecosystem to develop standards, improve consistency of service delivery and develop coordinated national strategies that align federal, provincial and institutional priorities to a unified vision and action plan.

2022-23 Outputs and Outcomes

The following table outlines the outputs and outcomes of the Alliance's activities for the period April 1, 2022, to December 31, 2022, as set out in the Performance, Evaluation, Risk and Audit Framework. Results for the full year will be presented in the 2022-23 Annual Report.

Output(s)/Outcome(s)	Strategic Themes		Q3 Status
Increased technological capacity in the DRI ecosystem	**Advanced Research Computing**		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Invest in additional traditional and cloud computing and storage resources, and develop a sustainable financial plan for its maintenance and continual renewal.	Increased computing capacity.	N/A, annual indicator
		Increased cloud capacity.	N/A, annual indicator
		Increased active storage capacity.	N/A, annual indicator
		Maintain number of ARC machines in the top 250 globally.	**Target:** 3 ARC systems in the top 250. **Result:** 3 systems in the top 250.
	Research Data Management		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Develop and support infrastructure capacity for long-term storage, data curation and data preservation.	Increased long-term and archival storage capacity.	**Target:** 60.2 TB of data deposited in FRDR. **Result:** 104 TB of data deposited in FRDR.
	Address inefficiencies in active storage usage (e.g., redundant data, data duplication, tier usage) to improve storage availability and capacity.	More efficient use of existing infrastructure.	N/A, annual indicator
	Research Data Management and Research Software		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Expand and support the use of specialized research platforms in Canada.	Increased number of data sets available to Canadian researchers through nationally-accessible platforms.	**Target:** 151 datasets deposited in FRDR **Result:** 364 datasets deposited in FRDR.
		Increased number of research software tools and platforms developed and reused.	N/A, annual indicator
	Training and Development		

Canada's researchers have improved skills	**Strategic Plan Objective**	**Performance Indicator(s)**	
	Establish a system for the ongoing DRI training and education of researchers and professional support personnel within Canada.	More training provided to more researchers.	N/A, annual indicator
	Provide research segment-specific support and training (e.g., by discipline, demographic) to help researchers with their unique technical needs.	More specialized training and support to researchers from different disciplines.	N/A, annual indicator
DRI resources are safeguarded	**National DRI**		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Develop a cybersecurity upskilling program for researchers and higher education institutions, especially small institutions that lack resources in cybersecurity.	Address Cybersecurity Medium-Term Action Plan feedback.	**Result:** Feedback addressed.
		Develop a Cybersecurity Long-Term Action Plan.	**Result:** Plan developed.
Increased awareness of the Alliance and national ARC, RS and RDM platforms and tools	**Equity, Diversity, Inclusion and Accessibility**		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Develop outreach programs and solutions to promote equitable access to and awareness of the Alliance's tools and services, regardless of geography, discipline or institutional affiliation.	Number and type of participants aware of and using the Alliance service and support offerings (disaggregated by discipline/type of researcher).	N/A, annual indicator
		Increased awareness of the vision, mission and operations of the new non-profit corporation among partners, stakeholders and Canadians.	N/A, annual indicator
DRI funding is leveraged by other investments to provide greater value for money	**National Service Delivery Model and Funding Model**		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Clearly define the scope of services that will be delivered between the Alliance and its partners for customized service delivery at each level.	Reduced redundancy in the delivery of DRI services.	N/A, annual indicator
	Establish a DRI service classification model that can differentiate services between National, Regional and Local to identify responsibility of funding and service delivery.	Layered service delivery model.	N/A, annual indicator
	Define the responsibilities of partners at the National, Regional and Local levels to	More integrated and accountable service	N/A, annual indicator

	ensure alignment with the funding allocation principles	delivery within the DRI ecosystem.	
	Develop formal funding processes and agreements between federal and provincial funders for national, regional and local services.	Layered funding delivery model.	N/A, annual indicator
	Develop a revenue generation plan to ensure long-term sustainable funding.	Increased proportion of operational and administrative costs covered by memberships and investments.	N/A, annual indicator
The Alliance is established as a major player in the national DRI landscapes	**National and International Engagement**		
	Strategic Plan Objective	**Performance Indicator(s)**	
	Develop a portfolio of recommended partnerships and create a model and associated framework for selection and assessment of partner performance to maximize the DRI service offering across the ecosystem.	Further integration of the DRI ecosystem in Canada.	N/A, annual indicator
	Establish national and international relationships and partnerships to develop the Alliance's reputation as a key leader partner and connector in the global DRI ecosystem.	Rank among OECD nations on the citation score of science research publications.	N/A, annual indicator
		**This is a Higher Education Sector Science and Research Program PIP indicator as well as ISED DRF indicator.*	
		Canada as a leader in the global DRI.	N/A, annual indicator
		Further integration of the DRI ecosystem in Canada.	N/A, annual indicator
	Improve alignment and integration of practices, standards and policies, in collaboration with the Tri-Agency, and other national and provincial research funders.	Support researchers for their faster and wider adoption of the Tri-Agency RDM Policy.	**Target:** 10,358 data management plans created in accordance with Tri-Agency requirements and 15,435 cumulative active users. **Result:** 10,192 data management plans and 15,040 cumulative active users.

