2021-22 Annual Report

Disclosure Letter
As of March 31, 2022

Contents

Digital Supercluster Additional Annual Disclosures for Fiscal Period Ending March 31, 2022

In accordance with our annual reporting requirements for the fiscal period ending 2021-22, we confirm the following:

1. Financial Reporting

Since implementation, the financial controls operated as intended.

Since our last fiscal year, we have implemented or updated the following policies, procedures or standards:

a. the Advance Policy to support members in pursuing projects which are part of our Covid-19 Program
b. the Delegation of Authority policy to ensure proper lines of approval are in place
c. the Membership Agreement to simplify and update how membership fees are charged
d. the Board Mandate and Terms of Reference for Board Committees for simplification and clarification purposes
e. the Co-Investment guidelines to support calls for Project Investments

There were no Audits or evaluations carried out during the year except the audit of the Supercluster annual financial statements.

Staff are paid a salary, short-term incentive based on personal and organisational performance, and benefits according to our Board-approved compensation policy. Funding of these salaries is from various sources including industry and ISED. For the fiscal period ending March 31, 2022 and in regard to ISED funding, two employees were paid in excess of $300,000 and the ranges of salaries for senior employees were:

- Officers: $250,000 – $410,000
- Directors and Vice-Presidents: $120,000 – $250,000

Consistent with our prior submissions, financial items requiring disclosure are:

a. Supercluster Funded Eligible Costs incurred and paid in the Fiscal Year were $48,142,186
b. Unfunded Eligible Costs incurred and paid in the Fiscal Year were $1,496,799
c. Industry Matching Funds received in the Fiscal Year are $29,667,471
d. Total funding for operating and administrative expenses received was $6,768,592
e. Total Supercluster funding provided for project investment was $47,508,162
f. Total ISI funding for project investment was $39,724,554

Financial Reporting for FY 2021-22

	Operating and Administrative Costs (O&A)	Technology Leadership Project Costs	Talent + Capacity Project Costs	COVID-19 Project Costs	Total Cost
Funded Eligible Costs	$6,003,479	$27,941,239	$1,026,184	$33,626,132	$68,597,034
Unfunded Eligible Costs	765,114	$30,956	-	700,729	1,496,799
Total	$6,768,593	$27,972,195	$1,026,184	$34,326,861	$70,093,833

Total Funding Received

Type of organization	Contributions Toward O&A Costs in Current Fiscal Yar	Contributions Toward O&A Costs to Date
Other Sources of Funding	$2,206,219	$5,208,569
ISED	4,562,373	16,234,584
Total	$6,768,592	$21,443,153

Industry Matching Funds

Type of Cost	Industry Matching Funds (2021-22)	Total Industry Match (Cumulative/Spent)	Total Industry Match (Cumulative/Committed)
Operating and Administrative Costs	$2,206,219	5,208,569	12,300,000
Technology Leadership Project Costs	17,292,650	35,256,269	138,678,834
Talent + Capacity Project Costs	455,407	1,408,363	14,931,380
COVID-19 Projects	9,713,195	16,044,188	19,253,364
Total Cost	$29,667,471	$57,917,389	$185,163,578

2. Intellectual Property Strategy

Since implementation, no updates were made to the Intellectual Property Strategy.

The Intellectual Property Strategy operates as intended and continues to support the objectives set out in the Corporate Plan.

There were no instances where the reported Foreground Intellectual Property was not included in the Member-accessible registry.

There were no Member disputes referring to the dispute resolution mechanism regarding ownership of and access to Foreground Intellectual Property.

IP awareness and education

- The Digital Supercluster led bespoke IP Thought Leadership webinars during fiscal year 2021-2022. These sessions focused on building awareness about IP strategy pitfalls, strategies for protecting innovations and corporate intelligence, cybersecurity and cyberattack preparedness, and IP and data considerations in the context of collaborative engagements. 350+ people registered with >60% from SME organizations and more than 400 organizations have since accessed the recorded webinars on YouTube.
- Our monthly newsletters also provide information, guidance, references and links to other educational opportunities relating to IP and data to over 3,700 subscribers.
- 700+ people from various organizations participated in other pan-Canadian and international IP events organized by our external partners including Intellectual Property Institute of Canada, Innovation Governance Program run by the Council of Canadian Innovators, NextGEN CTO Program, Innovation Asset Collective, Canadian Intellectual Property Office and Centre for International Governance Innovation. These events included conference panels and specialised training in IP and governance, data commercialization and governance, leveraging IP for business growth, IP standards, collaborative data ecosystems, and innovation and IP strategies for economic renewal.

IP support

- Our team had 2,200+ project-specific touchpoints during 2021-22 to provide guidance and advice on IP and data matters:
    - With 75+ organizations as they developed project proposals as part of Cycle 5 of our Technology Leadership Program,
    - With 55+ organizations as they contracted for approved projects, and
    - As part of our IP disclosure process for all project teams as they execute their approved projects, resulting in 290+ new IP assets generated in projects to-date including 40 new patent applications.

 It should be noted we are not privy to the IP advice that organizations get from their own lawyers.

3. Data Strategy

No updates were made to the Data Strategy.

The steps taken to protect network and data security are included in our Data Strategy.

4. Ecosystem Development

The Digital Supercluster passed the milestone of 1,000+ Members in 2020-21, with close to half of the new organizations joining from outside British Columbia. As outlined in our Corporate Plan, our goal was to recruit and retain an engaged membership base and foster meaningful engagements with our stakeholders. We were successful in attracting new customer/adopter members in the areas of digital health and natural resources and environment.

The Digital Supercluster maximized member engagement through ideation workshops focused on Digital Marine, Digital Health and Getting to Net Zero—with over 180 companies participating.

Throughout the year we worked with members to amplify their accomplishments to our 7,000+ followers on social media and 3,700+ newsletter subscribers. A new website was launched in October 2021, and since then, we have seen unique visitors average 3,415 per month, and sessions averaged 5,154 per month over the past 12 months.

We proudly showcased our Members at industry and community engagements, bi-monthly "demo days" engaging over 180 attendees, the IP educational series that has drawn over 400 organizations to date. Industry events included the 21st Annual Healthcare Summit, Cascadia Innovation Corridor, Globe Forum 2022, and the CityAge's The Data Effect: Canada's Digital Imperative.

The Digital Supercluster was also active in speaking and panel engagements that included BC Natural Resources Forum, Public Policy Forum's Canada Growth Summit 2022, Women in Mining BC, Women Leading Change in STEM, Business Council of British Columbia events such as Innovation for ESG, Big Data and AI Toronto, Ontario Chamber of Commerce events such as Digital Health Panel, Aging 2.0, Creating Energy Conference, Agri-Food Innovation Council's Research and Innovation Summit, and various Greater Vancouver Board of Trade events such as the Economic Outlook Forum.

International speaking events included Vivatech 2021, NASSCOM Design and Engineering Summit, JETRO events, Eureka Global Innovation Summit, various APEC Business Advisory Council events, the India DX Summit 3.0 and the Japan Canadian Technology Trade Accelerator Smart Cities Demo Day conference. Over 45% of our participating Members are acting in international markets such as the US, UK, Europe and Asia.

The Digital Supercluster unlocks the growth and prosperity of Canadian scale-ups and anchor companies with 70% of investment allocated to SMEs. There are 186 different SMEs currently involved in projects. On average there are three SMEs per project.

With the launch of the Digital Learning Lab, the Digital Supercluster is delivering on Canada's commitments to build skilling and job opportunities that advance equity, diversity and inclusion, with over half of the 6,500+ workforce placements being developed going to under-represented groups. We work alongside Canadian industry leaders to create fast, affordable pathways to digital jobs, build leadership in innovation and drive community-based training and development.
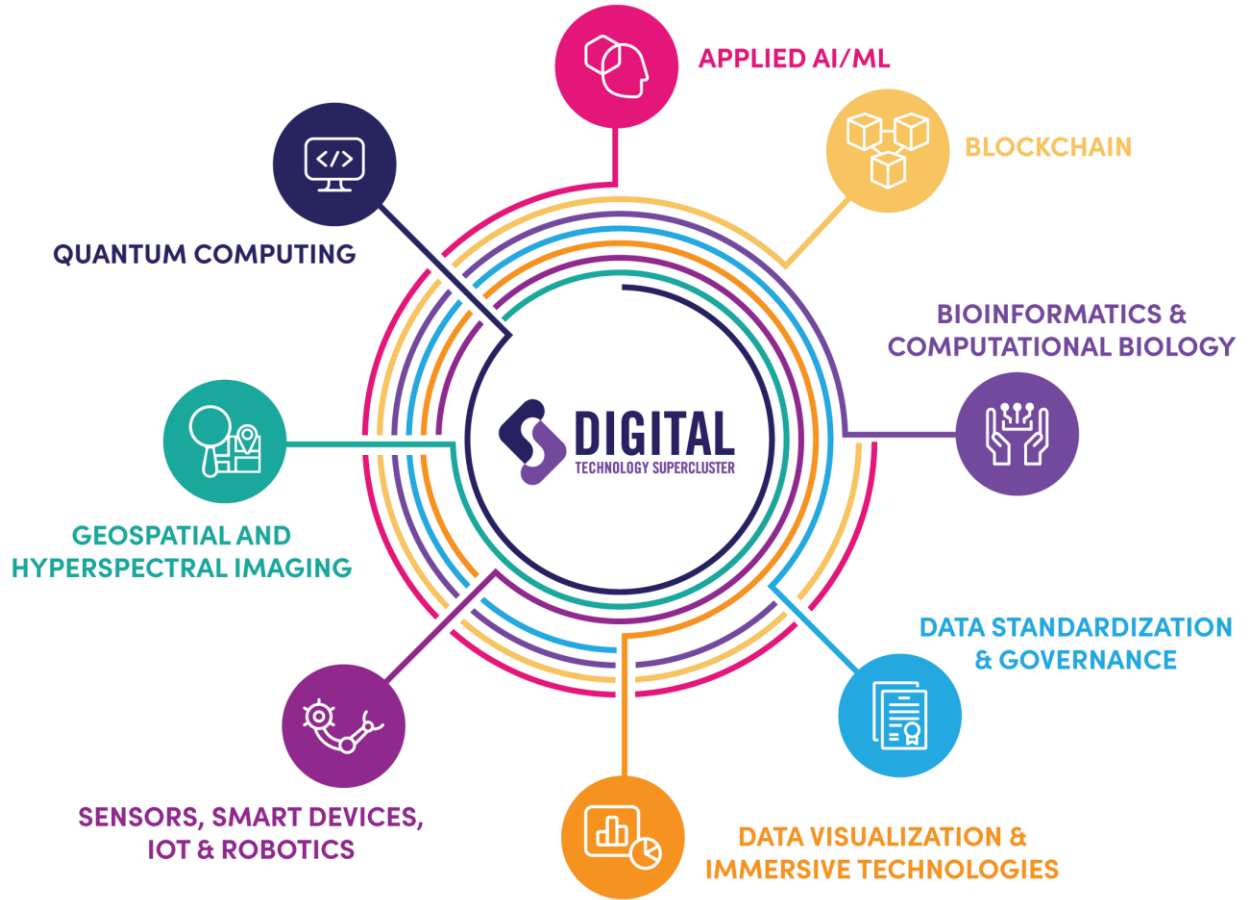
5. Programs

