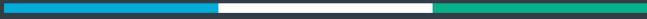




ALBERTA INNOVATES



2022  
2025  
BUSINESS  
PLAN

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# MESSAGE FROM THE BOARD CHAIRPERSON

WE ARE BUFFETED BY ACUTE GLOBAL CHALLENGES. FOLLOWING TWO YEARS OF A WORLDWIDE PANDEMIC, THE IMPACTS OF DISTANT GEOPOLITICAL CONFLICT ARE BEING FELT HERE IN ALBERTA. AS THESE TRAGIC EVENTS UNFOLD, THERE WILL BE IMMEDIATE AND LONG-TERM IMPACTS ON SUPPLY CHAINS, ENERGY SUPPLY AND FOOD SECURITY.



**Brenda Kenny PhD**

But Albertans are problem solvers and innovators here have a century-long history of finding solutions to intractable problems.

Alberta Innovates has been leveraging technology and innovation to drive diversification and economic growth for more than 100 years. Our work makes the R&I system more robust and responsive.

Alberta is a globally significant centre of energy production and expertise – both a challenge and opportunity in today’s global drive for reduced emissions. Alberta is also home to clean-tech expertise – much of it focused on energy-related environmental improvement. Alberta Innovates is a key player at the nexus of the two.

Building on that strength, we’re advancing government’s priorities in future growth areas such as hydrogen, carbon capture and Alberta’s environmental, social, and governance (ESG) position and competitiveness. And we’re looking to the future for new industries and opportunities beyond combustion such as carbon fibre.

Alberta Innovates and its subsidiaries are working closely with entrepreneurs and industry leaders to devise low emission pathways and systems for renewable and low-carbon energy monitoring, mitigating biosphere depletion, low-impact resource development, improving water use and sustainable agriculture. The clean technologies we’re focused on are vital for sustainable economic development, creating jobs and GDP growth.

We are supporting industry in its energy transformation. Every value chain and every supply chain will be impacted, and Albertans have the experience, know-how and resources to ease the transition worldwide to the low-carbon systems of the future.

In addition, we are supporting industry and innovators to respond to and take advantage of emerging challenges and opportunities within health, agriculture, digital transformation and production and distribution.

Government is introducing a new provincial technology and innovation strategy to attract capital; accelerate growth in technology and innovation; and support job creation, economic growth and diversification. Alberta Innovates will be key to its implementation in collaboration with the ministry and other government agencies.

We will continue to leverage our strengths and our history to address challenges and forge healthy, prosperous communities and sustainable solutions.

In 2022 we remain singularly committed to driving transformation through research and innovation, and creating new and better opportunities for Albertans today and into the future.

# MESSAGE FROM THE CEO

EMBOLDENED BY THE OPPORTUNITIES THAT CHANGE BRINGS, ALBERTA INNOVATES CONTINUES TO SUCCESSFULLY IMPLEMENT A SECTOR-AGNOSTIC APPROACH TO INNOVATION AND DEVELOPMENT OF NEW TECHNOLOGIES ACROSS THE PROVINCE.



**Laura J. Kilcrease**

Our strategies and priorities are sound. We know there is heightened urgency to make concrete progress and deliver solutions at scale. What we do and the expertise we house in Alberta is increasingly in demand beyond provincial borders.

For more than 20 years we have supported the development of artificial intelligence as a tool to transform data into better decisions, cost-savings and improved efficiency across sectors. Our support of the Alberta Machine Intelligence Institute and other projects leveraging artificial intelligence is ongoing.

We're applying data and digital technologies to smart agriculture, sustainable food production and distribution to feed a hungry world. We're also using data to develop digital solutions to improve patient outcomes, reduce costs and improve our overall health and well-being.

We also know how innovation can grow and diversify the economy. That's why we put so much effort into turning entrepreneurial development into economic development.

To further help entrepreneurs, Alberta Innovates' \$35-million Scaleup and Growth Accelerator Program is attracting global firms, technologies and investments to the province. Five accelerators have been engaged that are already establishing offices in Alberta and graduating cohorts of businesses through their programs.

We see a future where Alberta and Canada can find radically different uses and new value within conventional energy resources. Leveraging that value in new ways will ultimately support low emission goals. Going forward, Alberta Innovates will continue to advance our work to divert Alberta bitumen into new high-value materials like activated carbon and carbon fibre, allowing for an entirely new manufacturing industry to emerge in Alberta.

Carbon capture, use and storage is key to unlocking the potential of clean hydrogen production in Alberta, making it a fuel for everyday use. Hydrogen production, distribution and end use with low emissions is a pathway to a lower emission energy future.

Alberta Innovates is pleased to host the new \$50-million hydrogen centre of excellence bringing together industry, researchers, academics, entrepreneurs and governments to move hydrogen-related innovation and technology forward. We'll also be developing and building on testing and demonstration facilities to de-risk and advance projects. The centre's creation marks the beginning of a concentrated effort to establish a sustainable and self-sufficient clean hydrogen economy in Alberta.

Most importantly, Alberta Innovates will continue to be nimble and adapt to emerging technology growth opportunities and prosperity. We are focused on the future and the positive impact innovation can bring to people's well-being, their businesses and their environment.

# EXECUTIVE SUMMARY

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THE ALBERTA INNOVATES 2022–25 BUSINESS PLAN MAINTAINS AND BUILDS ON STRATEGIES AND INITIATIVES DESIGNED TO FOSTER RESEARCH AND INNOVATION (R&I) TO ACHIEVE PROVINCIAL PRIORITIES AND BENEFIT ALBERTANS. IN THE COMING YEAR WE WILL SUPPORT R&I ALIGNED WITH GOVERNMENT OF ALBERTA PRIORITIES OF ECONOMIC DIVERSIFICATION AND JOB CREATION AS OUTLINED IN [ALBERTA'S RECOVERY PLAN](#), LAUNCHED IN JUNE 2020, AND THE ALBERTA TECHNOLOGY AND INNOVATION STRATEGY (ATIS) APPROVED IN FEBRUARY 2022.

We will contribute to the Recovery Plan and ATIS by continuing to invest in five areas of significant economic opportunity for the province – **artificial intelligence, clean resource technologies, digital health, the entrepreneurial ecosystem and smart agriculture**. Our support in these areas will build on the skills and supports we have developed in the R&I system through our past investments over many years. Key initiatives in these areas include:

- Continuing to provide support to the Alberta Machine Intelligence Institute (Amii) as well as directly supporting projects leveraging artificial intelligence.
- Supporting cleantech developments including a clean hydrogen centre of excellence and advancing cleaner hydrocarbon production and advanced hydrocarbon non-combustion products.
- Adjusting existing and developing new digital health innovation programs and services to address gaps and minimize barriers to the adoption of digital health technologies.