2022-23 Success and Remaining Challenges

The following table outlines the progress accomplished against critical milestones defined in the Alliance's 2022-23 Contribution Agreement with Innovation, Science and Economic Development Canada (ISED).

Milestones 2022-23	Status
Launch of Researcher Needs Assessment Summary and Current State Assessment Reports • The Current State of Research Data Management in Canada • The Current State of Research Software in Canada • The Current State of Advanced Research Computing in Canada • Researcher Needs Assessment: Summary of what we heard	Completed: Prior to March 2022
Cybersecurity Framework	Development and approval of the Medium- and Long-term Cybersecurity Action Plan: March 2022 Ongoing implementation of defined framework
Transition Milestone #2: ISED ARC Expansion Program Funding ends, and the Alliance assumes leadership for funding ARC infrastructure	Completed: March 2022
Transition Milestone #3: Canada Foundation for Innovation Major Science Initiative Funding (Operations) ends, and the Alliance assumes leadership for funding ARC operations	Completed: March 2022
Transition Milestone #4: Data Management (DM) and Research Software (RS) Funding from CANARIE ends and the Alliance assumes full leadership of DM and RS	Completed: March 2022
Submission of a New Service Delivery and Funding Models to ISED	Completed: September 2022
National Service Delivery and Funding Model (NSDM) Implementation Plan	In Progress: March 2023
Annual Report for the period 2021-2022	Published: August 2022
Submission of a Multi-Year Funding Proposal for 2023-25 to ISED	Completed: September 2022
Annual General Meeting	Held: September 2022
Quarterly Progress Report (KPIs and financial)	Submitted to ISED: August 2022, November 2022, February 2023
Corporate Plan for the period 2023-24	Submitted to ISED: January 2023

The following table, organized by strategic theme, describes the progress accomplished against the main objectives outlined in the 2022-23 Corporate Plan, as well as the remaining challenges.

Advanced Research Computing			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
1. Design and implement risk mitigation measures to prevent service disruption for ARC services.	• Funded critical maintenance at three host sites.	-	• Develop a risk mitigation plan to address key services and operations across the ARC National Platforms.
2. Develop a national strategy for the use and support of cloud services.	• Drafted a national strategy for the use of cloud services.	• Investigated, documented and validated research use cases and costs for commercial cloud, vs community cloud, vs traditional ARC services.	• Revise the national strategy after consultation with the Researcher Council.
3. Invest in additional traditional and cloud computing and storage resources, and develop a sustainable financial plan for its maintenance and continual renewal.	• Evaluated the demand of traditional and cloud computing resources and existing research infrastructure assets. • Developed a proposal for multi-year investments in research infrastructure including high performance computing and storage resources with sustainability plans built in.	• Contingent on the approval of the proposal, collaborate with the host sites to launch the procurement process.	-
Equity, Diversity, Inclusion and Accessibility			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
4. Establish guidelines, policies, practices and metrics to ensure compliance with the Alliance's foundational EDIA principles in all decisions and activities.	• Formed a working group that focuses on establishing guidelines and metrics. • Developed EDIA benchmarks for continuous evaluation of service provision to different research segments.	-	• Develop a plan of activities to increase awareness and alignment of foundational EDIA principles.
National DRI			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
5. Improve the current RAC process for DRI resources to better meet the needs of researchers.	• Launched RAC 2023, which includes changes to address key operational issues based	-	-