The following projects were announced between April 1,2021 and March 31,2022:

Industry Transformation	Natural Resources + Environment	Digital Health	Talent & Capacity
Digital Aviation Records System (DARS)	Standard Data Platform for Autonomous Agriculture	Compass	Coastal First Nations Connectivity Network
	Earth X-ray for Low-Impact Mining	Wellbeing.ai	Virtual Clean-Energy Training Platform for First Nations Communities
	Mining Microbiome Analytics Platform (MMAP)	Autism Sharing Initiative	

In addition to the list above, there were five projects selected through the Technology Leadership program with a total value of $65,634,647 that had not been announced as of March 31, 2022. This includes a commitment of $24,748,175 Digital Supercluster funds and $40,886,472 from industry consortia. There were also seven projects selected through the Capacity Building program with a total value $16,162,513 that had not been announced as of March 31, 2022. This includes a commitment of $1,974,600 Digital Supercluster funds and $14,187,913 from industry consortia. One strategic project, Supply Hub, does not appear on this list.

Areas of technology advancement include:

APPLIED AI/ML

BLOCKCHAIN

QUANTUM COMPUTING

BIOINFORMATICS & COMPUTATIONAL BIOLOGY

GEOSPATIAL AND HYPERSPECTRAL IMAGING

DATA STANDARDIZATION & GOVERNANCE

SENSORS, SMART DEVICES, IOT & ROBOTICS

DATA VISUALIZATION & IMMERSIVE TECHNOLOGIES

6. Program Descriptions

Talent + Capacity – Digital Learning Lab

The Digital Supercluster's national platform for talent and workforce development

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Asia Competence for Tech Professionals

Project Lead: Asia Pacific Foundation of Canada
Partners: Canfor, Mosaic Forest Management Corp., Teck Resources Ltd.
Partner Co-Investment: $0.075M
Digital Technology Supercluster Co-Investment: $0.075M
Total Investment: $0.15M

The Asia Competence for Tech Professionals project will train 100 people with Asia-Pacific competencies, piloting a set of modules that feature business case studies, applied learning and inquiry-based problem sets drawn from real-world scenarios and a "simulated study tour" including a direct engagement program with technology ecosystem stakeholders in Asia. This will help participants develop a rounded suite of soft skills that improve their future prospects and paths to employment, as well help to build a world-class talent pool with the capacity to innovate and improve Canada's technology sector.

Athena Digital Leaders

Project Lead: Artificial Intelligence Network of BC (AInBC)
Partners: Finn AI, Immigrant Employment Council of BC (IECBC), Simon Fraser University, Northeastern University, Variational AI, University of British Columbia, KPMG
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.0M

Artificial intelligence (AI) is proliferating rapidly across industries, and many organizations are looking for the skills and leadership to adopt and leverage these new technologies. Led by AInBC and building on the success of the Athena Pathways pilot, Athena Digital Leaders offers two responsive and flexible training programs to seed diversity in AI talent and leadership teams, helping companies harness the full potential of AI/ML/DS, while supporting 30 women and recent immigrants to gain leadership and innovation experience in top B.C. companies.

Athena Pathways

Project Lead: Artificial Intelligence Network of BC (AInBC)
Partners: Careteam, D-Wave, KPMG, MetaOptima, Microsoft Corporation, Society for Canadian Women in Science and Technology, Teck Resources Ltd., British Columbia Institute of Technology, Northeastern University, Simon Fraser University, University of British Columbia
Partner Co-Investment: $0.6M
Digital Technology Supercluster Co-Investment: $0.25M
Total Investment: $0.85M

Athena Pathways helps Canadian women see the potential of the tech sector, and how a career in Artificial Intelligence aligns with their skills and interests. This 18-month program provides girls and women, from middle through post-secondary students to professionals and leaders, training in computing science and gender diversity in AI. In addition, dozens of internships and mentorships in AI will be made available to women across the tech ecosystem.

There have been over 300 women participants and 120 scholarships awarded to students at post-secondary institutions. Over 70 women have completed Azure training through Microsoft's Global Knowledge partnership and 20 have been hired through employer partners. This project is in closing.

Canadian Tech Talent Accelerator

Project Lead: NPower Canada
Partners: Blueprint, Microsoft Corporation
Partner Co-Investment: $7.3M
Digital Technology Supercluster Co-Investment: $1.4M
Total Investment: $8.7M

The COVID-19 pandemic and resulting rapid increase in online work has widened the digital divide and skills gap, contributing to higher unemployment—especially for more vulnerable Canadians. Indigenous, Black, and other racialized youth, people with disabilities, LGBTQ2S+ youth, women and newcomers to our country face multiple barriers to employment. This project will support Canada's economic recovery by providing valuable, in-demand tech skills to 2,500 unemployed and underemployed youth (18 to 29 years old) from communities underrepresented in the digital economy. This project is scheduled to complete in January 2024.

Coastal First Nations Connectivity Network

Project Lead: Coastal First Nations – Great Bear Initiative
Partners: First Nations Technology Council, Innovation Island, Vancouver Island University, TakingITGlobal, Rogers, Microsoft Corporation, LlamaZOO
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $0.2M
Total Investment: $0.7M

Uneven distribution of broadband access remains a serious barrier for many rural and remote communities that need access for remote work, education, tele-health, and full economic growth potential. The Coastal First Nations Connectivity (CFNC) Network project will work to solve that challenge by creating a team of skilled connectivity leaders to develop a path forward for digital economies and services within remote coastal B.C. Indigenous communities. This will open the door to long-term strategies and partnerships for digital infrastructure deployment, stewardship technology and economic growth. This project is scheduled to complete in November 2022.

Competency Assessment Mapping Platform for Industry Responsive Education (CAMPFIRE)

Project Lead: British Columbia Institute of Technology
Partners: LifeLabs, Immigration Employment Council of B.C.
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.3M
Total Investment: $0.5M

CAMPFIRE, the Competency Assessment Mapping Platform for Industry Responsive Education pilot program, aims to provide the kind of skilled talent employers need, and rewarding employment for workers who need new skill sets. This project will help connect 600 early- and mid-career workers with the digital skills and competencies they need to transition to new work over the next 24 months. This project was originally scheduled to complete in February 2022, but an extension is pending.

Design for Startups

Project Lead: Emily Carr University of Art and Design (ECUAD)
Partners: A&K Robotics Inc., CoPilot AI
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.3M
Total Investment: $0.5M

Design for Startups will bridge the gap between technology and design for improved product development. The project will bring together the technology and design communities by connecting designers with tech startups through intensive 12-week design problem-solving sessions. This is a fundamental step in building new talent capacity paving the way for a brighter future for design-led technology companies in B.C. This project is in closing.

Digital Lift

Project Lead: BC Tech Association
Partners: AbCellera, Amazon, Absolute, Change Healthcare, Copperleaf Technologies, EastSide Games, Finning CAT, Jelly Digital Marketing & PR
Partner Co-Investment: $2.0M
Digital Technology Supercluster Co-Investment: $2.0M
Total Investment: $4.0M

Following the COVID-19 pandemic, many workers will need training and employment support to find new well-paying jobs. Using a mixture of technology and training solutions, Digital Lift will create a system for rapidly skilling talent into careers in technology. Led by BC Tech Association, this project will support individuals impacted by COVID-19 to find training for work in high demand technology roles and provide paid virtual and physical internships to gain experience working for technology companies. This project is scheduled to complete in January 2024.

Diversifying Talent in Quantum Computing

Project Lead: University of British Columbia
Partners: Microsoft Corporation, D-Wave Systems
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.3M
Total Investment: $0.5M

The field of quantum computing is exploding with the power to solve our most challenging problems and the demand for talent in this emerging field is high. With British Columbia emerging as a leader in quantum computing, the 24-month Diversifying Talent in Quantum Computing program will work with K-12 and Indigenous education leaders to ensure that youth and young adults are aware of the career opportunities presented by this revolutionary technology. This project is scheduled to complete in December 2022.

Future Capital

Project Lead: Female Funders
Partners: Simon Fraser University, Microsoft Corporation
Partner Co-Investment: $0.7M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.2M

Future Capital provides investment education that enables women to lead and shape the future of the economy. Through the Future Capital program, 500 Canadian women will gain access to a new platform for education, become members of an emerging network of women decision-makers in the tech and innovation ecosystem, and gain new opportunities to lead innovation within Canada. This project is scheduled to complete March 2023.

HyperTalent

Project Lead: BC Tech Association
Partners: St. Paul's Hospital Foundation, School District 10 (Arrow Lakes), Accenture, Vancouver School Board, SAP, British Columbia Institute of Technology, Microsoft Corporation, Vancouver City Savings Credit Union (Vancity), Providence Health Care, Unbounce
Partner Co-Investment: $0.1M
Digital Technology Supercluster Co-Investment: $0.3M
Total Investment: $0.4M

This program focused on K-12 educators and Indigenous youth to tackle the tech talent shortage in British Columbia. HyperTalent connected more than 100 teachers from rural and urban school districts with educational seminars, tours of leading technology companies, and hands-on experiences. It built awareness to the kinds of tech careers open to students and supported school curriculums with real-world examples of the opportunities ahead. This project was completed in October 2020.