- Scaling and growing companies, attracting technology firms and investment to Alberta, and building a thriving provincial technology and innovation ecosystem via the Alberta Scaleup and Growth Accelerator Program (Scaleup GAP).
- Developing agricultural technologies (agri-tech) aimed at sustainable productivity and diversity.

We will continue to support the growth of Alberta's technology sector, which had record years for venture capital investment in 2019 and 2020. In the last three years, the number of Alberta tech companies almost tripled. Despite this impressive growth, Alberta remains behind other more established innovation centres in Canada. Alberta Innovates must therefore stay the course with its strategy of supporting entrepreneurs and small and medium enterprises. We must also continue to encourage the adoption of emerging technologies such as artificial intelligence across Alberta's traditional sectors, so we do not lose the momentum we have begun to achieve as a province in creating a future-focused tech sector, more tech jobs and more skilled personnel.

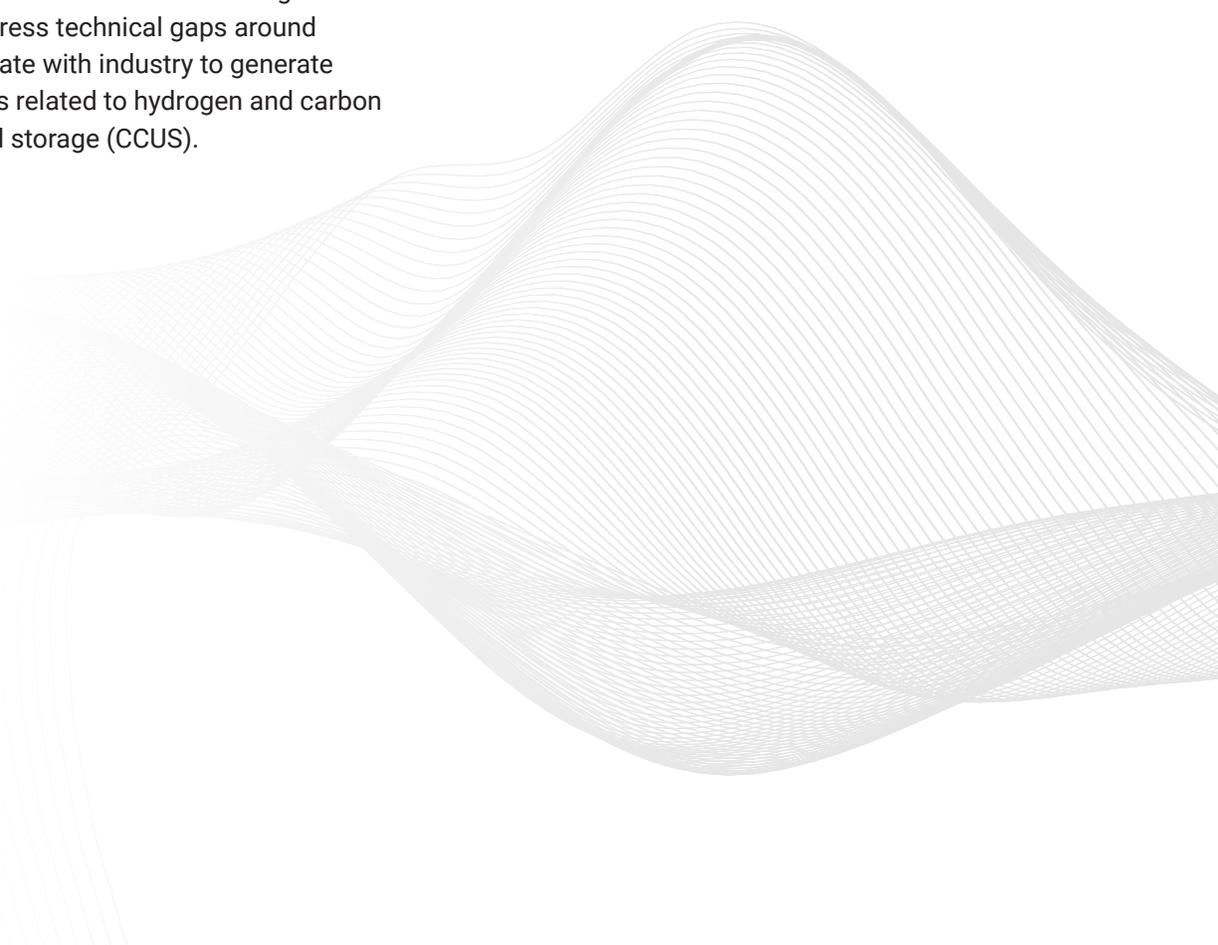
We also recognize the need to increase the depth of Alberta’s technology and innovation talent pool. We will continue to build talent at post-secondary institutions in support of our digital health and emerging technology strategies.

We will continue to leverage stakeholder relations, partnerships and collaborations across sectors and strategic areas, to increase the supports available to Alberta’s R&I system. And we will further strengthen the system and promote innovation by bringing together innovators, investors, stakeholders and thought leaders at our INVENTURE\$ conference in 2022, and through our year-round Unbound virtual event platform.

Our two subsidiaries – C-FER Technologies (1999) Inc. (C-FER), and InnoTech Alberta Inc. (InnoTech) – will continue to deliver value and solutions to complex challenges on an industrial scale that meet the needs of their clients, through applied research development and engineering services that validate, test and translate innovation into real-world use. Among their priorities, they will address technical gaps around hydrogen and collaborate with industry to generate solutions to challenges related to hydrogen and carbon capture, utilization and storage (CCUS).

Within our organization we will strive for continuous improvements in our operations to create added value for taxpayers and our clients, and to promote equity, diversity and inclusion in our workforce and our programs.

**INNOVATION DOES NOT HAPPEN OVERNIGHT BUT THROUGH A SERIES OF PLANNED AND STAGED ACTIONS ACROSS AN ENGAGED R&I SYSTEM. PLEASE BROWSE THROUGH THE ALBERTA INNOVATES BUSINESS PLAN 2022–25 TO FIND OUT MORE ABOUT THESE KEY INITIATIVES AND MANY OTHERS, AND HOW THEY ALIGN WITH OUR GOALS AND OBJECTIVES TO DELIVER IMPACT IN ALBERTA AND BEYOND.**



# MANDATE AND STRUCTURE

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ALBERTA INNOVATES RESPECTFULLY ACKNOWLEDGES THAT WE ARE SITUATED ON TRADITIONAL TERRITORY OF THE TREATY 6, TREATY 7 AND TREATY 8 FIRST NATIONS; HOME TO MÉTIS SETTLEMENTS, THE MÉTIS NATION OF ALBERTA, AND REGIONS 2, 3 AND 4 WITHIN THE HISTORICAL NORTHWEST MÉTIS HOMELAND. WE RESPECT THE HISTORIES, LANGUAGES AND CULTURES OF FIRST NATIONS, MÉTIS AND INUIT WHOSE PRESENCE CONTINUES TO ENRICH OUR VIBRANT COMMUNITY. WE OFFER THIS LAND ACKNOWLEDGEMENT AS AN IMPORTANT COMPONENT OF RECONCILIATION BETWEEN NON-INDIGENOUS AND INDIGENOUS PEOPLES OF CANADA.