	on previously conducted analysis.		
6. Review the current risks of the existing user database from Compute Canada.	-	-	• Identify the current risks and enhancement opportunities within the system and develop a plan to implement enhancements.
7. Improve the security and protection of DRI systems and services.	• Completed the Vulnerability Management Project. • Offered Cybersecurity Training and Awareness workshops and resources for the Alliance and the Federation.	-	• Implement Multi-Factor Authorization across all users in the Federation.
National Service Delivery Model and Funding Model			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
8. Establish a service classification model to identify the scope of services at each layer (national, regional and local) along with the responsibility and funding requirements and effective service delivery.	• Developed a service classification framework to determine DRI service offerings. • Developed an evidence-based cost eligibility framework for cost matching of ARC, RDM and RS activities within DRI. • Developed a funding model that informs how investments in service delivery are shared across funders.	• Develop Service Level Agreements with each service provider funded by the Alliance.	-
9. Promote access to and awareness of DRI tools and services.	• Leveraged user experience best practices in the design of services and workflows.	-	• Develop and launch a DRI service catalogue. • Create awareness campaigns to increase use of national DRI services.
10. Develop formal funding processes and agreements between federal and provincial funders for national, regional and local services.	• Through the 2023-25 Multi-Year Funding Proposal, created a harmonized approach to funding both capital expenditures and operating expenditures. • Working with ecosystem partners, developed a plan to implement the interim service delivery model and funding model.	• Further define roles and responsibilities across different service layers in the ecosystem.	• Engage with ecosystem partners to plan the next stages of the service delivery model and funding model. • Partner for long-term investment into DRI from provincial governments and institutional funders.
11. Develop a portfolio of partnerships and create a model for selection and assessment of partner	• Developed an initial set of partnership agreements and memberships with	• Working with DRI ecosystem partners, complete the design of a new decision and	-

performance to maximize the DRI service offering across the ecosystem.	international organizations that will be foundational as we further build a portfolio of partnership opportunities.	information workflow model across the DRI ecosystem. • Formalize an Investment Governance Framework to co-decide, co-prioritize and co-approve future DRI investments.	
Research Data Management			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
12. Develop programs to support the adoption of best practices for RDM throughout the research lifecycle.	• Data Champions program was completed. • FRDR Sensitive Data Pilot Project was launched. • Discovery Service was redesigned to improve the user experience.	• Launch of the new redesigned Discovery Service (Lunaris).	-
Research Software			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
13. Develop programs to support the adoption of best practices for RS management.	• Promoted the application of FAIR4RS principles in RS-related engagements.	• Contingent on the approval of the proposal, prepare the launch of a RS funding call.	-
Self-determination and data sovereignty for Indigenous Peoples in Canada			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
14. Introduce measures supporting Indigenous data sovereignty and advance access and use of DRI.	• Provided access to OCAP® training for Alliance employees, Board members and Researcher Council members. The training is now embedded in orientation of new hires. • Developed a plan for engagement to ensure appropriate identification and understanding of First Nations, Métis and Inuit researcher priorities.	• Ongoing work to advance access and use of DRI for Indigenous Peoples in Canada across all programs delivered by the Alliance.	-
The Alliance's Transition into DRI			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
15. Develop, communicate and execute the Alliance's transition into the role of a DRI service provider, service coordinator and	• Communicated updates and changes to the impacted stakeholders as the transition progressed. • Developed processes and procedures internally	-	• Assess the current structure of ARC, RS and RDM groups, teams and committees to align towards a DRI focus.

investor in DRI, including the responsibilities held by Compute Canada and the Federation.	to support the Alliance's role as an investor in DRI.		
Training and Development			
	Accomplished to date in 2022-23	**To be completed in 2022-23**	**To be completed beyond 2022-23**
16. Develop a unified DRI training platform and programming in partnership with regional organizations to promote the programs and tools available to researchers across Canada.	• Working with national and regional training providers, compiled a list of training requirements for researchers across Canada. • An approach for the development of a national DRI training platform was submitted with the Multi-Year Funding Proposal.	-	-

2023-24 Planned Activities

In addition to the activities being carried over from the previous year, the Alliance plans to advance several initiatives that address critical needs, service provision and upskilling. These initiatives are presented below by strategic theme.

Advanced Research Computing

Renewal of Aging ARC/HPC Infrastructure

Current compute capacity only covers 50% of CPU and 25% GPU of Canadian researchers' annual requests. The Alliance will replace node-for-node compute resources and a capacity replacement for storage on the four national High Performance Computing (HPC) systems nearing end-of-life. Each Host Site will undertake a competitive procurement process for their respective funding envelope. In this way, the overall ARC capacity will keep pace with the estimated growth of researchers' annual requests.

Renewal of Aging Cloud Infrastructure

Expiring community cloud compute, storage and network equipment need to be replaced to maintain current levels of service and avoid unrecoverable loss of highly valuable research data due to aging systems and cybersecurity threats.

Data Centre Capacity Upgrade

The electrical capacity of the data centre hosting the national systems Béluga, Béluga-cloud and Narval is now nearly maxed out, limiting Calcul Québec's ability to accept additional systems. The Alliance will support the expansion of the electrical capacity to 5.0MW, including the installation and connection of an additional transformer, switchboard and cooling units, among others.

Supporting Researchers Using Quantum Computers

Quantum computing is a priority for our regional partner organizations. The Alliance will support them in increasing the access and use of Canadian researchers who want to test and apply quantum technologies. Staff will be onboarded at participating institutions to assist researchers in framing research problems and developing quantum-enabled RS, and to provide overall assistance to researchers who are innovating on quantum devices.