Innovation, Development, Enrichment and Action (IDEA Lab)

Project Lead: Evolve
Partner Co-Investment: $0.19M
Digital Technology Supercluster Co-Investment: $0.07M
Total Investment: $0.26M

Although ongoing innovation is key to the long-term success of organizations, many companies struggle to nurture innovative habits, internally allocate time and responsibility, provide data and infrastructure, and train innovation leaders. The IDEA Lab project will help small and medium businesses develop innovation leaders from within. Starting with an evaluation of current business practices, this project will identify a diverse pool of high-potential innovation leaders and run them through a training incubator, with industry mentorship and endorsement, while embedded in their current role. This will enable them to grow in their roles and create revenue-driving innovations that support the growth of small businesses in BC.

Upskilling Imperative

Project Lead: Lighthouse Labs
Partners: Saskatchewan Polytechnic, XLRator
Partner Co-Investment: $0.6M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.1M

COVID-19 and digital transformation are putting some employees at risk of underemployment, and many small businesses lack the resources to provide necessary training and upskilling to retain those workers. Led by Lighthouse Labs, Upskilling Imperative will provide training, mentorship and performance support for 250 employees across 16 small and micro businesses in communities in B.C., Ontario and Saskatchewan to help train and retain those workers with resilient digital skills, while piloting a scalable virtual upskilling platform. This project is scheduled to complete in December 2022.

Virtual Clean-Energy Training Platform for First Nations Communities

Project Lead: British Columbia Institute of Technology
Partners: Siemens, Denesoline Corporation
Partner Co-Investment: $0.7M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.2M

Power Plants in Arctic Canada are primarily run using diesel, a toxic fuel, detrimental to both the environment and the health of local residents. However, the move away from diesel towards green and renewable energies has been hampered due to absence of Indigenous capacities to operate, maintain and upkeep such high-tech systems. This project will work directly with Lutsel K'e First Nation in the Northwest Territories to create a virtual training platform in Clean Energy Power technologies. The training program aims to provide trainees with the digital skills required to operate, maintain and repair power plants based on renewable sources of energy. This project is scheduled to complete in August 2022.

W Venture

Project Lead: Victoria Innovation, Advanced Technology and Entrepreneurship Council
Partners: Coast Capital Savings Innovation Centre, Communitech, Accelerate Okanagan, Purpose Five, University of Victoria
Partner Co-Investment: $0.16M
Digital Technology Supercluster Co-Investment: $0.47M
Total Investment: $0.63M

The Women's Entrepreneurship Program built capacity for women entrepreneurs and their tech ventures. Through boot camps, workshops, mentorship and peer-sharing on leadership skills, this nine-month program provided opportunities for women to gain entrepreneurial skills and insights in a supportive environment. Thirty women from across B.C. graduated from the program. The graduates' companies have had a revenue growth of >$600K, created 41 jobs and attracted 11 follow-on investments. An extension for this project is currently in progress, with a likely close date of January 2023.

Wireless Systems Technician

Project Lead: College of the Rockies
Partners: British Columbia Institute of Technology, Teck Resources Ltd.
Partner Co-Investment: $0.6M
Digital Technology Supercluster Co-Investment: $0.3M
Total Investment: $0.9M

The Wireless Systems Technician program offered new training and certification as the resource sector implements new technologies networks to enhance operations with real-time data. The pilot program focused on training women, Indigenous Peoples, and youth who are currently under-represented in the field, so they could build telecommunications careers close to home, addressing the short supply of qualified industry employees. This project is scheduled to complete work in June 2022.

Natural Resources, Food Supply Chain + Environment

Accelerating climate action and helping scaleups and anchor companies turn Canda's sustainability practices into a global leadership advantage.

Earth Data Store

Project Lead: EarthDaily Analytics (previously UrtheCast Corp.)
Partners: Geoscience BC, Sparkgeo Consulting Inc., University of Victoria , Microsoft Corporation, Mitacs University of British Columbia
Partner Co-Investment: $2.0M
Digital Technology Supercluster Co-Investment: $1.5M
Total Investment: $3.5M

This project collected, standardized, and secured data from multiple sources, such as Earth observation satellite imagery and environmental sensors, for predictive purposes. Through interactive visual maps and running deep learning algorithms, this project demonstrated an improved capability to observe and protect remote areas and to enable real-world applications in protecting aquatic ecosystems and predicting environmental disasters. EarthDaily created new services that are being provided globally and now produce 10% of Brazil's Earth Observation data for two international agriculture customers. Microsoft used this work to demo their new Azure Orbital service and the University of Victoria developed 'P3 Aqua', a prototype application for marine environmental monitoring. Sparkgeo, through improved analytics, was able to expand its product offering to insurance companies. This project work was completed in December 2020.

Earth X-ray for Low-Impact Mining

Project Lead: Ideon Technologies, Inc.
Partners: Dias Geophysical, Fireweed Zinc Ltd, Microsoft Corporation, Simon Fraser University, BHP Billiton, MistyWest, Mitacs, University of Saskatchewan
Partner Co-Investment: $7.9M
Digital Technology Supercluster Co-Investment: $5.6M
Total Investment: $13.5M

This project is developing a platform that integrates proprietary detectors, novel algorithms, and advanced artificial intelligence to provide the mining industry with unprecedented visibility up to 1 kilometre beneath the Earth's surface. This will allow mining companies to identify and map structures hidden underground with unmatched and quantified certainty while reducing 'hit-and-miss' drilling, emissions, and water consumption. The project has completed initial on-site testing, and based on the feedback, is refining the hardware design and statistical models to prepare for the next on-site testing. The project is scheduled to complete work in August 2023.

Emergency Food Distribution Network

Project Lead: FoodMesh
Partners: Traction on Demand Partner
Co-Investment: $0.4M
Digital Technology Supercluster Co-Investment: $2.0M
Total Investment: $2.4M

This project seeks to improve and expand the FoodMesh platform to serve as an Emergency Food Distribution Network, enhancing efficiency of the food supply chain and better connecting farmers, suppliers, buyers, and charities. An initial release of the Community portal is ready to demo and Marketplace 2.0 has been completed. A pilot with United Way and a partnership with FoodBanks BC on the Emergency Food Purchase Program has allowed more charities to access food at wholesale prices while significantly increasing revenue to grocers. As of Spring 2022, FoodMesh has rescued a total of 14 million meals, expanded into three new provinces and won a three-year contract with Metro Vancouver to build a local Food Distribution Network. This project is scheduled to complete work in October 2022.

Forest Machine Connectivity

Project Lead: Mosaic Forest Management Corp. and Canfor
Partners: Lim Geomatics Inc. University of British Columbia, FPInnovations
Partner Co-Investment: $4.5M
Digital Technology Supercluster Co-Investment: $3.3M
Total Investment: $7.8M

This project uses an Industrial Internet of Things (IIoT) network of 'smart' devices to monitor, collect, exchange, analyze, and deliver valuable insights to contractors, machine operators, and managers in the timber harvesting supply chain. This data collation is being leveraged to improve productivity, efficiency, and competitiveness of Canada's wood products manufacturing industry. The project is currently building out the platform and preparing for the first set of in-forest testing. The project is scheduled to complete work in May 2023.

Fresh Water Data Commons

Project Lead: Carl Data Solutions Inc.
Partners: Genome British Columbia (Genome BC), Living Lakes Canada, Microsoft Corporation, Teck Resources Ltd., University of Victoria
Partner Co-Investment: $3.4M
Digital Technology Supercluster Co-Investment: $1.6M
Total Investment: $5.0M

This project integrated various sources of data to understand ecosystem health, specifically of major water systems in the Columbia Basin, to better inform water use, conservation, and management. The project developed a flexible, affordable and scalable platform, FlowH2O, that analyzes and processes large amounts of water data to understand water management needs including environmental monitoring data through solar-powered sensors installed at Anderson Creek and eDNA research undertaken as part of the project. This project completed work in August 2021.

Mining Microbiome Analytics Platform

Project Lead: Teck Resources Ltd.
Partners: Allonnia Canada, ULC, Centre for Excellence in Mining Innovation, Genome British Columbia (Genome BC), BGC Engineering Inc., Koonkie Inc., Microsoft Corporation, Rio Tinto Canada Management Inc., University of British Columbia, Illumina, Government of BC (Ministry of Energy, Mines and Low Carbon Innovation), Ginko Bioworks, Tahltan Central Government
Partner Co-Investment: $12.6
Digital Technology Supercluster Co-Investment: $4M
Total Investment: $16.6M

This project is a catalyst for new sustainable mining practices. The project explores the replacement of traditional mining extraction and mine site remediation technologies with breakthrough biomining solutions. It is building the first integrated online platform for collecting, storing, and analyzing the genomic data of water, soil and rock environments to ultimately protect the environment throughout the mining life cycle. The project has made progress in software development with a functioning database with early samples, and the deployment of a mobile sampling application. The project is on track for an initial platform release by autumn 2022. This project is scheduled to complete work in December 2023.

Precision Agriculture to Improve Crop Health

Project Lead: Terramera Inc.
Partners: Genome British Columbia (Genome BC), Agriculture & Agri-Food Canada (AAFC), University of Saskatchewan, Trent University, Compression.ai, Simon Fraser University, Sightline Innovation, Michael Smith Foundation for Health Research (now Michael Smith Health Research BC)
Partner Co-Investment: $4.7M
Digital Technology Supercluster Co-Investment: $2.6M
Total Investment: $7.3M

This project developed new pest and pathogen controls through the application of computational biochemistry, genomics, machine learning, computer vision and robotics, to manage disease in field crops, minimize the use of pesticides, and secure export markets. The project established the foundations of the computational biochemistry platform to facilitate digital data collection that enables computational models for developing new agricultural fungicidal formulations for wheat leaf rust. Predicted formulations were developed and tested at Terramera. Several lead formulations are progressing to field testing and may lead to future commercialization through licensing deals. Four complete wheat leaf rust fungal genomes were generated by the AAFC and are a novel accomplishment with one serving as a "gold standard" reference genome for the scientific community. This project completed work in December 2021.