Innovation is the catalyst for job creation, economic strength, improved health and well-being, and environmental benefits. As Alberta's largest and only cross-sectoral research and innovation (R&I) agency, Alberta Innovates is uniquely positioned to propel great ideas forward to improve the lives of Albertans.

We support R&I aligned with Government of Alberta priorities as outlined in Alberta's Recovery Plan, launched in June 2020, and the Alberta Technology and Innovation Strategy (ATIS) approved in February 2022. Alberta Innovates has carefully steered the innovation system to bring benefit to Albertans, within the [mandate](#) set by the Government.

We are governed by a government-appointed board and report to the Minister of Jobs, Economy and Innovation. Our activities are funded in large part through the Ministry from a budget approved by the Legislative Assembly. We receive additional funding from other provincial and federal government entities, industry and non-governmental organizations (NGOs). We also generate revenues through contract research activities undertaken by our two applied research subsidiaries, C-FER and InnoTech. Our activities and impacts contribute to work being done in several areas of government and by our partners.

We support and accelerate innovation across multiple sectors through our strategic investments in R&I projects and initiatives carried out by researchers, entrepreneurs and companies of all sizes. Our investments span the innovation continuum from the creation of new ideas through applied testing to commercialization and end use.

We use our expertise and start-of-the-art facilities to accelerate this progression in our clients' innovation journey. Internationally recognized applied research development and engineering services offered by C-FER and InnoTech provide a critical "bridge" that validates, tests and translates innovation into real-world use. Our strategic partners in government, industry and academia value our expertise and ability to improve co-ordination and results within the innovation system.

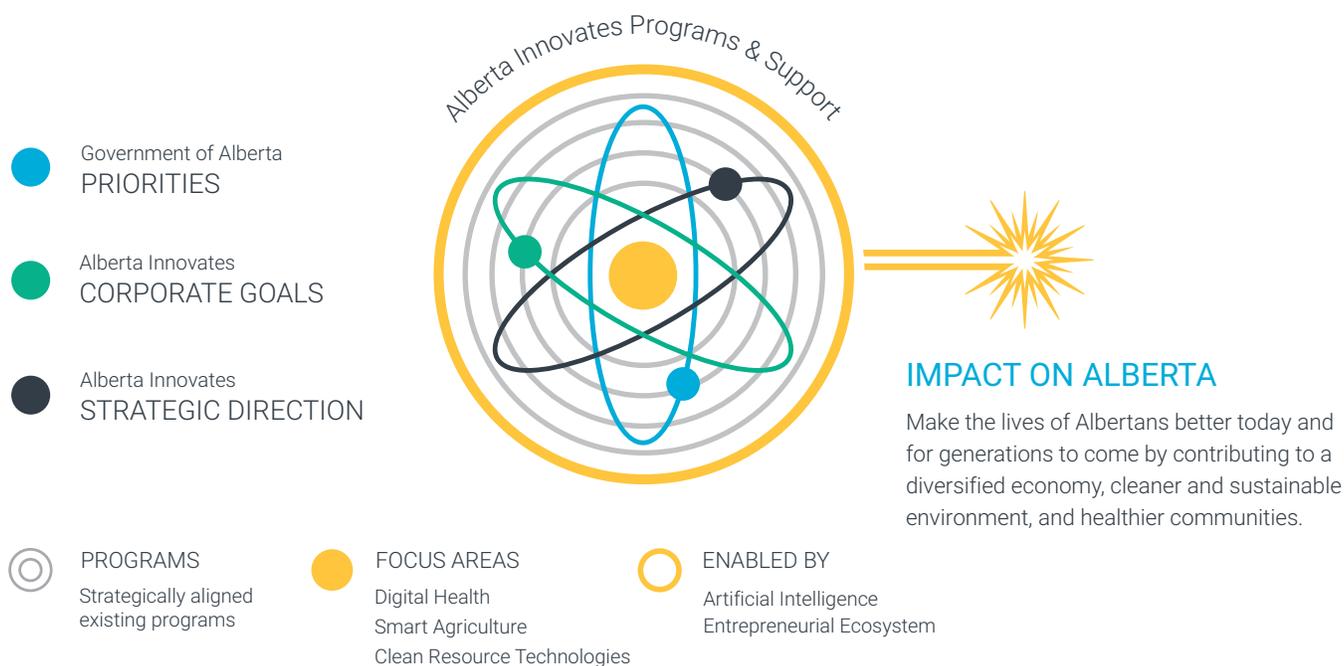
Alberta Innovates is committed to fostering an innovation ecosystem that values everyone's contributions. We believe that equity, diversity and inclusion enhance the research and innovation ecosystem and our positive impact for Albertans. We are committed to a work environment built on equity, diversity and inclusion for all employees, stakeholders, partners and Albertans.

# STRATEGIC CONTEXT

## INNOVATION – A KEY TO RECOVERY

THIS BUSINESS PLAN OUTLINES HOW OUR STRATEGIC DIRECTION, ACTIONS AND INVESTMENTS WILL CONTRIBUTE TO ACHIEVING OUR CORPORATE GOALS AND ULTIMATELY OUR ORGANIZATIONAL MANDATE SET BY THE GOVERNMENT OF ALBERTA. CASCADED AND INTERCONNECTED RELATIONSHIPS EXIST BETWEEN THE GOVERNMENT’S R&I PRIORITIES AND OUR CORPORATE PRIORITIES, GOALS AND BUSINESS AND OPERATING PLANS. SEVERAL OF THE GOVERNMENT’S PRIORITIES ARE OUTLINED IN THE MINISTRY OF JOBS, ECONOMY AND INNOVATION BUSINESS PLAN, ALBERTA’S RECOVERY PLAN AND ATIS. WE ALIGN WITH GOVERNMENT OF ALBERTA PRIORITIES AND STRATEGIES AS WE CREATE POSITIVE IMPACT FOR ALBERTANS.

### *Priorities, Goals, Strategic Direction, Focus Areas and Resulting Impact in Alberta*



A successful response to Alberta's biggest opportunities and challenges requires a collision of creative thinking and shared effort. Alberta Innovates and our subsidiaries will continue to leverage and build collaborations with our world-class academic and globally recognized artificial intelligence communities; also with industry; entrepreneurs, small and medium enterprises (SMEs); multinational enterprises (MNEs); public and not-for-profit organizations; and consortia. Guided by our can-do spirit, these collaborations will drive the discovery, development and use of innovations in Alberta and beyond.

