



# Agri-Food and Bioindustrial Innovation Program

*June 23, 2022*

*A Continuous Intake Opportunity*

# About Alberta Innovates

Innovation is the catalyst for sustainable jobs, economic and community strength, improved health, and environmental benefits. [Alberta Innovates](#) leads and accelerates innovation from discovery to use across all sectors in all parts of the province. As Alberta's largest research and innovation agency, we are uniquely positioned to propel great ideas forward to improve the lives of Albertans today and for generations to come.

Alberta Innovates believes the research and innovation ecosystem is stronger and more sustainable when it is broadly representative of the overall diversity of our community. We strive to ensure that all interested and qualified parties have an equitable opportunity to participate and contribute to the ecosystem and that our processes are inclusive.

The projects that our programs invest in are critical to how Alberta Innovates achieves positive impact for Albertans in alignment with the Government of Alberta's research and innovation priorities, as expressed in our corporate Business Plan (see the most recent Business Plan on our [Publications](#) page on our website). Accordingly, it is essential for project outcomes to align with those of the program.

The [Agri-Food and Bioindustrial Innovation Program](#) is managed jointly through the [Agri-Food Innovation](#) and [Bioindustrial Materials](#) Technology Portfolios within Alberta Innovates. The Program supports innovators, technology developers and industry clients to accelerate technology development and deployment, as well as enhance the competitiveness and sustainability of the agri-food and bioindustrial sectors in Alberta. The Program has a strong market and commercialization focus and highly encourages collaboration between industry, academia and government.

# Program Overview

The world's population is expected to reach nearly 10 billion people by 2050, adding pressure on the world's limited natural resources and increasing demand for food and sustainable materials. As a result, the agriculture and forestry sectors must adapt to shifting consumer demands, changing regulations and environmental concerns while being vulnerable to the effects of climate change, affecting both productivity and sustainability.

Alberta has a significant opportunity to address these global challenges by harnessing the power of technology. The provincial landscape is ideal for agri-food production - from growing grains, oilseeds and pulses, to raising livestock, value-added processing and boasting a burgeoning technology sector. From the forestry sector and as byproducts of the agri-food industry, Alberta is also home to an abundance of sustainable residual fibres, industrial crops and underused hardwood resources. The bioindustrial sector thrives at this intersection of agriculture, forestry, manufacturing and construction by providing new opportunities for adding value to otherwise underutilized agriculture and forest biofibres.

The Agri-food and Bioindustrial Innovation program aims to support the development of technologies that provide solutions to the challenges faced by the agri-food and bioindustrial sectors in Alberta.

The [objectives](#) of the Agri-Food and Bioindustrial Innovation Program are to:

- Sustain, grow and optimize productivity, and reduce the cost of production of Alberta's agri-food and bioindustrial industries.
- Add value to enhanced and new commodities in the agri-food and bioindustrial sectors.
- Increase environmental sustainability and social benefits and for Albertans.

The [key outcomes](#) (i.e., measurable effects) of the program that will benefit Albertans are:

- The development and advancement of innovations that will lead to strong agri-food and bioindustrial sectors and a value-added resource industry in Alberta, one that helps our province become a global leader in environmental, social and governance performance.
- Improved economic prosperity and social well-being in Alberta.
- Mitigation of negative environmental impacts.

## Funding

The Program provides support for up to \$500,000 per project and up to 75% of total project costs, with remaining funding (cash or in-kind) from the Applicant, project partners or other funding agencies. Co-funding with other funding agencies is highly encouraged, and the Program does not limit the amount of stacking towards other contributions. However, reliance on uncommitted funding could delay or hinder contracting with Alberta Innovates.

Alberta Innovates only funds reasonable costs incurred after an Investment Agreement is signed by Alberta Innovates and the Applicant. Any costs incurred prior to the Project Start Date defined in the Investment Agreement, and costs greater than market prices, are ineligible. Costs must be incurred between arm's-length entities. Please refer to the Investment Agreement posted on the [Program website](#) for detailed information, including eligible and ineligible expenses.

# Eligibility

This Program supports the development and advancement of technologies to reduce costs, increase productivity, enhance competitiveness, boost the value of agriculture and forestry commodities and lower greenhouse gas emissions. It aims to build on the existing strengths of Alberta's agri-food and forestry sectors and to develop new opportunities and markets. The Program also aims to develop, advance and/or commercialize innovative solutions that will be used by the sectors for broad deployment in Alberta, Canada and beyond.