Equity, Diversity, Inclusion and Accessibility

The Alliance has established a framework that promotes and advances Equity, Diversity, Inclusion and Accessibility (EDIA) within the organization. As it moves forward, it will continue to align learning, processes and practices to its EDIA framework.

The Alliance incorporates an EDIA outlook into its stakeholder and community interactions to reach across the DRI ecosystem. The goal is to provide equitable access to the resources, tools and services that the Alliance provides to the diverse researchers and organizations it services.

Service and Funding Model

Funding Model

The Alliance has developed an interim funding model that reflects the shared responsibility of funding DRI activities and services–between the federal government, provinces and institutions. Under this co-funding model, the Alliance acknowledges the expectations for a clear and accountable governance structure that ensures that regional and institutional priorities are reflected in any initiatives that require co-funding. This will be a priority for the Alliance for the 2023-24 period.

Service Model

Better integration among new and existing DRI services and infrastructure is also a priority for the next year. The Alliance will collaborate with service delivery partners and establish clear roles and responsibilities, avoiding overlap as much as possible. In this way, the Alliance aims to facilitate researchers' timely access to the tools they need to conduct their work. This will require the adoption of shared standards, schemas and certifications for trusted interoperability.

National and International Engagement

National

The Alliance maintains three types of relations at the national level. First, with CANARIE, the Alliance's partner in the DRI ecosystem with which it does joint planning and reporting to ISED. Second, with other funding agencies, mainly the Canada Foundation for Innovation (CFI), the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Social Sciences and Humanities Research Council of Canada (SSHRC), Genome Canada and the Canadian Institute for Advanced Research, to harmonize funding programs and to partner

in joint initiatives, such as the Pan-Canadian AI Compute Environment, the Pan-Canadian Human Genome Library and CFI contributed systems. Third, with other national organizations working on joint initiatives and participating in working groups on topics of mutual interest, including the AI institutes, National Research Council Canada, Statistics Canada, Canadian Research Data Centre Network (CRDCN), Canadian Research Knowledge Network (CRKN) and the Business Development Bank of Canada (BDC).

International

Engaging with international organizations is key to the success of the Alliance, and by extension Canada, in the DRI ecosystem. Developing international partnerships positions the Alliance as a leader on the global stage, facilitates the adoption of best practices on multiple levels, and enables the integration of national and international processes and requirements into service offerings. The Alliance has developed key international partnerships in all three DRI areas with organizations including the Research Data Alliance, World Data System, Research Software Alliance, CSC in Finland and the San Diego Supercomputing Center. The focus will be on reviewing progress, refining some partnerships with focused initiatives and developing new partnerships that will directly benefit Canadian researchers. With these as a foundational framework of international collaboration, the Alliance will develop a long-term International Relations Strategy, along with key deliverables for the remainder of the current mandate.

National DRI

Cybersecurity

Canadian researchers depend on critical infrastructure functioning reliably; cybersecurity threats can impact a researcher's ability to innovate. To gain and maintain effective work, a strong cybersecurity strategy, with layered security controls for technology, processes and people to detect, prevent and respond to cybersecurity events, is required. The Alliance will hire additional staff to support the development and delivery of the Cybersecurity Roadmap and Program.

Research Data Management

Stabilization and Growth of the DMP Assistant

The DMP Assistant is an essential tool to assist researchers in preparing data management plans (DMPs) and fulfilling RDM requirements for Tri-Agency funding. The Alliance will provide extensions to the DMP Assistant to support machine-actionability and linkages, an improved user experience and interface, and explore its migration into Alliance infrastructure. These improvements will support the transition of the service to national infrastructure thereby making the platform more stable, secure and scalable.

Expansion of Lunaris

The Alliance will hire two new staff for the RDM service team to expand the service of Lunaris, the national platform that indexes datasets from over 100 Canadian repositories, offering both text- and map-based search to over 75,000 datasets. Additional discovery capabilities will also be enhanced to continue to de-silo data found in local and regional repositories and expand partnerships with other research organizations.

Sensitive Data Repository Pilot

The Sensitive Data Repository Project proposes to enhance the existing Federated Research Data Repository (FRDR) services to provide curation support, secure storage, discovery and controlled access to sensitive research data. The Alliance will achieve this through a collaboration among service providers, researchers and institutions aimed at aligning and co-developing service policies and institutional processes that optimize sensitive research data workflows. A major output in its initial phase will be the co-development of a Project Roadmap for implementing the new services designed to ensure they are used in compliance with relevant obligations, accompanied by appropriate service and institutional policies and processes, and supported by appropriate training and education. The technology and harmonized policies, processes and workflows will be available for adoption by other repositories and services, and will provide a common foundation upon which future sensitive data services may be built.