Sustainable economic diversification and growth are critically important for the province's continued recovery. Alberta Innovates recognizes that no single technology or industry will grow or transform our economy. Instead, a convergence of emerging technologies, platforms, applications and industries is necessary for sustained economic recovery and long-term stability.

We have been shifting away from sector-specific initiatives toward a more integrated approach in our programming. This shift, driven by our five-year strategic plan, aims to capitalize on Alberta's current strengths while leveraging technologies and innovations with the highest promise for adoption – in Alberta, for Albertans.

## PRIORITIES AS IDENTIFIED IN OUR FIVE-YEAR STRATEGIC PLAN

- ***Develop emerging technologies.***
- ***Enhance our knowledge workforce.***
- ***Embrace the digital future.***

From a global perspective, our business is also shaped by mega trends such as climate change, population expansion and urbanization, and shifts in the global economic balance of power.<sup>1</sup> These continue to have transformative influences on nearly every aspect of our lives, including our jobs and communities.

The COVID-19 pandemic also changed the way the world approaches the everyday. Society continues to adapt and transition to a new normal that will shape the way we live and work in the future. The disruption brought about by the pandemic has resulted in a greater emphasis on and need to accelerate innovation through digitalization, artificial intelligence and machine learning, and advances in medical innovation and green technologies.<sup>2</sup> The war in Ukraine has created new shock waves in the international order. While it is still early, it has already become apparent the conflict will affect global energy supply, food security and supply chains.

Alberta Innovates will continue to intensify our efforts in the discovery, development and use of new and better ways of doing things. With our expertise in agriculture, energy and clean technology, and health – along with our capability and capacity in applied research and development through our subsidiaries – Alberta Innovates can play a role in accelerating innovation and addressing major challenges facing Alberta related to mega trends and international events.

WE HAVE IDENTIFIED FIVE AREAS OF INVESTMENT TO ACHIEVE OUR PRIORITIES AND HELP ADDRESS GLOBAL CHALLENGES WHILE PROVIDING SIGNIFICANT ECONOMIC OPPORTUNITIES FOR THE PROVINCE. OUR INVESTMENTS IN THESE AREAS BUILD ON THE SKILLS AND SUPPORTS WE HAVE DEVELOPED IN THE R&I SYSTEM THROUGH OUR INVESTMENTS OVER MANY YEARS.

<sup>1</sup> <https://www.blackrock.com/ch/individual/en/themes/megatrends>

<sup>2</sup> <https://www.mckinsey.com/featured-insights/leadership/the-next-normal-arrives-trends-that-will-define-2021-and-beyond>

## THE ENTREPRENEURIAL ECOSYSTEM AND ARTIFICIAL INTELLIGENCE SERVE AS ENABLING TOOLS

They are necessary to drive much of the innovation – and the associated economic stimulus and job growth – in the other three areas (Digital Health, Clean Resource Technologies and Smart Agriculture).



### Artificial Intelligence

We are building on our past successes in creating world-recognized artificial intelligence capacity in Alberta by supporting further development and application across sectors.



### Clean Resource Technologies

We invest in R&I that transforms bitumen into non-combustion, value-added materials, and clean technologies that improve environmental sustainability and economic diversification.



### Digital Health

We are advancing digital health technologies to accelerate improvements in the quality and long-term sustainability of our health system and the health of Albertans.



### Entrepreneurial Ecosystem

We continue to support a growing entrepreneurial ecosystem in Alberta through the programs, networks and connections we provide to entrepreneurs and startups to commercialize their innovations and scale their businesses.



### Smart Agriculture

We lead smart agriculture R&I and address food security challenges through adoption of technology for significant impact in Alberta and beyond.

Alberta Innovates' long-standing support for artificial intelligence research at the University of Alberta, and for the predecessor organization of the Alberta Machine Intelligence Institute ([Amii](#)), dates back decades and helped to build Amii and Alberta into a Canadian centre of excellence for artificial intelligence. We also played a key role in the establishment of the Canadian Agri-Food Automation and Intelligence Network ([CAAIN](#)), and we manage the [Alberta Clinical Research Consortium](#). Our previous investments in these collaborations helped establish and advance the enabling infrastructure necessary for the development and implementation of innovations capable of producing positive economic, health, environmental and social impacts.

Our subsidiaries are uniquely positioned to facilitate technology development and deployment that sustains and grows the province's core and emerging industries. C-FER and InnoTech will continue to deliver value and solutions to complex challenges on an industrial scale that meet the needs of their clients.

## C-FER TECHNOLOGIES FOCUS AREAS

*Working in partnership with the energy industry, C-FER is advancing the safety, efficiency and environmental performance of their clients. C-FER's clients are enabled to make key operational decisions leveraging the company's engineering analysis, validation, risk assessment and large-scale testing capability.*

*C-FER will continue to provide client-focused services while engaging in industry-relevant areas including, but not limited to:*

- *Advancing a hydrogen energy system.*
- *Carbon capture utilization and storage (CCUS).*

## INNOTECH ALBERTA FOCUS AREAS

*InnoTech is focused on providing applied R&D and analytical services where others in the innovation ecosystem lack our:*

- *Capability and capacity – highly trained staff, specialized equipment and unique facilities.*
- *Ability to de-risk & accelerate innovation – scale, experience and expertise that can be leveraged to support high-risk, complex, long-term industrial scale applied R&D initiatives.*
- *Neutrality – unbiased, impartial and independent applied R&D services that are recognized and trusted globally.*

*This unique blend of attributes – world-class expertise and facilities, risk tolerance and neutrality – enables InnoTech to support economic and industrial development in Alberta by removing barriers to innovation through technology development and deployment.*

## THE PATH FORWARD

**CREATING POSITIVE IMPACT FOR ALBERTANS WILL NOT HAPPEN OVERNIGHT BUT THROUGH A SERIES OF PLANNED AND STAGED ACTIONS ACROSS AN ENGAGED R&I SYSTEM.**

Innovation is a complex process that requires appropriate resources over a reasonable period of time. The amount and timing of resources, including strong support and investment from government and other stakeholders, will be critical to quickly advancing achievements and ensuring we are not missing opportunities for greater value creation.

# ACTIONS FOR IMPACT

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THIS BUSINESS PLAN OUTLINES HOW ALBERTA INNOVATES INTENDS TO CONTRIBUTE TO ALBERTA'S PATH TO RECOVERY IN 2022–25. WE HAVE UPDATED OUR CORPORATE GOALS TO BETTER REFLECT OUR CURRENT BUSINESS AND ORGANIZATIONAL FOCUS. THE REVISED GOALS ARE ACCOMPANIED BY OBJECTIVES, RELEVANT METRICS, BASELINES AND TARGETS.