Strategic focus areas include:

- **Data and digital solutions:** new applications for digitalization of the agri-food and bioindustrial sectors and supply chain functionality, such as artificial intelligence and blockchain technology.
- **Autonomous systems:** development of automated solutions for operational processes or monitoring to optimize agri-food and biomaterial processing, including novel robotics technology and integrated monitoring systems.
- **Agricultural biotechnology:** use of novel molecular tools, beyond conventional breeding, genomic and gene editing approaches, to mitigate the impact of biotic and abiotic stress, increase farm productivity, and improve environmental sustainability.
- **Food processing innovation:** development of novel solutions for food waste reduction, smart packaging, emerging food processing technologies and integrated supply chain solutions.
- **Biofiber utilization:** novel utilization of wood resources, agriculture residues and waste streams from industrial crops.
- **Value-added biomass:** development of bio-based products, processes, productions and systems to enhance the value of biofibres in Alberta.
- **Green construction:** development of construction industrialization and sustainable building practices to increase productivity, improve efficiency, reduce environmental impact and achieve a low-carbon future throughout the building lifecycle.

Areas that are out of scope for this Program include:

- Bioenergy, biochar and biofuel applications.
- Marketing and/or new agri-food product development.

## Project Eligibility

To qualify for funding, all Projects must:

- Align with the objectives of the Program;
- Be between Technology Readiness Levels 3 and 7 at the start of the project (higher start-level TRLs may be considered on a case-by-case basis);
- Be stepped with critical "go/no go" milestones;
- Be completed within 36 months; and
- Comply with other criteria that Alberta Innovates may develop from time to time.

## Applicant Eligibility

The Program is open to small- and medium-sized enterprises (SMEs), industry organizations, research and development organizations, post-secondary institutions, and government research laboratories.

To qualify as an SME, the Applicant must be a company with fewer than 500 full-time employees and less than \$50,000,000 annual gross revenue.

Applicants are not required to be based in Alberta but must demonstrate a clear value proposition for Alberta. Projects that will be researched, piloted, demonstrated and/or implemented in Alberta with long-term Alberta impact will be prioritized.

All Applicants must also:

- Exist as a corporate person, with up-to-date corporate filings;
- Be authorized to undertake the proposed project and execute a grant with Alberta Innovates on our standard terms; and
- Not otherwise be prohibited from receiving Alberta Innovates funding, for instance due to a past bad debt or otherwise not be in good financial standing with Alberta Innovates or its subsidiaries, InnoTech Alberta and C-FER Technologies.

**Please note:** For Applicants who are **not** post-secondary institutions, Alberta Innovates may perform corporate, bankruptcy and litigation searches, and conduct other forms of due diligence on the Applicant company and its principals.

## Partner Criteria

Collaboration with Partners is highly encouraged. Projects that demonstrate formal partnerships will receive additional favourable consideration. Applicants not based in the province are strongly encouraged to have Alberta-based Partners. Applicants are encouraged to engage and include Alberta's post-secondary and research institutions where appropriate. It is desirable for projects to attract and train high qualified personnel who can increase Alberta's innovation capacity.

It is strongly encouraged that letters of support and/or confirmation of contributions from partners accompany the application.

Partners are required to:

- Exist as a corporate person, with up-to-date corporate filings;
- Be authorized to undertake the proposed project;
- Demonstrate that the relationship between the Applicant and the Partner(s) does not create a conflict of interest;
- Provide service(s) and/or product(s) at reasonable market rates; and
- Be in good financial standing with Alberta Innovates and its subsidiaries, InnoTech Alberta and C-FER Technologies.

**Note:** For Partners who are **not** post-secondary institutions, Alberta Innovates may perform corporate, bankruptcy and litigation searches, and other forms of due diligence.

# How to Apply?

The Program will accept applications on a continuous basis. Applications will be assessed in three phases. The timeline of each phase is project-specific and dependent on the timely submission of Intake and Full Proposal Forms.