Protecting Our Oceans

Project Lead: MDA Systems Ltd
Partners: Simon Fraser University, VizworX Inc.
Partner Co-Investment: $0.9M
Digital Technology Supercluster Co-Investment: $0.6M
Total Investment: $1.5M

This project developed high precision software to identify illegal fishing ships, or "dark vessels" for MDA's Dark Vessel Detection (DVD) system. Using data from a combination of remote sensing satellites, this project enhanced existing ship detection and tracking technology with an ability to identify offending dark vessels by applying novel machine learning algorithms and artificial intelligence to advanced space-based data. In a closed demonstration setting, the project demonstrated success with the behavior detection capabilities in the identification of dark vessels, recognition of behavior patterns consistent with illegal fishing. The project delivered a new 3D immersive interface prototype to help analysts better view, understand and interpret the vast range of data and analytic outputs produced by the DVD system. In early 2021, MDA was awarded a 3-year contract with the Government of Canada Department of Fisheries and Oceans and Defence Research and Development Canada to detect vessels engaging in illegal, unreported and unregulated fishing. This project completed work in January 2022.

Satellite-based Environmental Analytics

Project Lead: EarthDaily Analytics (previously UrtheCast Corp.)
Partners: BC Parks Foundation, BGC Engineering Inc., Government of Canada (Environment and Climate Change Canada), Hatfield Consultants Partnership, Microsoft Corporation, Mitacs, University of Victoria
Partner Co-Investment: $1.8M
Digital Technology Supercluster Co-Investment: $1.1M
Total Investment: $2.9M

This project is building a system to automate and accelerate the generation of high-quality, analytics-ready mosaics using multiple sources of complex earth observation satellite data. The mosaicking process seamlessly combines images, eliminating satellite location errors and correcting for discrepancies in spectral content (i.e., colours) to ensure the final mosaic is ready for analytics. The project is exploring several use cases to demonstrate the use of high-quality mosaics in environmental monitoring applications that leverage machine learning and augmented reality. The mosaic service has been commercially launched (alpha and beta releases) including public access to 2 B.C. Mosaics for 2018 and 2020. EarthDaily has entered into a number of commercial agreements for the mosaic service. This project is scheduled to complete in July 2022.

Scaling Safe Food Delivery for Canadians (including Feasibility Study: Feeding the Frontlines)

Project Lead: Food-X Technologies
Partners: Routific, ETG Consulting Inc, Microsoft Corporation, OpsGuru, AltaML
Partner Co-Investment: $1.4M
Digital Technology Supercluster Co-Investment: $3.5M
Total Investment: $4.9M

This project is developing an end-to-end eGrocery Management solution to address the unprecedented demand for online sales and ensure food security for Canadians through better food supply chain management. The project initially launched the solution to ensure fresh food delivery to our frontline workers and COVID-19 patients. Since then, the project has scaled globally through a significant partnership with Carrefour, one of the world's largest grocers. The project continues to refine the solution and its offerings. The project is scheduled to complete in December 2022.

This project received follow-on investment based on the completion and results of the feasibility study, Feeding the Frontlines (approved in 2020).

Standard Data Platform for Autonomous Agriculture

Project Lead: Verge Ag
Partners: i-Open Technologies, Simon Fraser University (SFU), Terramera Inc., QuantoTech, BC Agritech Grant, InBridge Inc., Mitacs, Olds College, Whipcord Ltd.
Partner Co-Investment: $6.4M
Digital Technology Supercluster Co-Investment: $4.4M
Total Investment: $10.8M

This project is developing an interactive operational planning platform that will improve the efficiency of farming, reduce emissions, and increase the net income of farmers. Using analytic data and digital technology, farmers will better plan their farming operations and make data-driven decisions based on economic and environmental factors. This technology will also empower smarter, faster, and more sustainable food production. The project works with a number of fields and farms across Western Canada for field, crop, and soil characterization. The project now has the capability to ingest and process data from drones, satellites, in-field equipment, and other local data sources. The project is on track for an initial platform release by autumn 2022. This project is scheduled to complete work in April 2023.

Industry Transformation

Creating technologies for real-time operations management, simulation, modelling and training that enhances productivity and the transition to greener business practices.

Augmented Reality for Maintenance and Inspection

Project Lead: Boeing Vancouver/ Aeroinfo
Partners: Simon Fraser University, Finger Food Advanced Technology Group (Unity Technologies)
Partner Co-Investment: $0.3M
Digital Technology Supercluster Co-Investment: $0.2M
Total Investment: $0.5M

This project undertook the designing of an augmented reality algorithm that could accurately map a 3D model on top of a real-world aircraft image in order to improve the safety, accuracy and cost of inspections of these very large objects. This project successfully demonstrated that the technology developed could anchor and identify a fixed-point location using a 3D model on a real aircraft and augmented reality. This research project laid the groundwork to visualize all the important repair and maintenance records for an aircraft live and in 3D, leading to more efficient and intuitive inspections of aircraft. This project completed work in December 2020.

Digital Aircraft Records System

Project Lead: TrustFlight (Canada) Inc.
Partners: Race Rocks 3D Inc., Boeing Vancouver/ Aeroinfo, University of British Columbia, Flair Airlines Ltd., Transport Canada
Partner Co-Investment: $6M
Digital Technology Supercluster Co-Investment: $4.2M
Total Investment: $10.2M

This project aims to streamline processes and increase productivity with a digital solution that leverages blockchain technology through a world's first industry-wide aircraft maintenance data platform. The solution will replace paper records for an aircraft with a digital alternative that offers greater insight and reduces manual work. Working with airlines and regulators, the project is currently establishing the infrastructure for the digital data platform to enable efficient and secure maintenance records storage across the lifecycle of an aircraft, as well as developing the digital engine log and fleet management tools. This project is scheduled to complete work in December 2022.

Predictive Analytics for Manufacturing Processes

Project Lead: D-Wave Systems
Partners: Solid State AI, Simon Fraser University, AVCORP
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.1M
Total Investment: $0.3M

This project created a digital twin prototype of the metal finishing line, leveraging predictive analytics to analyze data captured from the process line, such as chemical compositions, temperature and voltage. The project resulted in new insights with respect to the development of a digital twin for optimized large equipment manufacturing processes, including more effective mapping, cleansing, and processing of industry data. Solid State AI developed and commercialized software called AIMS (Artificial intelligence for Manufacturing Systems), which allows users to import, visualize, and execute machine learning models on manufacturing data. This project completed work in November 2020.

The Learning Factory Digital Twin

Project Lead: AVCORP
Partners: AMPD Ventures Inc, Microsoft Corporation, University of British Columbia, Convergent Manufacturing Technologies Inc., LlamaZOO Interactive, Boeing Vancouver/ Aeroinfo
Partner Co-Investment: $2.7M
Digital Technology Supercluster Co-Investment: $2.1M
Total Investment: $4.8M

This project is working towards demonstrating a functional blueprint of a digital twin solution for the manufacturing processes of aerospace components. This project allows hands-on learning and research to drive continuous improvements through predictive planning, real-time monitoring and quality control. Ultimately the digital twin developed through this project will inform future work and create a new approach to advanced aerospace manufacturing. The project continues to digitalize existing industrial production lines for aircraft parts by creating new, digitally driven industrial tools for spatial planning, asset state determination, and Foreign Object Detection (FOD). The project has created simulation models of production processes and layout modelling to evaluate capacity planning and resource allocation for optimizing workflows and demonstrated capabilities in physics-based models, probabilistic predictions and sensitivity and spatial analysis. The project is currently working on data display and visualization for improved factory spatial planning capacity, live IoT integration and remote desk capabilities for LlamaZOO's Clarity Platform. The project is scheduled to complete work in December 2022.

Digital Health

Improving the prevention, early diagnosis and treatment of disease through innovative digital technologies for better health and wellness for citizens

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Autism Sharing Initiative

Project Lead: DNAstack Corp.
Partners: Pacific Autism Family Centre Foundation, Ontario Brain Institute, Molecular You Co., Excelar Technologies (Connected Displays Inc.), The Hospital for Sick Children (SickKids), University of British Columbia, Roche, Autism Speaks
Partner Co-Investment: $6.9M
Digital Technology Supercluster Co-Investment: $4.3M
Total Investment: $11.2M

This project created the first federated and fully protected global network for sharing genomics and biomedical data to accelerate research and develop precision healthcare approaches for individuals with autism. The project built the infrastructure to support data sharing, collect new data samples, and align on data sharing policies. This project completed in February 2022.

CanDETECT

Project Lead: Canexia Health
Partners: BC Cancer Research, DNAstack Corp., Illumina, Kingston General Health Research Institute, Kingston Health Sciences Centre, Microsoft Corporation, Oxford Nanopore Technologies Ltd, Queen's University, University Health Network
Partner Co-Investment: $12.6M
Digital Technology Supercluster Co-Investment: $5.3M
Total Investment: $17.9M

This project uses artificial intelligence and machine learning to develop a precision oncology software to provide real-time assessment of tumor status and potential response to targeted therapies. This solution will enable oncologists to tailor treatments to individual patients, ensuring the best possible outcome faster, more accurately and at less cost than current solutions. The initial platform has been developed and the first patients are currently being on-boarded. This project is scheduled to complete work in September 2023.

Compass

Project Lead: HelpSeeker Inc.
Partners: Corsac Technologies Corporation, Microsoft Corporation, University of Toronto, Mitacs, Canadian Mortgage and Housing Corporation, City of Lethbridge, Medicine Hat Community Housing Society, Homeward Trust Edmonton, First Nations Information Governance Center
Partner Co-Investment: $3.4M
Digital Technology Supercluster Co-Investment: $1.5M
Total Investment: $4.9M

This project will deliver the world's first modular platform, Compass, designed to revolutionize how social challenges are tackled. The platform aligns the needs of individuals, service providers, and policy makers in the social services sector. It leverages artificial intelligence and machine learning models to streamline the experience for those looking for help—and provides better insights for those delivering or funding these supports. The project is currently undertaking a first-of-its-kind ontology of the social system; this work will allow the project and the sector to create a framework to link disparate datasets to track social outcomes, needs, and supplies in the Compass solution. Working with the alpha cities and advisors, this project is working towards bringing the initial modules to market by Summer 2022. The project is scheduled to complete work in December 2022.