Our initiatives span the Discover, Develop and Use stages of the R&I continuum. We plan our key initiatives across the continuum by taking into consideration the current state of knowledge, technology and innovation, and the state of readiness and capability in the R&I system. We are aided in our operational and resource allocation planning by understanding what types of outcomes can be anticipated and when – and appreciating that near-term activities frequently set the stage for mid- and longer-term actions and their outcomes.

COLLECTIVELY, OUR KEY INITIATIVES CREATE A PIPELINE OF OPPORTUNITY FOR THE PROVINCE, WITH THE GOAL OF A MORE DIVERSE, SUSTAINABLE AND HEALTHY FUTURE – MOVING INNOVATIONS INTO THE HANDS OF ALBERTANS AND THE WORLD.

## THE R&I CONTINUUM

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**Discover** – aims to create new knowledge or understanding that may or may not have specific applications in mind from the outset. This type of research is usually performed at universities.



**Develop** – involves developing knowledge gained during the Discover stage toward a particular use. This development work typically occurs in applied research areas at universities, colleges and polytechnics, as well as industrial research laboratories.



**Use** – is about translating and applying developed research to address needs in the 'real-world.' This activity focuses on processes for the uptake, spread and scale of application-ready innovations. Examples include technology adaptation, technology commercialization, product and market innovation, and translational research in health care.

## GOAL 1

INNOVATION IS STIMULATED IN AREAS OF STRATEGIC IMPORTANCE BY INVESTMENTS IN PROGRAMS, SUPPORTS AND SERVICES.

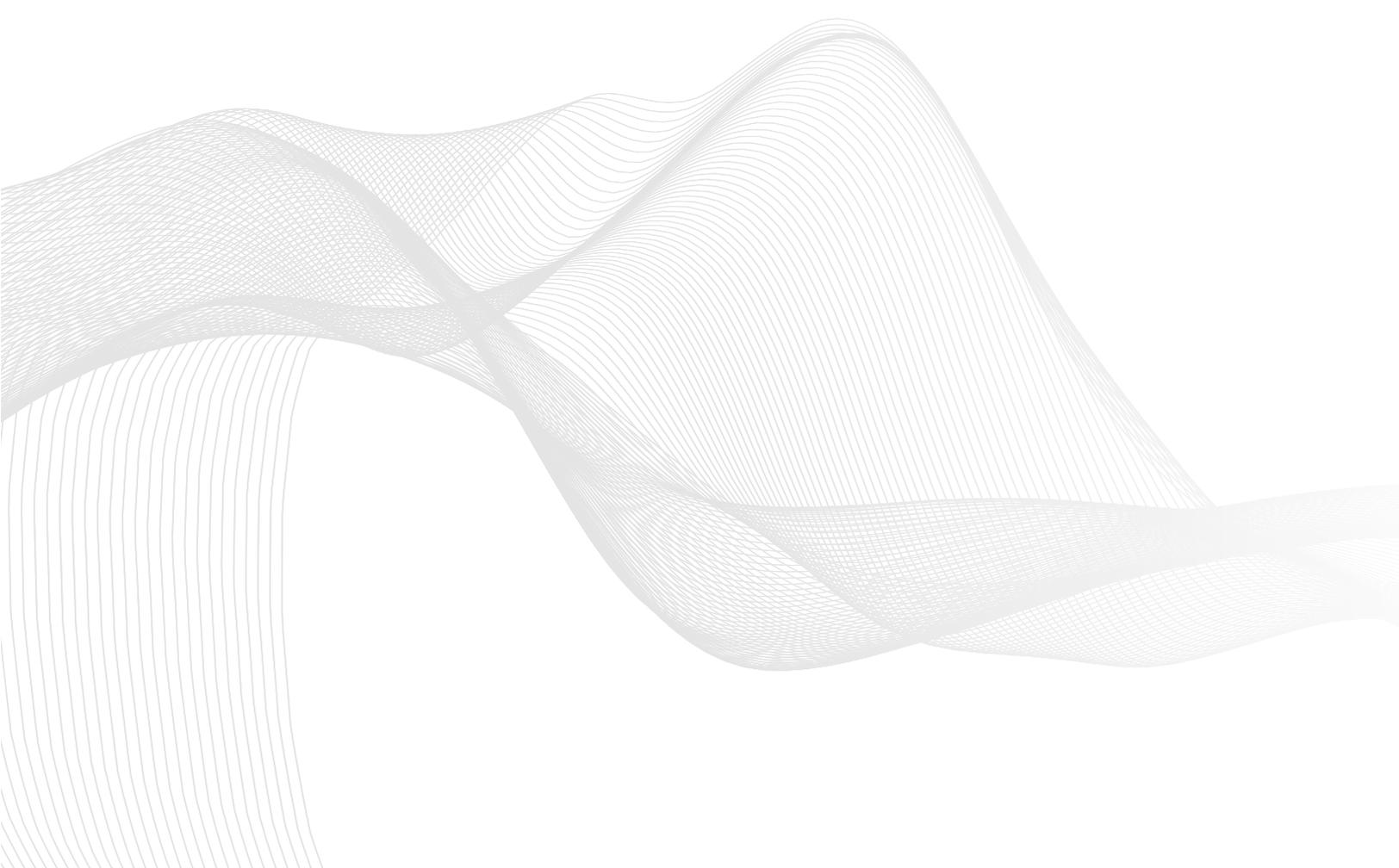
Objectives	KPIs	Baselines (Actuals 2020–21)	Targets		
			2022–23	2023–24	2024–25
1.1 Support research & innovation clients in Alberta in areas of strategic importance.	1.1.1 \$ invested in areas of strategic importance	\$152M	\$160.7M	\$156.7M	\$155.7M
	1.1.2 # of people supported (trainees, researchers, entrepreneurs, etc.)	1,445	≥1,450	≥1,450	≥1,450
1.2 Facilitate job creation.	1.2.1 # of new hires (jobs) in Alberta from R&I investments in SMEs	2,460	2,910	3,100	3,250
	1.2.2 # of jobs created through applied R&D services	311	≥300	≥300	≥300
1.3 Support the growth of innovation in areas of strategic importance.	1.3.1 # projects leveraging digital health technologies to improve the lives of Albertans	100	120	135	145
	1.3.2 Projected Annual GHG Emission Reduction (Mt CO <sub>2</sub> e) by 2030 from all completed and active projects	17 Mt	17 Mt	21 Mt	25 Mt
	1.3.3 # of smart agriculture and food technology development projects supported	60	72	79	87
	1.3.4 % difference in year over year job growth for Alberta Innovates funded SMEs*	11.6%	≥10%	≥10%	≥10%
	1.3.5 % difference in survival rates for Alberta Innovates funded SMEs **	28%	≥25%	≥25%	≥25%
	1.3.6 # of active projects leveraging artificial intelligence	103	125	140	150

\*Relative to % year over year job growth of all companies in Alberta.