Research Software

The Alliance will work with its partners to develop a national RS strategy that addresses the pressing needs of this emerging DRI pillar. An Open Source Program Office (OSPO) to support RS activities will further advance this objective. The Alliance will also leverage new and existing partnerships to develop a strong RS community in Canada, such as contributing to the activities of the Research Software Alliance (ReSA), the International RS Funders Forum, as well as the creation of a Canadian Research Software Engineering (RSE) Chapter.

Self-determination and Data Sovereignty for Indigenous Peoples in Canada

The Alliance recognizes the unique rights and needs of Indigenous Peoples in Canada and that it has a role to play in DRI as it pertains to data sovereignty and supporting researchers. As a first step towards efforts of reconciliation with First Nations, Inuit and Métis, the Alliance has made training on the First Nations principles of Ownership,

Control, Access, and Possession (OCAP®) available to all Alliance employees, the Board of Directors and Researcher Council. These are only the first steps of a long journey of learning and collaboration towards engagement with Indigenous partners.

Training and Development

The Alliance will provide coordination, logistical support and strategic guidance to the training activities advanced in collaboration with the National Training Expert Group (NTEG) of the Research Data Management Network of Experts. In this regard, the Alliance will lead the development and implementation of processes for publishing and disseminating training materials to the Canadian DRI community. The Alliance will similarly support training sessions (English and French) in collaboration with its DRI partners.

2023-24 at a Glance

Advanced Research Computing				
	April-June	**July-September**	**October-December**	**January-March**
Renewal of Aging ARC/HPC Infrastructure	National Host Sites respond to the Call for Proposals. Evaluation of the proposals.	Award and execution of funding agreements. Beginning of the procurement process by the National Host Sites.	Completion of the procurement process by the National Host Sites.	Equipment delivery and installation for Cedar Phase 1, Graham, Niagara, and Béluga (continued in the subsequent year, planned completion by Nov 2024).
Renewal of Aging Cloud Infrastructure	National Host Sites respond to the Call for Proposals. Evaluation of the proposals.	Award and execution of funding agreements. Beginning of the procurement process by the National Host Sites.	Completion of the procurement process by the National Host Sites.	Equipment delivery and installation for Arbutus Cloud Phase 1, Cedar Cloud, and Graham Cloud (continued in the subsequent year, planned completion by Nov 2024).
Data Centre Capacity Upgrade	Project approval and design.	Competitive procurement and contract award.	Beginning of construction (continued in the subsequent year, planned completion by Oct 2024).	
Supporting Researchers using Quantum Computers	Work with QAI to finalize access agreements. Begin recruitment.	Beginning of initial LEAP and MonarQ training.	Complete recruitment. Offer access to LEAP.	Offer access to MonarQ.
Equity, Diversity, Inclusion and Accessibility				
	April-June	**July-September**	**October-December**	**January-March**
	Continued implementation of the Alliance's EDIA framework.			
Service and Funding Model				
	April-June	**July-September**	**October-December**	**January-March**
	Assessment of current models, challenges and opportunities. Design of proposed models.	Consultation with DRI service providers and funders. Submission to ISED.	-	-

National and International Engagement				
	April-June	**July-September**	**October-December**	**January-March**
National and International	Review of existing partnerships.	Develop new partnerships and focused initiatives with international partners.		
National DRI				
	April-June	**July-September**	**October-December**	**January-March**
Cybersecurity	Implement Training and Awareness Program.	Proof of concept for commercial SIEM options. Cyber Intelligence Platform and store for Threat Fusion process.		Complete the implementation of enterprise vulnerability scanning solution across National Host Sites. Completion of penetration testing.
Research Data Management				
	April-June	**July-September**	**October-December**	**January-March**
Stabilization and Growth of the DMP Assistant	Hiring and training of the Software Developer and DMP Specialist positions.	Complete development roadmap and feature prioritization with community consultation.	Investigation into infrastructure options and new platform host site identified.	Complete development of Work Package 1 (new platform features and increased capacity).
Expansion of Lunaris	Hiring and training of the Developer and UX Specialist.		Implement sustainable UX design plan, increase capacity for specialized disciplinary data, expand and improve existing metadata harvesting capabilities, increase inclusion of source repositories, establish a community of practice around Lunaris operations.	
Sensitive Data Repository Pilot	Co-development of project road map to outline institutional participation and project schedule, identification of deliverables, resources required to support the project, and barriers and opportunities.			
Research Software				
	April-June	**July-September**	**October-December**	**January-March**
	Draft of RS Strategy. Consultation and engagement on the RS Strategy.		Publication of the RS Strategy.	
Self-determination and Data Sovereignty for Indigenous Peoples in Canada				

	April-June	July-September	October-December	January-March
	Continued engagement with Indigenous partners.			
Training and Development				
	April-June	**July-September**	**October-December**	**January-March**
	Continued leadership in the development and implementation of processes for publishing and disseminating training materials to the Canadian DRI community. Continued support of training sessions (in English and French) in collaboration with DRI partners.			