Dermatology Point-of-Care Intelligent Network

Project Lead: Change Healthcare
Partners: Careteam Technologies, MetaOptima Technology Inc., Providence Health Care, University of British Columbia, University of Victoria, BC Cancer
Partner Co-Investment: $6.3 M
Digital Technology Supercluster Co-Investment: $3.6M
Total Investment: $9.9M

This project sought to demonstrate a modular cloud-based system that can effectively support a patient-centric, closed-loop tele-dermatology workflow, including remote patients and physicians. The solution leveraged AI-powered medical imaging that incorporates dermatology and pathology data and images that would enable patients at risk of skin cancer to get diagnosed in days, rather than months, anywhere in Canada. The project undertook a pilot study to validate the patient journey, care planning, system usability and effectiveness to monitor and support treatment decisions related to skincare conditions including cancer. Initial pilot studies indicated that the speed for getting a diagnosis and treatment was significantly expedited using the delivered solution. Overall, the solution decreased wait times substantially for diagnostic assessment of skin cancer (as compared to average national wait times); the time between referral and diagnosis was five days or less for 84% of the patient cases in the pilot, compared to 192 days national average for the time between referral and diagnosis reported in Canadian literature (see Liddy et al, 2020). The project completed work in November 2021.

Healthcare to Homecare (including Feasibility Study: Healthcare to Homecare)

Project Lead: XCO Tech Inc
Partners Greenroom Research Inc, iClinic Systems, University of Victoria, Indoc, Kinduct Technologies Inc, Ontario Brain Institute, Canadian Frailty Network, Quebec Network for Research on Aging, Theory and Practice
Partner Co-Investment: $1.6 M
Digital Technology Supercluster Co-Investment: $1.0M
Total Investment: $2.6M

This project team is developing the Frailty Care System (FCS) to help identify key causal factors of frailty enabling the provision of essential clinical care, remote patient monitoring, and self-care programs leading to improved health. Frailty is a medical condition of reduced function and health in older individuals that increases the odds of developing multiple medical conditions. There are an estimated three million frail or pre-frail patients in Canada alone. As part of the project, XCO released the initial version of the HealthONE solution. HealthONE combines dynamic data from proprietary technology and cognition tests to give physicians and caregivers more data to assess a patient's frailty status and progression. The project resulted in global interest as well as opportunities to extend the solution for measuring long-COVID and monitoring Parkinsons. This project completed work in February 2022.

This project received follow-on investment based on the completion and results of the feasibility study, Healthcare to Homecare (approved in 2020).

Intelligent Network for Point-of-Care Ultrasound

Project Lead: Providence Health Care
Partners: University of British Columbia, Clarius Mobile Health, Change Healthcare, Rural Coordination Centre of BC, Natural Sciences and Engineering Research Council of Canada, Canada Foundation for Innovation
Partner Co-Investment: $1.9M
Digital Technology Supercluster Co-Investment: $0.7M
Total Investment: $2.6M

This project combined portable ultrasound devices, imaging technology, and machine learning to enable physicians to make accurate diagnoses. The project developed a robust artificial intelligence software module with broad commercial possibility capable of predicting first trimester gestational age and adult cardiac ejection fraction. The project deployed 50 probes (or handheld devices) in rural settings across British Columbia including the world's first virtual solution to educate physicians using handheld ultrasound devices. The solution allowed rural physician users to leverage clinical expertise via telemedicine to lower barriers for safe and effective ultrasound usage and adoption. The project demonstrated the equalizing access to diagnostic testing in rural and remote communities at a minimal cost, as well as the potential to eliminate some avoidable patient transfers, keeping patients close to home while saving significant money to individuals and the healthcare system. This project completed work in January 2022.

Multi-Omics and Medical Imaging Engine

Project Lead: PHEMI Systems Corporation
Partners: Government of BC, Providence Health Care, Provincial Health Services Authority, Vancouver Coastal Health
Partner Co-Investment: $0.04M
Digital Technology Supercluster Co-Investment: $0.13M
Total Investment: $0.17M

This feasibility study was undertaken to determine the commercial viability of creating a Multi-Omics and Medical Imaging (MOMI) engine to improve the resiliency of health systems, advance translational medicine and enhance health research and innovation capabilities in Canada. From an economic development standpoint, the study demonstrated that creating an entity that serves as a host for multi-stakeholder complex-data-intensive collaborations removes significant barriers to building an innovation ecosystem. A report outlining the study results was submitted and project completed in January 2021.

Optimizing Healthcare through Applied Digital Twinning

Project Lead: Providence Health Care
Partners: Cisco Systems Canada Co., Empower Health, IBI Group, LlamaZOO Interactive, University of British Columbia
Partner Co-Investment: $0.03M
Digital Technology Supercluster Co-Investment: $0.08M
Total Investment: $0.11M

This feasibility study investigated the commercial viability of developing a platform that could develop a digital/virtual copy to inform the construction of the hospital of the future and optimize design, streamline workflow and simulate operations. The study detailed the potential of an untapped market for the proposed technology solution, provided that the commercial pathways were available to the partners. A report outlining the study results was submitted and project completed in September 2020.

Personal Health Wallet

Project Lead: Molecular You Co.
Partners: Mitacs, Molecular You Co., Stone Paper Inc. (Three Lefts), University of British Columbia
Partner Co-Investment: $0.9M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.4M

This project sought to address challenges in the health care system around disconnected, siloed medical data of individuals; accessing data for research purposes; and legitimate privacy concerns around sensitive health information. To this effect, the project developed and piloted the use of blockchain technology that allows individual users custody and control over access to their personal data in a manner that respects users' privacy, while allowing for and incentivizing sharing of, data with selected research partners. Researcher partners gain access to a network of study participants with pre-collected datasets obtained from verified sources. The project included pilot testing of the newly patented MyPDx platform with partners, including a major pharmaceutical to successfully demonstrate the platform's capacity to work with new data types. This project completed work in December 2021.

Reducing Opioid Use for Pain Management

Project Lead: Careteam Technologies
Partners: Providence Health Care, BC Children's Hospital Research Institute, Xerus Medical Inc., Mitacs, University of British Columbia, National Research Council of Canada, Thrive Health, Excelar Technologies (Connected Displays Inc.)
Partner Co-Investment: $2.3M
Digital Technology Supercluster Co-Investment: $1.4M
Total Investment: $3.7M

This project is developing an active monitoring system to enable physicians to improve pain management, and proactively manage opioid prescriptions and their use in surgery patients. The solution will allow for personalized evaluation of a patient's use of opioids and response to pain and optimized treatment. The project has integrated a full suite of best practice pain management resources into Thrive and Careteam platforms to support patients in reducing risk of opioid dependence. Surgical patients at St. Paul's Hospital in Vancouver, B.C., are currently onboarding as part of the pilot study, with high-risk patients being identified and supported from the start of their surgical journey. This project is scheduled to complete work in November 2022.

The Secure Health & Genomics Platform Program

Project Lead: Deloitte
Partners: DNAstack Corp., Genome British Columbia (Genome BC), Lifelabs, Microsoft Corporation, Molecular You Co., University of British Columbia
Partner Co-Investment: $1.6M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $2.1M

This project set out to create the national digital platform capabilities for using health and genomic data to improve patient health and wellness through precision diagnosis and treatment. The initial work focused on building a health and genomics data library with an opportunity to plan and design for a target state and build a minimum viable product (MVP) solution that will be scalable, cost-effective, open, and interoperable with users engaged from the start. This project was closed in April 2020.

Tailored Health – Pharmacogenetics

Project Lead: TELUS
Partners: Emily Carr University of Art and Design, Genome British Columbia (Genome BC), GenXys Health Care System, Lifelabs
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $0.4M
Total Investment: $0.9M

This project set out to demonstrate an integrated approach to prescribing medication that would digitally connect testing labs and medication decision support software with electronic medical systems (EMR) and pharmacy management systems. The project intended to leverage pharmacogenetic testing (PGx) to address a significant pharmacological healthcare burden by identifying what medications would be the most appropriate for specific individuals based on multiple variables including genetic make-up. The project created a framework for technical integration and data governance for exchange of medical data in electronic medical systems to inform medication decision support and conduct research to further understand physician and pharmacist perception of using PGx in their practice. The project consortium decided not to continue the project due to COVID-related priorities. This project was closed July 2021.

TRUSTSPHERE

Project Lead: Careteam Technologies
Partners: Mitacs, MedStack Inc., SecureKey Technologies Inc., Smile CDR Inc., IDENTOS, BC Children's Hospital Research Institute, University of British Columbia
Partner Co-Investment: $3.7M
Digital Technology Supercluster Co-Investment: $2.2M
Total Investment: $5.9M

This project aims to create an innovative 'digital circle of care' solution for Canadians through the creation of a platform that will allow users to share confidential information easily and securely with online healthcare services and interact collaboratively with health care providers in compliance with the highest standards of privacy protection. The project is actively developing and testing the beta stage of the platform through a use case with BC Children's Hospital and pediatric patients that will connect families, caregivers, and clinicians to improve patient-centered care for children with Type1 Diabetes. This project is scheduled to complete in November 2022.

Wellbeing.ai

Project Lead: Lululemon Athletica
Partners: Microsoft Corporation, Queen's University, Wysdom.AI, Mitacs
Partner Co-Investment: $11.5 M
Digital Technology Supercluster Co-Investment: $8.5M
Total Investment: $20M

This project is seeking to overcome the scaling challenges of wellness coaching. Using artificial intelligence models and multimodal datasets, this project will develop a 'digital brain' to understand human interactions and deliver an immersive, personalized experience of wellness coaching. The project has established a robust ethical governance and data-sharing pipeline, released the first generation of the Wellness Virtual Assistant (VA) and Conversational AI, and conducted initial end-user validation with positive results. The team is leveraging learning and findings and currently working on their second generation of releases. The project is scheduled to complete work in January 2024.