\*\*Relative to % survival rate for Canadian SMEs after 6 years.

## Key Initiatives

- Advance Alberta’s low emission goals by supporting cleantech developments including a clean hydrogen centre of excellence and the Edmonton Region Hydrogen Hub.
- Scale and grow Alberta, Canadian and global ventures, attract global technology firms and investment to Alberta, and build a thriving technology and innovation ecosystem within the province via the Alberta Scaleup and Growth Accelerator Program (Scaleup GAP).
- Drive entrepreneurship and company growth in technology and knowledge-based SMEs by continuing to deliver and enhance our suite of Coaching, Community and Capital programming which provides support from development to scaling.
- Address gaps, strengthen enablers within the system and minimize barriers to the adoption of digital health technologies in health care and communities by developing new or adjusting existing digital health innovation programs and services.
- Increase sustainable agriculture productivity and diversity and develop agricultural technologies (agri-tech) such as digital and data solutions, automation and biotechnology.
- Advance cleaner hydrocarbon production and advanced hydrocarbon non-combustion products.
- Support and expand Alberta’s emerging technology research and innovation talent pool at Alberta’s post-secondary institutions.
- Develop, attract and retain health innovation talent in the province aligned to our digital health strategy and with a market-oriented lens.



## GOAL 2

APPLIED RESEARCH, DEVELOPMENT AND ENGINEERING SERVICES ARE PROVIDED THAT VALIDATE, TEST AND TRANSLATE INNOVATION INTO REAL-WORLD USE.

Objectives	KPIs	Baselines (Actuals 2020–21)	Targets		
			2022–23	2023–24	2024–25
<b>2.1</b> Increase proportion of non-Government of Alberta revenue in InnoTech and C-FER.	<b>2.1.1</b> % increase in non-Government of Alberta revenue for C-FER and InnoTech	n/a*	1%**	2%**	3%**
<b>2.2</b> Optimize use of InnoTech and C-FER resources.	<b>2.2.1</b> % of capacity utilized to enhance and provide the delivery of services to clients (effective utilization)	76%	70-75%	70-75%	70-75%
<b>2.3</b> Leverage partner relationships and funding to advance technology development in Alberta.	<b>2.3.1</b> \$ leveraged for consortia and joint industry projects for each \$1 invested by InnoTech	\$3.80	\$4.00	\$4.10	\$4.20

\*Actuals in 2020-21 are not a valid baseline since revenue-generating capabilities were significantly hindered by staff reductions. Therefore, the forecasted revenue of \$38.1M for 2021–22 from non-GOA sources will be used as baseline.

\*\*Targets relative to baseline.

### Key initiatives

- Address technical gaps around hydrogen - including decarbonization, evaluating compatibility with legacy oil and gas infrastructure, industrial use of hydrogen and export strategies – through the development of key facilities and additional expertise.
- Collaborate with industry to generate solutions for transportation and storage challenges related to hydrogen and carbon capture utilization and storage (CCUS).
- Assist oil sands producers in being more responsive to evolving market and economic conditions – prioritizing their R&D needs and shortening the deployment time for new innovations by accelerating the development of innovative R&D technologies and processes.
- Provide services to clients that demonstrate and de-risk CO2 capture, conversion, utilization and storage technologies, including accelerating and reducing the cost of commercial deployment and overcoming barriers for industrial adoption.
- Accelerate and reduce the expense associated with decommissioning, closure and potential reuse of retired oil and gas well sites using innovative technologies, knowledge-sharing and best management practices.
- Advance technologies and address gaps across the “seed-to-final product” spectrum of emerging local hemp and cannabis industries, including key areas such as hemp and cannabis fibre, extractables, food and animal feed.

## GOAL 3

INNOVATION GROWTH IN AREAS OF OPPORTUNITY IS ENHANCED THROUGH PARTNERSHIPS AND COLLABORATIONS THAT INCREASE THE SUPPORTS AVAILABLE TO ALBERTA'S R&I SYSTEM.

Objectives	KPIs	Baselines (Actuals 2020–21)	Targets		
			2022–23	2023–24	2024–25
3.1 Leverage partner relationships and funding to support the R&I system in Alberta.	3.1.1 \$ attracted to Alberta Innovates from external sources	\$43.5M	\$48.1M	\$46.1M	\$46.1M

### Key initiatives

- Advance innovative programs and services across the R&I continuum to generate economic value from knowledge and ideas in priority sectors.
- Maintain existing and develop new strategic partnerships and collaborations with provincial and national funders.
- Launch a digital health sandbox that accelerates the progress of digital health innovators through the technical/regulatory/privacy requirements of their commercialization journey.
- Co-ordinate and leverage scaleup and growth activities in the R&I system through our partnerships with PrairiesCan, the Alberta Ministry of Jobs, Economy and Innovation, the City of Edmonton/Innovate Edmonton, and the City of Calgary/Opportunity Calgary Investment Fund.
- Strengthen and co-ordinate activities in the province's R&I system by partnering with, and providing expertise to, multiple ministries in the Government of Alberta.
- Improve the competitiveness and economic value of Alberta's manufacturing sector by convening new and existing industry partners that address challenges in innovative component design, novel materials and advanced manufacturing processes.
- Collaborate with key stakeholders on the creation of a world-class clean hydrogen centre of excellence to develop and deploy of hydrogen-focused technologies.

## GOAL 4

THE R&I SYSTEM IS STRENGTHENED THROUGH NEW AND EXISTING STAKEHOLDER RELATIONS THAT DRIVE SUPPORTIVE STRATEGIES AND PRACTICES.

Objectives	KPIs	Baselines (Actuals 2020–21)	Targets		
			2022–23	2023–24	2024–25
4.1 Provide opportunities to reduce innovation barriers by bringing together entrepreneurs, investors, researchers and global thought leaders.	4.1.1 #/% of local, national and international participants attending Inventure\$	N/A*	3,000	3,800	4,000
	4.1.2 # of subscribers to Alberta Innovates' Unbound platform for virtual engagement events	9,842	9,000	10,500	11,000
4.2 Build increased recognition and support for Alberta Innovates' value in the provincial R&I system.	4.2.1 % of Albertans aware of Alberta Innovates, as per Brand Awareness Survey	59%**	59–61%	61–63%	≥63%

\*INVENTURE\$ conference did not take place in person in 2020 or 2021 due to pandemic.

\*\*Result from awareness survey conducted in October 2021.