Risk and Mitigation

Risk Assessment and Mitigation Strategies

The Alliance's management will regularly assess and record identified risks in a risk register upon any material change. The Audit and Investment Committee exists at the Board of Directors level and is responsible for helping to ensure that a financial risk assessment is performed regularly; the Human Resource (HR) committee reviews HR risk and the Governance Committee reviews governance risk. All committees report their assessments back to the Board. As the Board carries responsibility for overall risk (including security and reputational risk), the committee risk assessment reports and the risk register are reviewed at regular quarterly meetings.

The Alliance's management, in collaboration with the committees of the Board and the DRI community, has identified the following potential risks for the current and upcoming years:

Risk	Mitigation Strategy
Expectations and timing Initial projects delivery timelines may lag given the complexity of the subject matter, the aggressive schedule and limited resource availability. This could affect the Alliance's ability to fully meet community expectations. There is also a risk of fragmentation among the DRI community—including competing funding proposals and regional and discipline-specific approaches rather than a unified national approach—if the Alliance cannot meet expectations.	The Alliance has a fully articulated workplan and resource allocation, which was developed with the full engagement of the community. In balancing the needs of the workplan with project timelines, it has had to adjust its critical dates to meet its commitments to the community. To mitigate against unfulfilled expectations, the Alliance will provide concrete demonstrations of delivering capacity and services, including an agile approach with inaugural projects. For example, the Alliance is working towards removing disadvantages/barriers for under-represented groups, such as digital humanities, small institutions and Indigenous researchers, when drafting funding calls, as well as involving coordinating bodies such as the First National Information Governance Centre (FNIGC), with access to 10 regions and First Nations data specialists.
Continuity and quality of service The transition of ARC, RDM and RS to the Alliance combined with the continuity of current operations may be complex to execute without impacting quality of service. The transition to a production-type environment will require Service Level Agreements and KPIs (Key Performance Indicators) to assess performance. Current resources may not have the skills and/or experience to manage this transition. In addition, retention of Alliance DRI professionals may prove difficult the longer the transition takes.	The Alliance will utilize the researcher needs assessment publication, to align objectives, as it focuses on both future needs and existing requirements. During the transition planning, special attention will be given to ensuring a seamless transfer of operations from existing organizations to the Alliance. It will develop and implement an aggressive outreach and communications strategy.