Workplace Brain Health

Project Lead: InteraXon Inc.
Partners: Cambridge Brain Sciences, Hatch Ltd., The University of Western Ontario
Partner Co-Investment: $1.1M
Digital Technology Supercluster Co-Investment: $1.5M
Total Investment: $2.6M

This project is developing a platform using cognitive quantification tools and brain sensing technologies to gather and analyze anonymous brain-health data for the creation of a personalized wellness strategy that helps employees to lead happier and healthier lives. The project intervention for sleep and stress was successfully built, deployed in partnership with Hatch Ltd., to 300 people. Participants who completed the study reported improvements in stress, mood, self-regulation and notably, in sleep quality and sleep onset latency. Initial assessments identified a 20% increase in sleep quality as recorded by the gold-standard Pittsburgh Sleep Quality Index. The project is currently working on incorporating participant feedback into the solution. This project is scheduled to complete work in June 2022.

COVID-19 Health

Tackling critical issues in the fight against COVID-19 including how to: improve patient care and outcomes; optimize health systems and decision making; and test novel approaches to care delivery.

AI-based Prediction Tool for COVID-19 Patient Care

Project Lead: 16 Bit
Partners: Vector Institute, Sunnybrook Research Institute, SofTx Innovations Inc., Roche, London Health Sciences Centre, Layer 6 AI
Partner Co-Investment: $0.6M
Digital Technology Supercluster Co-Investment: $1.3M
Total Investment: $1.9M

This project developed a prediction tool using artificial intelligence to help frontline clinicians make better decisions, test solutions with predictive clinical decision support systems, and help administrators and policymakers to better manage hospitalizations of COVID-19 patients and improve their health outcomes for patients. The solution was able to predict a hospitalized COVID-19 patients' probability of discharge and probability of death across an 81-day time horizon based on routine information acquired during hospital admission. 16 Bit is preparing to submit its COVID-19 Inpatient Disposition Predictor tool to Health Canada for regulatory approval and is exploring opportunities of application for other infectious diseases. This project completed work in April 2022.

Clothing to Remotely Connect to Care

Project Lead: Myant Inc.
Partners: Holland Bloorview Kids Rehabilitation Hospital, The Hospital for Sick Children (SickKids),
Toronto Rehabilitation Institute (KITE), Southlake Hospital
Partner Co-Investment: $1.1M
Digital Technology Supercluster Co-Investment: $1.1M
Total Investment: $2.2M

This project supported virtual healthcare through the application of remote wearable technologies. While virtual healthcare delivered through telephone or video conferencing is being used, its effectiveness is limited because it relies on self-reporting by the patient of health data and symptoms. Textile-based sensors integrated into garments such as tank tops and chest bands continuously capture critical data such as temperature, heart and lung health, breathing and movement. Through this project, Myant developed and deployed an ISO13485 and Health Canada certified wearable smart textile system, inclusive of hardware and software interfaces that allows health professionals to assess real-time signal capture and display of a person's heart rate, resting heart rate, ECG, activity, posture, location and body temperature. This project was completed in December 2021.

Confidential Virtual Addiction Treatment for Healthcare Workers

Project Lead: ALAViDA
Partners: Pacific Blue Cross, Health Sciences Association, Hospital Employees Union, BC Nurses Union,
Digital Health Circle, Fraser Health Authority, HealthCare Benefit Trust, BC General Employees Union,
PORTAGE LEGAL SERVICES
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.8M
Total Investment: $1.0M

This project delivered an online virtual care addiction treatment program that is powered by artificial intelligence to enable healthcare workers to have access to confidential evidence-based treatment options. The program is also offered in French. The program was made available to over 34,000 frontline workers in the Fraser Health region and exceeded its engagement targets in the Proof-of-Concept (PoC) phase. The program also succeeded in its objective to provide critical healthcare workers 100% confidential, virtual, evidence-based treatment options for substance use disorder (SUD). The project has built a strong business case for widespread adoption of pre-disability SUD treatment and the incorporation of this form of treatment into existing employee benefit plans. At time of project work completion, the technology and treatment platform had been deployed with PPI Insurance, TIPI Insurance Partners, Cowan Insurance, Benefits Plan Administrators, MyHSA, League and Pacific Blue Cross among others. This project completed work in May 2021.

COVID Cloud (including Feasibility Study: Beacon - Realtime Data Sharing Network)

Project Lead: DNAstack Corp.
Partners: Vector Institute, McMaster University, Genome British Columbia (Genome BC), BioSymetrics, Sunnybrook Research Institute, Ontario Genomics Centre of Genomics and Policy, McGill University, Microsoft Corporation, FACIT Inc., Roche, Mannin Research, Ontario Institute for Cancer Research
Partner Co-Investment: $2.0M
Digital Technology Supercluster Co-Investment: $3.4M
Total Investment: $5.4M

This project delivered the COVID Cloud platform, rebranded by DNAstack as ViralAI, that enables the sharing of data using industry standards and provides scientists and decision makers with better information about COVID-19 derived from real-time genomics, clinical, epidemiological, and other data. Technical development of the COVID Cloud platform remains ongoing as partnerships have been established with both Ontario's Ministry of Health and Ontario Genomics to deploy COVID Cloud as a solution to support provincial COVID surveillance and the effectiveness of public health measures. The COVID Cloud platform was selected by CanCOGeN to deliver, alongside other groups, a national data sharing platform that will enable countrywide variant surveillance. This project completed work in April 2021.

This project received follow-on investment based on the completion and results of the feasibility study, Beacon - Realtime Data Sharing Network (approved in 2020).

Digital Mental Health Tools for Healthcare Workers Providing COVID-19 Care

Project Lead: Starling Minds
Partners: Genome British Columbia (Genome BC), University of British Columbia
Partner Co-Investment: $0.7M
Digital Technology Supercluster Co-Investment: $2.0M
Total Investment: $2.7M

This project leveraged Starling Minds' suite of best-practice digital mental health tools to develop new programs focused on prevention and intervention that are specific to healthcare workers, including in the French language. The project also expanded its scope to include teachers given evidence of high mental health burdens faced by these professionals during the pandemic. As part of the project, Starling Minds' mental health care platform was available to 30,000 health care workers across Fraser Health Authority in British Columbia, as well as over 200,000 educators, principals and vice principals across Canada. This project completed work in June 2021.

Digital Telework for Remote Physical Work

Project Lead: Sanctuary Cognitive Systems Corporation (Sanctuary AI)
Partners: Expeto Wireless Inc. (Expeto), Revera, University of British Columbia, Alpine Building Maintenance, Microsoft Corporation, Forcen, Blackbird Interactive Inc.
Partner Co-Investment: $1.7M
Digital Technology Supercluster Co-Investment: $4.0M
Total Investment: $5.7M

This project expanded beyond the existing use of video and audio technologies for the virtual work environment to include remote physical work. It demonstrated the use of robots in long-term care and clinic settings using 4G/5G networks and digital medical tools such as digital stethoscopes and biometric monitoring to improve patient care, patient outcomes, and the work environment for healthcare teams. The project successfully established a digital learning environment to support artificial intelligence model development, refined robot piloting capabilities for the healthcare setting, and is currently validating the robot capabilities in a testing environment. This project completed work in May 2021.

Early Detection of COVID-19 through AI

Project Lead: Patriot One Technologies Inc.
Partners: University of British Columbia, Cisco Systems Canada Co., Cincinnati Reds Stadium
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $3.5M
Total Investment: $4.0M

This project focused on early detection and mitigation of potential infections of COVID-19 as critical to flattening the curve and minimizing future waves of pandemic outbreaks. The project provided the ability to screen large numbers of people in venues such as arenas, stadiums, hospitals, stores, and airports. The project applied computer vision and machine learning technologies to develop an artificial intelligence-powered monitoring system to screen for elevated temperatures, social distancing violations, and face-covering compliance to protect the health and safety of Canadians. Patriot One has successfully integrated new health and safety features into its existing PATSCAN video recognition system, which works with thermal cameras and any IP based optical camera. New intelligences developed include social-distancing non-compliance detection, missing mask detection, and elevated temperature screening analytics. In addition, the solution offering included real-time facility-level analytics features and a mobile screening application. This project completed work in October 2021.

Global Clinical Network for Infectious Diseases

Project Lead: Firstline (previously Spectrum MD)
Partners: New York City Department of Health, Vitalite Health Network, Nova Scotia Health Authority, Alberta Health Services, Horizon Health Network, Massive Change Network, Fraser Health Authority, Saskatchewan Health Authority, Enso, National Collaborating Centre for Infectious Diseases, Finger Food Advanced Technology Group (Unity Technologies)
Partner Co-Investment: $0.8M
Digital Technology Supercluster Co-Investment: $2.3M
Total Investment: $3.1M

The project delivered the first global platform that empowers healthcare organizations to collaborate and improve the diagnosis and treatment of infectious diseases. The project facilitated the sharing of complex clinical knowledge between healthcare organizations across Canada and the US, and delivered meaningful clinical improvements in the treatment of infectious diseases. The solutions developed reduced the time taken by clinicians to create a clinical guideline by 80% (from ~150 hours to ~30 hours) and has seen great interest with the World Health Organization to globally share updated guidelines on antimicrobial resistance. This project completed work in December 2021.

HEALTHYACCESS

Project Lead: Invixium Access Inc.
Partners: Manawa Networks, InventCanada Innovations Inc., Mara Technologies Inc.
Partner Co-Investment: $0.75M
Digital Technology Supercluster Co-Investment: $0.85M
Total Investment: $1.6M

This project developed a comprehensive solution for access control and workforce management by augmenting Invixium's IXM TITAN face recognition product with technological enhancements to offer rapid, touchless, and hygienic thermal screening, mask detection, and vital signs monitoring for employees and visitors. The solution enhanced worksite safety with integrations to building management systems to allow for transactional contact tracing capabilities ensuring healthy access for businesses and industries globally. Invixium is gaining market traction and adoption with the deployment in North America, the Middle East, Africa, India, and Europe. This project completed work in March 2021.