### Key initiatives

- Bring startups, entrepreneurs, investors and global thought leaders together – online and in-person – for learning, inspiration and creative collisions through continued success of INVENTURE\$ and INVENTURE\$ Unbound events.
- Increase national and international awareness of the expertise and opportunities offered by Alberta Innovates and attract talent, global connections, investment and companies to Alberta through our relationships with Invest Alberta, Edmonton Global, Calgary Economic Development and Global Affairs Canada.
- Establish a Technical Advisory Committee composed of technology leaders from key client organizations to advise C-FER and InnoTech on current industry needs and long-term strategic trends.
- Help guide and influence the provincial R&I agenda and position Alberta as a global leader in digital health research and innovation through creation and leadership of a Digital Health Collaboratory, and through our continued collaboration in leading-edge initiatives such as CAAIN in the agricultural technology ecosystem and Amii, a member of the Pan-Canadian strategy on artificial intelligence.

## GOAL 5

CREATE ADDED VALUE FOR OUR BUSINESS AND CLIENTS WITH FUTURE-FOCUSED BUSINESS PRACTICES AND CONTINUOUS IMPROVEMENTS IN OPERATIONAL EXCELLENCE.

Objectives	KPIs	Baselines (Actuals 2020–21)	Targets		
			2022–23	2023–24	2024–25
5.1 Build a future-focused organization grounded in continuous improvement.	5.1.1 Cumulative % reduction in client requirements for accessing Alberta Innovates programs and services (Red Tape Reduction)	30.6%	50–55%	55–60%	≥60%
	5.1.2 % of clients with a positive client experience	94%	≥90%	≥90%	≥90%
5.2 Promote a culture that attracts, engages and retains top talent.	5.2.2 Overall employee engagement rating on biennial survey*	69%	72%	72%	72%
5.3 Identify and address equity, diversity and inclusivity gaps internally and in relation to our investments.	5.3.1 % of applicants who identify as a member of a visible minority	36%	≥23.5%**	≥23.5%	≥23.5%

\*Data collected in Q3 of every other fiscal year.

\*\*Based on 2016 Census of Canada data for visible minorities in Alberta.

### Key initiatives

- Enhance employee engagement and drive our organization's performance forward by identifying key actions informed by the results of the Fall 2021 Employee Engagement Survey.
- Standardize reporting requirements and forms to deduce the requirements experienced by our clients in accessing Alberta Innovates programs and services, as part of the government's Red Tape Reduction initiative.
- Align our programs and services to Environmental Social and Governance (ESG) and Equity, Diversity and Inclusivity (EDI) principles and foster a culture of inclusion in the organization. Commit to acknowledging and recognizing of the history, heritage, diversity and contributions of First Nations, Inuit and Metis peoples of Canada, in support of Truth and Reconciliation.
- Build Alberta Innovates and our subsidiaries into data-driven, digital organizations, with benefits such as enhanced project management and stronger data-informed investment strategies and processes.

# OPERATIONS AND GOVERNANCE

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## CONSOLIDATED BUDGET & STATEMENT OF OPERATIONS

THE CONSOLIDATED STATEMENT OF OPERATIONS REFLECTS THE CONSOLIDATION OF ALBERTA INNOVATES WITH ITS TWO WHOLLY OWNED SUBSIDIARY CORPORATIONS, C-FER TECHNOLOGIES (1999) INC. AND INNOTECH ALBERTA INC., ALONG WITH THE ALBERTA FOUNDATION FOR HEALTH RESEARCH.

Alberta Innovates receives budgeted revenue and expense targets from the Government of Alberta. These targets are adjusted each year for life-cycle changes in new or expiring initiatives. The funding for several of these initiatives, as well as those funded by external dollars, is restricted. This limits the flexibility within Alberta Innovates to shift funding between these initiatives and others.

### Revenue

In the 2022-23 budget, Alberta Innovates is embarking on new initiatives while some existing initiatives are nearing the end of their life cycle. This results in total revenue that is expected to decrease compared to the prior year budget, albeit with several fluctuations (i.e., increases or decreases) within revenue categories. For example, there is a budget increase of \$10 million per year over the next four years for the clean hydrogen centre of excellence and an additional increase of \$7 million per year over the next three years for the Alberta Technology Innovation Strategy (ATIS). This is offset by budgeted reductions in other areas such as a decrease in revenue of \$15 million for the Technology Innovation and Emissions Reduction (TIER) program and a reduction in our deferred revenue reserves of \$8 million as existing programs expire or mature.

Revenue will also decrease in our subsidiaries, InnoTech and C-FER, by \$6 million due to impacts associated with the COVID-19 pandemic, supply chain and economic factors. All other changes are minor and reflect small changes to align with the organization's portfolio and the current economic situation.



## Expenses

The expenses have been expressed in terms of Alberta Innovates business lines:

- **Research, Innovation & Commercialization:** Includes investments in Health, Clean Resources, Entrepreneurial Investments, Post-Secondary Investments & Emerging Technologies, Accelerators and Strategic Opportunities.
- **Applied Research:** Includes expenses for C-FER and InnoTech.
- **Administration:** Includes all corporate services such as finance, marketing and communications, information technology services, facilities, legal, human resources, and corporate planning and reporting. Administration serves a critical function in the Corporation by providing essential supports to the operational business lines (Research, Innovation & Commercialization and Applied Research). These corporate services enable the operational business lines to work productively and efficiently toward achieving Alberta Innovates' strategic priorities and goals. Corporate services play a direct role in advancing Alberta Innovates strategic priority Embrace the Digital Future, given that many of them will be leading and/or actively participating in streamlining and automating our internal processes and operations.

A minimal decrease occurred in the total budgeted expenses for 2022–23. Similar to revenue, Alberta Innovates received an increase in budgeted expenses for the Clean Hydrogen Centre of Excellence (+\$10 million) and ATIS (+\$7 million) while there was a decrease in expenses for TIER (-\$15 million). Although our revenue targets decreased in our subsidiaries, expenses remained the same due to fixed costs and rising variable costs.

Total expenses are split into three categories – amortization, inter-governmental transfers and net operating expenses. Inter-governmental transfers are grants or contracts to other government entities that are then eliminated upon consolidation at the GOA. Net operating expenses is spending that the organization can direct to strategic priorities and operations. The net operating expense target for 2022–23 is \$182 million. While this is a decrease of \$4 million compared to the prior year budget, the net operating expenses as a per cent of total revenue has increased 3%.

	2021–22 Budget	2022–23 Budget
<b>Total Revenue</b>	\$ 242,124	\$ 227,258
<b>Total Expenses</b>	\$ 251,198	\$ 250,722
Amortization	\$ (7,900)	\$ (8,400)
Inter-governmental transfers	\$ (57,750)	\$ (60,610)
<b>Net Operating Expenses</b>	<b>\$ 185,548</b>	<b>\$ 181,712</b>
<b>Net Operating Expenses as a % of Total Revenue</b>	77%	80%

While we have an accumulated surplus of \$27.3 million from prior years of underspending, including those generated from timing differences on expenditures over the last few years, Alberta Innovates is limited in how much it can spend on an annual basis. This accumulated surplus will be decreased in 2022–23 as an annual deficit of \$23.5 million is budgeted.