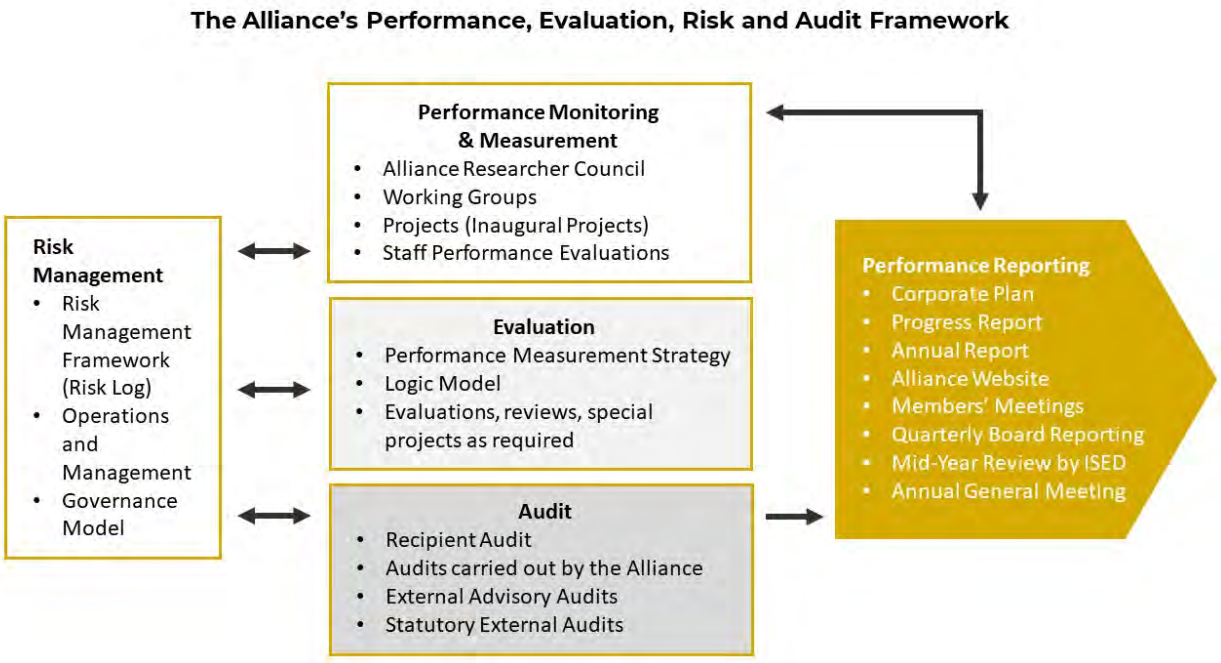
	The Alliance will undertake change management and professional development for Alliance DRI professionals.
Domain focus Although ARC is more complex and involves more resources (Alliance DRI professionals and budget), transition planning for ARC should not be to the detriment of RDM and RS.	The new National Service Delivery and Funding Models will be inclusive of ARC, RDM and RS. Strategic planning will reflect the differential status within each of these domains. Leads for each domain, with appropriate resource allocation, will participate in the planning process to provide for a balanced approach to transition.
Community buy-in and mobilization The implementation of the Alliance will require many activities to be executed in parallel. Most of these will require significant participation of the DRI community. Some resources will be solicited repeatedly, which may cause challenges with community capacity. Also of note, some individuals do not consider it part of their role to inform, debrief, or solicit input from a broader audience or to the broader governance or implementation groups in which they participate. This is a common occurrence with coordinating organizations like the Alliance, and often results in a perception of some in the "know" and others "not in the know,", thereby contradicting goals of wide collaboration and input.	Whenever possible, current existing forums will be used to optimize community participation. The Alliance has multiple layers of consultative mechanisms integrated into the organization through many channels, including the Researcher Council and Working Groups. This multi-dimensional approach helps avoid consultation fatigue from the community while securing the input needed to achieve the Alliance's goals. The Alliance will make concerted efforts to ensure it is efficient with its members' and stakeholders' time. For example, working groups will be consolidated to reduce duplicate or overlapping work and meetings. The Alliance will continue its efforts to communicate frequently. The Alliance is mindful of the need to share information and seek input broadly to ensure appropriate two-way information flows throughout the transition.
Stakeholder reach The Alliance needs to involve the DRI ecosystem in its planning and operations. Significant effort has been made to identify all stakeholders, but there may be unintentional omissions.	The Alliance is developing a stakeholder engagement strategy, including the implementation of leading stakeholder engagement tools. The Alliance will consult regularly with key stakeholders to augment its lists.
Inclusivity Well-established research communities may unintentionally crowd out groups that are not traditionally represented in this arena.	The Alliance will undertake specific, targeted EDIA activities in the Alliance governance, organizational and advisory functions. It will explore means to build capacity and support engagement for underrepresented groups.
Security – confidentiality Risks include the disclosure of personal information in the Alliance's custody, unauthorized access to information and ransomware or hack discovered at the National Data Centre.	Personal information is restricted to Human Resources and Finance/Payroll staff. The Alliance will actively monitor and secure access to data/files. The Alliance will ensure data centres are applying cybersecurity best practices.
Security – integrity Risks include the alteration or loss of personal information in the Alliance's custody and the inability to integrate with legacy systems of	Access to this information is restricted and data is backed up as needed.

onboarding partners, e.g., CANARIE, Cybersecurity risks. There are also elevated levels of risk identified by recent CSE and Canadian Centre for Cybersecurity advisories. There is a substantial risk of sophisticated, targeted attacks through state-sponsored actions.	The Alliance will proactively consider the likelihood of this risk as part of transition plans being established. A partnership is in place with CANARIE in a jointly branded task force and initiative that considers the level of risk to intellectual property and research infrastructure, and appropriate responses based on assessed risk per the CSE and Canadian Centre for Cybersecurity advisories.
Infrastructure Risks include loss or damages of office equipment and the inability to synchronize maintenance and upgrade schedules for equipment at National Data Centres resulting in down times at Host Sites.	The Alliance will ensure office systems are in secure office space; desktop and laptop systems can easily be replaced; backup file storage in place via the Cloud. Host Site leaders to consider timeliness and costs for equipment maintenance. Planning will take into account the exceptional logistical challenges posed by global supply chain issues affecting procurement and transport of equipment.
Finance Risks include adverse financial audit opinion and delays in developing the back office.	Active engagement with Auditors on engagement letter and review audit plan with the Board's Audit, Finance and Risk Committee.
Human resources Failure to recruit qualified personnel and the inability to integrate benefits structure among transitioning organizations.	The Alliance has completed a market study of its compensation offerings (salary scale and benefits program) and will offer fair and competitive compensation and benefits packages.
Reputation Failure to manage stakeholder expectations, failure to serve the research community; the Alliance Contribution Agreement not met.	The Alliance will ensure transparency with stakeholders and follow through on commitments; we will maintain regular and effective communications. The Alliance will actively engage with the Researcher Council to receive and share progress. It will resource projects during budget development and embrace good project management.
Governance/collaboration Failure to provide good governance; challenges developing value proposition for primary and associate members; and loss of organizational history when Board Director one-year terms are completed.	The Alliance has adopted best practice governance standards: corporate By-Laws and policies, a skills matrix, self-assessment, diversity and Board sub-committees. Working with Board Stakeholder and Member Committee to define value proposition. Staggered terms mitigate loss of organizational memory. Governance and Nominating Committee is assessing the implications of Board terms.
Funding Inability to finalize the Contribution Agreement; inability to generate match funding with provinces and other sources; and the rejection of the National Service Delivery and Funding Model, and Strategic Plan.	Work plan development with milestones. Buffer built into work plans to ensure slippage is not detrimental. ISED and the Alliance are engaged in ongoing conversations with provincial ministries and regional ARC organizations to assess likelihood of provincial match.