Improving ICU Capacity During COVID-19 Outbreaks

Project Lead: Altis Labs Inc.
Partners University Health Network, Bayer, Quantitive Imaging for Personalized Cancer Medicine, Trillium Heath Partners
Partner Co-Investment: $0.6M
Digital Technology Supercluster Co-Investment: $1.4M
Total Investment: $2.0M

This project is developing software to predicts patients' risk of Intensive Care Unit (ICU) admission and expected length of ICU stay based on patients' medical imaging. The software is enabling hospitals to better manage and predict ICU capacity leading to better care and outcomes for patients. The project was successful in collecting and analyzing data from over 33,000 pneumonia and COVID-19 patients. This data is being used to develop predictive models that are incorporated into the Altis' Nota Platform. The Nota Platform leverages AI to predict patient outcomes from imaging data to better prioritize promising therapies. The project is currently training models for lung cancer and additional pulmonary diseases. This project is scheduled to complete December 2022.

Leveraging AI in Canada's Social Response to COVID

Project Lead: HelpSeeker Inc.
Partners: Canadian Mortgage and Housing Corporation, Corsac Technologies Corporation, York University, AltaML, A Way Home Canada, Canadian Observatory on Homelessness, University of Calgary
Partner Co-Investment: $0.0M
Digital Technology Supercluster Co-Investment: $0.6M
Total Investment: $0.6M

This project partnered Canada's top social researchers and machine learning experts to develop a predictive algorithm, InnSoTech, to better anticipate occurrences of homelessness, suicide and domestic violence. The artificial intelligence powered platform provides real-time data and insights to predict community and social support needs before they become crises for evidenced-based decision making. The InnSoTech algorithm is being utilized by multiple cities across Alberta to enumerate homelessness. This project completed work in February 2021.

Lifesaver II (including Feasibility Study: Lifesaver - Predicting Emerging Pandemics)

Project Lead: Finger Food Advanced Technology Group (Unity Technologies)
Partners: Matidor.com, Eventbase Technology, MNP, University of British Columbia
Partner Co-Investment: $1.0M
Digital Technology Supercluster Co-Investment: $3.0M
Total Investment: $4.0M

This project aimed to fill information gaps by consolidating and harmonizing vast arrays of data in order to synthesize and display relevant, meaningful information for businesses and the general public. The project has created a ready-to-use application, called CovidPilot, that provides clear geospatial visualization of the COVID-19 exposure risk that is relevant, predictive and easily understandable for a wide range of users. This project completed work in February 2021.

This project received follow-on investment based on the completion and results of the feasibility study, Lifesaver - Predicting Emerging Pandemics (approved in 2020).

Looking Glass: Protecting Canadians in a Return to Community

Project Lead: Kings Distributed Systems Ltd.
Partners: Distributed Computer Labs, Limestone Analytics, aiSight Inc., Queen's University
Partner Co-Investment: $0.9M
Digital Technology Supercluster Co-Investment: $1.3M
Total Investment: $2.2M

This project took on the challenge of developing a scenario-driven, decision support platform based on robust modelling to better inform public policy and practice. It was designed for government and industry, as COVID-19 physical distancing measures, reopening of schools and businesses, and widespread testing were considered, and the country prepared a return to work and community. This project resulted in the successful development of a user-friendly, web-based application for policy makers at all levels of government. Behind the application are two innovative predictive modelling tools that process large amounts of data through a one-of-a-kind distributed computing model. This project completed in April 2021.

Mobile Wellness Declaration

Project Lead: BioConnect
Partners: Mara Technologies Inc, Suprema
Partner Co-Investment: $0.3M
Digital Technology Supercluster Co-Investment: $0.6M
Total Investment: $0.9M

This project developed a digital COVID-19 screening tool, incorporating a wellness declaration and temperature scanner, that can be integrated into existing keycard access systems. This solution aimed to mitigate the spread of COVID-19 by preventing potentially ill people from entering buildings and keeping workers, visitors, and residents in long-term care facilities safe. In Autumn 2020, the BioConnect platform supported the MaRs Discovery District return to work, screening over 200 people per day inline with new mandates set out by Ontario's Ministry of Health. This project completed work in February 2021.

Point-of-Care Ultrasound for COVID

Project Lead: Providence Health Care
Partners: Rural Coordination Centre of BC, University of British Columbia, Change Healthcare, Clarius Mobile Health, Vancouver Coastal Health
Partner Co-Investment: $0.2M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $0.7M

This project is an augmentation of the Intelligent Network Point-of-Care Ultrasound project and aims to use a handheld ultrasound device powered by artificial intelligence to provide real-time diagnosis of patients with pneumonia, potentially caused by COVID-19. The project developed novel artificial intelligence to perform on par with clinical experts for identification of lung pathology, including some of the ultrasound image features of COVID-19. Frontline workers, particularly in rural and remote areas, were supported through the development of virtual training, remote clinical support, and artificial intelligence tools to rapidly identify COVID-19 lung abnormalities and provide a clinical decision support tool. This project completed work in July 2021.

Project ABC

Project Lead: Cambian Business Services, Inc.
Partners: IBM Canada Ltd., Simon Fraser University, Shift Health Paradigms Ltd. (Tickit Health), Providence Health Care, Inc. Digital Health Circle, WELL Health Technologies Corp., Mitacs, Lifelabs
Partner Co-Investment: $1.0M
Digital Technology Supercluster Co-Investment: $3.0M
Total Investment: $4.0M

This project introduced new digital technologies to automate processes for registration, booking, and service delivery of tests and vaccines. The solution addresses legacy, paper-based manual workflows and delivers accurate and efficient recording of vaccination information with a streamlined clinical workflow. The project developed a suite of enhanced, integrated digital tools, including citizen self-scheduling, priority sequencing, and demand forecasting, enabling mass testing and immunization campaigns for COVID-19 and other infectious diseases, in a more efficient, secure, and accurate way. This project completed work in July 2021.

Project ACTT - Access to Cancer Testing & Treatment in Response to Covid-19

Project Lead: Canexia Health
Partners: Novartis, Pfizer, Nova Scotia Health Authority, Lifelabs, Illumina, GenoLife, Semaphore Solutions, Health Novateur Ventures Inc., Eastern Ontario Regional Laboratory Association, AstraZeneca, Xtract Technologies Inc. (Xtact AI), Queen's University
Partner Co-Investment: $1.0M
Digital Technology Supercluster Co-Investment: $1.6M
Total Investment: $2.6M

This project deployed a minimally invasive circulating tumour DNA (ctDNA) test, known as liquid biopsy, as an alternative to some surgical tissue biopsies. The test was optimized through deep learning techniques and incorporated an automated treatment recommendation system that is interoperable with labs and healthcare data repositories. More than 800 Canadian cancer patients received testing since July 2020, with reportable findings identified for almost 50% of samples. The program has expanded across Canada, with samples from most provinces and approximately 11% from rural and remote areas. The project is developing a localized provincial testing infrastructure through partnerships with large academic hospital and community labs. This project completed work in July 2021.

Protecting Canadians by Predicting the Evolution of COVID-19

Project Lead: RedCedar Biosciences
Partners: Microsoft Corporation, ProMIS Neurosciences. Inc., University of British Columbia, Menten artificial intelligence Canada, Inc., Terramera Inc.
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $2.4M
Total Investment: $2.9M

This project brings together a select group of world-class artificial intelligence, computer modelling, and structural biology researchers to forecast changes to the virus so we can pre-design tests, therapies and vaccines to manage future outbreaks. These models can significantly reduce the response time to deploy new diagnostics and medicines to help protect Canadians. To date, an algorithm has been developed to predict the structure of the coronavirus and its variants. There is an enhanced understanding of the folding complex proteins that may provide insights to improve the design of the COVID-19 vaccine and therapies. This project is scheduled to complete work in December 2022.

Providing Safe and Effective Home Care During COVID-19

Project Lead: AlayaCare Inc.
Partners: ParaMed, AceAge inc, e-Cobalt, Careteam Technologies, Saint Elizabeth Health Care, Partners in Community Nursing, Acclaim Health, University of Victoria, Bayshore Health
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $0.7M
Total Investment: $1.2M

This project sought to significantly increase the functionality of AlayaCare's existing digital toolkit and accelerate the ability to deliver the COVID-19 specific functionality, including scheduling algorithms, employee and patient pre-screening, and alerting service providers in real-time about symptomatic employees or patients. The project delivered significant improvements resulting in cost reductions of 50%. AlayaCare saw significant Canada-wide adoption with over 470,000 screener forms completed at the time of project completion. This project completed work in April 2021.

Rapid Assessment of Disability Claims During and Post COVID-19

Project Lead: Owl Labs Inc.
Partners: Labarge Weinstein LLC, Deloitte, Reinsurance Group of America, Royal Bank of Canada Insurance
Partner Co-Investment: $4.2M
Digital Technology Supercluster Co-Investment: $4.3M
Total Investment: $8.5M

This project aimed to monitor eligibility of insurance claims for more streamlined processing as well as reducing the financial impact of malingered claims. The project looked to minimize the broad financial impact of COVID-19 driven claims on Canadians by minimizing the expected increase on insurance premiums for Canadians and their employers resulting from those malingered claims. The project saw strong commercial traction, with pilots demonstrating at least a 4-5 times ROI. The project resulted in significant growth for Owl Labs including $37M in new funding and executed commercial agreements with a number of US and Canadian disability carriers. This project completed work in February 2022.