# CONSOLIDATED STATEMENT OF OPERATIONS

(Dollars in Thousands)

	2020–21 Actual <sup>(1)</sup>	2021–22 Budget <sup>(1)</sup>	2022–23 Budget	2023–24 Budget	2024–25 Budget
<b>Revenues</b>					
Government Transfers					
Funding from Jobs, Economy and Innovation					
Base Grant	\$ 122,811	\$ 119,541	\$ 129,465	\$ 129,468	\$ 129,468
Restricted Grant from Prior Years	17,021	9,253	8,403	8,000	8,500
Other Grants	27,050	51,307	31,307	29,307	28,807
Restricted Capital Contribution	2,327	1,800	2,500	3,000	3,000
Funding from Other Government of Alberta Entities – Other Grants	5,881	5,000	5,260	4,260	4,260
Federal Government Transfers	2,345	3,000	5,600	3,600	3,600
External Revenue and Industry Funding	40,804	48,000	42,000	42,000	42,000
Investment Income	359	2,000	500	500	500
Other Government of Alberta Revenue	1,858	2,223	2,223	1,426	1,426
<b>Total Revenue</b>	\$ 220,456	\$ 242,124	\$ 227,258	\$ 221,561	\$ 221,561
<b>Expenses</b>					
Research, Innovation and Commercialization	\$ 153,290	\$ 161,285	\$ 160,669	\$ 156,669	\$ 155,669
Applied Research	47,911	50,325	49,522	49,522	49,522
Administration	24,628	31,688	32,131	32,134	32,134
Amortization	7,015	7,900	8,400	8,900	8,900
<b>Total Expenses</b>	\$ 232,844	\$ 251,198	\$ 250,722	\$ 247,225	\$ 246,225
<b>Annual Deficit</b>	\$ (12,388)	\$ (9,074)	\$ (23,464)	\$ (25,664)	\$ (24,664)
<b>Accumulated Surplus, Beginning of Year</b>	\$ 72,264	\$ 59,876	\$ 50,802	\$ 27,338	\$ 1,674
<b>Accumulated Surplus (Deficit), End of Year</b>	\$ 59,876	\$ 50,802	\$ 27,338	\$ 1,674	\$ (22,990)

<sup>(1)</sup> Certain prior year figures have been reclassified, where necessary, to conform to the 2022–23 presentation

## CAPITAL PLAN AND LEASING ARRANGEMENTS

ALBERTA INNOVATES AND ITS SUBSIDIARIES OCCUPY A SIGNIFICANT INVENTORY OF RESEARCH AND OFFICE FACILITIES, MOST OF WHICH ARE OWNED AND OPERATED BY ALBERTA INFRASTRUCTURE. IN ADDITION TO THE GOVERNMENT OF ALBERTA FACILITIES, WE ALSO OCCUPY SPACE WITH COMMERCIAL LEASE ARRANGEMENTS AS SHOWN IN THE TABLE BELOW.

We currently operate across 11 locations: Edmonton (5), Calgary (3), Devon, Vegreville and Victoria, B.C., with well over 1.2 million square feet of space and 600 acres of research farmland. In addition to our facilities, we also possess a substantial inventory of research equipment with an estimated replacement asset value well over \$180 million. Adequate infrastructure is a vital requirement to support our vision, sustain program effectiveness and manage program growth aligned to corporate and provincial priorities. Over the next three years, nearly \$76 million has been secured to support implementation of priority capital projects.

### Commercial Lease Arrangements

Location	Size	Termination Date	Scope of Operations
Victoria Group	5,030 square feet	July 31, 2023	InnoTech Alberta – Water Characterization
Edmonton Pylypow	12,925 square feet	June 30, 2024	InnoTech Alberta – Industrial Sensor Technologies Team
C-FER East Pylypow	36,650 square feet	May 31, 2023	C-FER Engineering Consulting and Full-Scale Testing for C-FER's Pipelines and Structures
Edmonton Bell Tower	30,840 square feet	September 30, 2022	Alberta Innovates
Calgary AMEC Place	5,945 square feet	Lease in overhold, pending Alberta Infrastructure review.	Alberta Innovates

## RISK AND RISK MANAGEMENT

ALBERTA INNOVATES IS COMMITTED TO ENSURING THAT RISK MANAGEMENT PRACTICES ARE EMBEDDED IN THE DEVELOPMENT OF STRATEGIC, BUSINESS AND OPERATIONAL PLANS. THIS DRIVES CONSISTENT, EFFECTIVE AND ACCOUNTABLE ACTION AND DECISION-MAKING IN MANAGEMENT PRACTICE AND BOARD GOVERNANCE OVERSIGHT.

We have designed our risk management framework to be consistent with the practices of generally accepted global risk management standard frameworks and in alignment with the Government of Alberta's risk management framework.

Our risk management standard is based on five key principles:

1. Focus resources and mitigation activities to address significant near-term corporate risks, with ongoing monitoring of all other identified and potential risks.
2. Commit to implementing the Enterprise Risk Management (ERM) standard in a staged fashion, allowing for continuous improvement and efficiencies.
3. Operationalize the standard across the organization through Alberta Innovates' operational, business and long-term strategic plans.
4. Administer the risk management standard in a cost-effective manner by embedding it in the corporate planning processes.
5. Commit to enhanced transparency and shared understanding between our organization and our stakeholder as to our organization's key risks and mitigation strategies.

### Key Risks

Our key risks are identified based on their potential impact and likelihood to impact our ability to deliver on our business plan:

- Our operational ability to fund and transform Alberta's R&I system is adversely affected by reductions to our budget and limitations on expenditures. Our Board and senior management work closely with the Ministry to minimize these impacts. Relationships with other partners and stakeholders are also leveraged to bring in additional revenue and contracts.
- Reporting complexities, competing demands on our resources - and, in some cases, longer-term investments required to advance innovation – affect our ability to deliver on our objectives and adequately demonstrate the impact of our investments in yearly budget cycles. This could potentially lead to a loss of confidence about the impacts made by Alberta Innovates. In response, we continue to maintain and build relationships with our colleagues in the Ministry, including our senior management engaging in various discussions with the Ministry and providing important input into several guiding strategies. We are continuously improving our processes to measure, monitor and report on the value we generate, including target-setting and more in-depth analyses.
- Inadequate environmental scanning and a low level of readiness to respond to unforeseen health, safety, security, environmental or media events can potentially affect our operations, resources and reputation. We have enacted our Emergency Operations Committee which has overseen the impact of the pandemic on our operations. We regularly review our operational response and recovery plans and revise them as necessary to ensure we align with industry standards and are prepared to mobilize if required.



*Learn How*  
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