	Extensive engagement, involvement and community consultation planned to ensure issues/concerns are identified early and dealt with in a timely manner. Provide required reporting to ISED on time. Ensure that ISED is kept informed of matters as they arise; promptly respond to ISED's request for information.

Ongoing Performance Monitoring Strategies

The Alliance has developed a Performance, Evaluation, Risk and Audit Framework that will be used as a mechanism to monitor activity, performance and risk, at both the senior management and Board levels.



Financial Plan

The Alliance is funded through contribution agreements with the Government of Canada, through ISED.

The expenditures of the Alliance can be broken out in three categories:

- Program Expenditures: the Alliance enters into agreements with Canadian institutions to fund defined activities that enable DRI services delivery to Canadian researchers.
- National Services Expenditures: the Alliance coordinates and delivers DRI services to Canadian researchers, using its own staff and resources.
- Operating Expenditures: administrative and communications activities that support the other two categories.

Using funding to be received from the 2023-24 contribution agreement, the Alliance plans to incur $68.3M in program expenditures, $12.2M in national services expenditures and $5.3M in operating expenditures. All planned expenditures are eligible costs per the contribution agreement. The table below provides a breakdown of the planned expenditures.

Table 1: Planned Expenditures in 2023-24

[in $K]	**2023-24**
Program Expenditures	
Advanced Research Computing Infrastructure	51,526
Research Support	13,528
Research Data Management	2,924
Cybersecurity	304
	68,283
National Services Expenditures	
Salaries and wages	5,485
Benefits	1,042
Services	5,088
Supplies	41
Transportation and communication	228
Other expenses	269
	12,152
Operating Expenditures	
Salaries and wages	2,568
Benefits	488
Services	1,986
Supplies	32
Transportation and communication	112
Other expenses	108
	5,293
Total	**85,728**

The table below presents the allocation of total expenditures to eligible activities, as defined in the Alliance's contribution agreement with ISED.

Table 2: Planned Expenditures in 2023-24, Allocated by Eligible Activities

[in $K]	**Program Expenditures**	**National Services Expenditures**	**Operating Expenditures**	**Total**
Eligible Activities				
Leading and Coordinating the Governance of the DRI Ecosystem	-	2,042	280	2,323
ARC Infrastructure Acquisitions and Operations	51,526	1,225	-	52,752
ARC Resource Allocations	-	1,430	-	1,430
HQP Support	13,528	1,716	-	15,244
National RS Activities	-	511	-	511
National DM Activities	2,924	3,727	-	6,651
Cybersecurity	304	1,501	-	1,805
Management and Administration	-	-	5,013	5,013
Total	**68,283**	**12,152**	**5,293**	**85,728**

Through its programs, the Alliance requires recipients to raise funding from other sources, including provincial governments, institutions, corporations and not-for-profits. These additional funds leverage the contribution from the federal government into a greater investment in the DRI ecosystem. The following table shows the planned expenditures from the Alliance, the estimated leveraged funding from other sources and the total investment in the Canadian DRI ecosystem.

Table 3: Planned Expenditures and Leveraged Funding in 2023-24

[in $K and %]	**Expenditures**	**Leveraged funding**	**Total**
Program Expenditures			
Advanced Research Computing Infrastructure	51,526	48,370	99,896
Research Support	13,528	9,415	22,943
Research Data Management	2,924	246	3,170
Cybersecurity	304	236	540
	68,283	**58,266**	**126,549**
National Services Expenditures	**12,152**	**-**	**12,152**
Operating Expenditures	**5,293**	**-**	**5,293**
Total [in $K]	**85,728**	**58,266**	**143,994**
Total [in %]	**59.5%**	**40.5%**	**100.0%**