Rapid Deployment of Emergency Case Management

Project Lead: Careteam Technologies
Partners: Regional Geriatric Program of Eastern Ontario, Alaya Care Inc., The Ottawa Hospital, Caredove, CognisantMD
Partner Co-Investment: $0.0M
Digital Technology Supercluster Co-Investment: $0.7M
Total Investment: $0.7M

This project aims to reduce the risk of COVID in seniors, by delivering a digital platform that brings together both health and social service organizations so they can share personalized care plans, communicate about case management and conduct online assessments of both COVID-19 and regular health statuses. The platform gives patients and caregivers a convenient hub for online check-ins, an easy way to make service requests, and a way to receive tailored information and resources. As of Spring 2022, the platform has been broadly deployed in the Ottawa region including hospitals and community services through the Regional Geriatric Program of Eastern Ontario, the regional Dementia Society and through a second pilot deployment in Sault St. Marie. Feedback has been positive, especially around patient empowerment and better access to care resources. The project has adapted as the phases of COVID-19 have progressed and is now providing more support related to reducing waitlists and people whose regular care has been delayed - a shift from rapidly deployable reactive person-specific care to population-level management and large-scale onboarding. This project is scheduled to complete in June 2022.

Raven2: AI Platform for Novel Drug Discovery (including Feasibility Study: Rapid Repurposing of Drugs for COVID-19)

Project Lead: Variational artificial intelligence Inc.
Partners: adMare Bioinnovations, University of British Columbia
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $1.9M
Total Investment: $2.4M

This project is delivering a digital/computational platform powered by Variational AI's proprietary generative artificial intelligence algorithm. The algorithm is trained based on experimental and computational drug discovery data provided by the Vancouver Prostate Center/University of British Columbia and from publicly available sources to generate new and better small molecules more quickly than current methods. At time of project completion, the trained model generated almost 50 novel compounds that are predicted to bind to the target site of the virus. This project completed work in December 2021.

This project received follow-on investment based on the completion and results of the feasibility study, Rapid Repurposing of Drugs for COVID-19 (approved in 2020).

Reduce Risk: Post-COVID Analytics Platform for Returning to Work

Project Lead: Molecular You Co.
Partners: AltaML, Alberta Blue Cross, Curatio Network, MRM Proteomics Inc., Roche
Partner Co-Investment: $0.8M
Digital Technology Supercluster Co-Investment: $2.1M
Total Investment: $2.9M

This project is enabling the rapid assessment of an individual's risks from COVID-19 infection and the predicting of post-infection situations. The project is delivering a new analytics platform that houses and leverages one of the largest sets of high-dimensional COVID-19 patient data. The platform includes artificial intelligence and machine learning tools to accelerate analysis and generate new knowledge of how the body responds to COVID-19. As of Spring 2022, the project had successfully generated a preliminary machine learning model that leverages COVID-19 biomarker signatures to identify the risk of severe COVID-19. Data sets from COVID-19 patients and healthy controls have been analyzed to assess the health risks of future patients, recovering patients, and patients with long COVID. Once complete, this project will provide a deeper understanding of debilitating symptoms and health risks associated with COVID-19 and long COVID. This project is scheduled to complete work in December 2022.

ReSTART: Post-COVID Surgeries and Medical Procedures

Project Lead: SeamlessMD
Partners: Sinai Health System, Unity Health Toronto, Toronto East Health Network, Excelar Technologies (Connected Displays Inc.), Xerus Medical Inc., AltaML
Partner Co-Investment: $0.1M
Digital Technology Supercluster Co-Investment: $1.6M
Total Investment: $1.7M

This project tackles the backlogs and prevention of COVID-19 resurgences in the healthcare system. The project developed an end-to-end digital solution that effectively manages surgical services by allowing patients to remotely access and complete preoperative assessments, COVID-19 screenings and educational content on how to prepare for their surgery. The machine learning incorporated into the system uses health record data to predict cancellations, re-admissions and emergency visits, and help forecast the urgency and prioritization of cases. At the time of project completion, over 2,500 patients at five hospital sites across Ontario were enrolled into the ReSTART surgery platform. Four hospital organizations (Toronto East Health Network, Unity Health, Sinai Health, and St Joseph's Health Hamilton) had gone live with the platform via integration with their electronic health records and surgical scheduling systems. The platform boasts 90% patient satisfaction/recommendation, with around 25% of patients reporting the avoided at least one phone call or visit to the hospital by enrolling into the program. This project completed work in December 2021.

Screen O/S (including Feasibility Study: Risk Management Frameworks for Workplace Safety)

Project Lead: Gemina Labs (formerly Eco-Screen Solutions)
Partners: Nomadic Pictures, University of British Columbia, Thunderbird Entertainment, Patriot One Technologies Inc., University of North Dakota, EcoMine Technologies
Partner Co-Investment: $0.5M
Digital Technology Supercluster Co-Investment: $0.5M
Total Investment: $1.0M

This project focused on a solution for instantly screening pathogens to provide reliable and anonymized risk reporting to leaders and regulators, as well as secure and private results directly to individuals. The project developed an on-the-spot digital certificate through their digital application, Testpoint, which pairs a physical test with a mobile application and provides a digital risk management system for workplaces. This solution was successfully deployed at a food processing facility in Alberta, where an exposure risked the shutdown of the entire facility. The project also undertook the initial development of a proprietary saliva-based test that detects the COVID-19 virus in minutes. In February 2022 Gemina Labs announced that their test showed significantly higher sensitivity when compared with a panel of seven leading commercial rapid antigen tests with real patient samples (Lancet - Corman, et al. 2021). This project completed work in November 2021.

This project received follow-on investment based on the completion and results of the feasibility study, Risk Management Frameworks for Workplace Safety (approved in 2020).

Stronger Together: Social Infrastructure for Community Health

Project Lead: Curatio Network
Partners: OnCall Health Inc, Wellness Garage, Simon Fraser University, University of British Columbia, Zu.com, Pacific Blue Cross, Cloud DX
Partner Co-Investment: $0.4M
Digital Technology Supercluster Co-Investment: $1.3M
Total Investment: $1.7M

This project focused on providing a solution for out-patients care at home during the pandemic. The initiative expanded Curatio's platform to deliver peer support, coaching from nurses and experts, evidence-based health literacy programs, and daily check-ins for both patients and families. The platform is privacy and regulatory compliant. Cloud Dx integrates remote patient monitoring, and with secure technology, streamlines clinician workflow to monitor vital signs from anywhere. Thirteen 'communities' have been established within the Curatio platform in a variety of areas including stroke recovery, respiratory health and well-being, prostate cancer, parenting during COVID-19, keeping mentally strong with multiple myeloma, disability and physical activity, cardiovascular health and wellbeing, COVID-19 survivors and long haulers, and 4+2 diabetes reversal strategy. Survey results from clinicians and patients show a 92% overall approval rating of the program. This project completed work in March 2021.

Supporting Canada's Elderly During the COVID-19 Pandemic

Project Lead: 3D Bridge Solutions Inc.
Partners: Censeopharm Consulting Inc., Wescana Pharmacy Group, Prolucid Technologies Inc., MedStack Inc., SnapPea Design, Wellness Pharmacy Group
Partner Co-Investment: $0.3M
Digital Technology Supercluster Co-Investment: $1.0M
Total Investment: $1.3M

This project is developing a digital hub to control a tamper-resistant e-dispenser. This new tool allows the elderly to access their medications wherever they are living, with remote support from caregivers and medical professionals who can monitor medication intake in real-time. The system also allows healthcare practitioners to determine patterns of non-compliance. The first prototype of the hardware has been completed and the project is refining the design based on initial feedback. This project is scheduled to complete work in June 2022.

Telewound Care Canada

Project Lead: Swift Medical
Partners: Central East Local Health Integration Network, The Research Institute of the McGill University Health Centre, University Health Network, SE Health, Alaya Care Inc.
Partner Co-Investment: $0.8M
Digital Technology Supercluster Co-Investment: $3.5M
Total Investment: $4.3M

This project is delivering the Telewound Care solution which combines high resolution, calibrated images with sub-millimeter accuracy and intelligent lighting calibration along with artificial intelligence and deep learning to enable early identification of patients at the highest risk of new or worsening wounds to support proactive care intervention. The artificial intelligence-powered wound care enhances the quality of images as well as the accuracy of measurements and assessments enabling high-quality consultations during the pandemic. The project launched in four innovative virtual wound care programs throughout Ontario and Quebec. Early feedback from clinicians has been positive in terms of both usability and performance. This project is scheduled to complete in October 2022.

Virtual Pulse

Project Lead: TTA Technology Training Associates Ltd.
Partners: CAE Inc., Finger Food Advanced Technology Group (Unity Technologies), British Columbia Institute of Technology, Animism Studios
Partner Co-Investment: $1.0M
Digital Technology Supercluster Co-Investment: $2.2M
Total Investment: $3.2M

This project built a digital training platform that brings together an extended reality (XR) training tool using the web and virtual reality modules to train aspiring nurses, replacing those who are retiring or burned out from strains of the COVID-19 pandemic. The Virtual Pulse platform simulations recreated real-life clinical situations to develop clinical reasoning abilities, which are a combination of cognitive, psychomotor and affective skills required to meet patients' health needs. As of project closing, 25 virtual simulation modules plus two virtual reality experience have been developed and tested successfully. The COVID-19 modules were taken by almost 2,300 frontline healthcare providers. One Virtual Pulse simulation module was offered (on trial) to nurses in India through the Canada-India Network Society. This project completed work in November 2021.

xrAI

Project Lead: Synthesis Health (spin out from 1QB Information Technologies Inc.)
Partners: Vancouver Coastal Health, Saskatchewan Health Authority, First Nations Health Authority,
Fraser Health Authority, Trillium Heath Partners, Onion Lake Cree Nation, Microsoft Corporation
Partner Co-Investment: $0.8M
Digital Technology Supercluster Co-Investment: $2M
Total Investment: $2.8M

This project uses artificial intelligence to identify lung abnormalities on chest x-rays in real-time, enabling
clinicians on the frontline in emergency rooms and rural hospitals to better identify COVID-19 and other
lung-related illnesses. In the hands of clinicians, this tool improves patient outcomes and save lives. As of
Spring 2022, xrAI was deployed in Ontario with Trillium Health Partners, Saskatchewan though the
Saskatchewan Health Authority and British Columbia through Vancouver Coast Health, as well as across
Onion Lake Cree Nation. The project team is currently working with First Nations Health Authority and
other First Nations communities for a laptop deployment of xrAI with a portable x-ray machine. This
project is scheduled to complete work in August 2022.