 <p><b>PHASE 1</b> Engagement and Intake</p> <p>1) <b>Contact us</b> to assess if the project scope meets the minimum requirements of aligning with Government of Alberta, Alberta Innovates and AI priorities and the Program requirements.</p> <p>2) <b>Register</b> on the <a href="#">Alberta Innovates Application Portal</a> ("Portal").</p> <p>3) <b>Access, complete and submit</b> the Intake Form within the <i>Funding Opportunities</i> tab on the Portal dashboard.</p> <p>4) The <b>Intake Form</b> will be reviewed to determine if the proposed project will be invited to submit a Full Proposal.</p>	 <p><b>PHASE 2</b> Full Proposal</p> <p>This Phase is by invitation only. The review process is highly competitive and only the highest-quality projects will be considered for funding.</p> <p>If the review is positive, a funding recommendation will be made to senior management and may include adjustments to the funding request and / or funding conditions.</p>	 <p><b>PHASE 3</b> Agreement</p> <p>Successful applicants will execute an agreement with Alberta Innovates to proceed with the Project.</p> <p>Agreement will include details regarding:</p> <ul style="list-style-type: none"><li>• Reporting on milestones progress and budget on an agreed to timeline during the term of the Agreement; and</li><li>• Reporting on outcomes progress on an agreed to timeline during and following the term of the Agreement.</li></ul> <p>Project payments are based on milestone achievement and progress reporting.</p>
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## Key Dates

Application submission is on a continuous intake. There is no deadline to apply.

Applications will be assessed upon receipt of the Intake Form, and if invited to Phase 2, upon receipt of the Full Proposal. Applicants can expect to receive feedback from the Intake or Full Proposal evaluation within four weeks of submission. Note that Alberta Innovates, at its sole discretion, reserves the right to alter any anticipated timelines.

# Performance Measurement

Alberta Innovates invests in research and innovation activities on behalf of Albertans to help build a healthier, more sustainable and prosperous future for the province.

To maximize the impact of these investments, our funding is tied to achievement of results and outcomes. For this reason, Alberta Innovates funds on a milestone completion basis. This means the Applicant must submit a Progress and/or Final Report and demonstrate sufficient progress before Alberta Innovates advances the next milestone payment. Project update meetings may be held with the Applicant and the assigned Project Advisor to assess progress towards milestones. These meetings can include other funding partners and funding agencies as necessary.

Alberta Innovates has a common set of performance metrics it monitors, both at the individual Project level and for the aggregate Program. Example performance metrics for this Program are listed in [Appendix A](#). These metrics may evolve over time.

The Investment Agreement outlines the responsibilities the Applicant has in reporting Project outcomes to Alberta Innovates over the course of the Project and following completion of the Project. Outcomes of the Project may be monitored for up to five years after Project completion, so Alberta Innovates can evaluate the economic, social, health and/or environmental benefits to Alberta resulting from our investments.

## Evaluation Process

All applications are reviewed and evaluated to determine fit with the Program objectives and intended outcomes. Alberta Innovates staff and external expert reviewers are engaged to evaluate Applications.

Alberta Innovates evaluates submitted Applications to the Program based on the criteria described in [Appendix B](#).

Alberta Innovates retains the sole right to determine the evaluation process and assessment criteria and does not disclose the names of its reviewers to ensure their objectivity and impartiality. Internal and external parties involved in the evaluation are subject to confidentiality and conflict-of-interest policies set by Alberta Innovates.

All investment decisions are at the sole discretion of Alberta Innovates.

# Terms and Conditions

Once we have evaluated and approved an application for funding, Alberta Innovates will require the applicant to sign our standard-form Investment Agreement. A copy of the Investment Agreement is available on the [Program website](#) for your reference.

The Investment Agreement sets out in detail the roles, responsibilities and obligations of the various Parties to ensure a successful Project. Alberta Innovates will not provide any funding until the Investment Agreement has been signed by all Parties.

Alberta Innovates will only fund Applicants who have satisfied all eligibility criteria. Meeting the eligibility criteria does not guarantee access to funding, and all funding decisions will be made by Alberta Innovates at its sole discretion.

Alberta Innovates will only correspond in writing and provide copies of the Application to the person named in the Application form as the one authorized to speak for the Applicant.

Should you have any questions about this guide or what is expected, please [contact us](#). Please note that Alberta Innovates may modify this guide from time to time in keeping with any changes to the program.

## Trusted Partners

We work closely with other funding organizations, usually provincially or federally funded, that share the goals and outcomes of Alberta Innovates. These Trusted Partners adhere to strict confidentiality guidelines. During the application process, the applicant will be asked if Alberta Innovates can share the application with our Trusted Partners for the sole purpose of determining their interest in funding the project with us. If the Trusted Partner is interested, they may request additional information.

## Contact Information

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PROGRAM MANAGER

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# APPENDIX A

## PERFORMANCE MEASURES

Applications for this Program must provide solutions to challenges faced by Alberta's agri-food and bioindustrial sectors, align with the strategic areas of importance outlined in this Program Guide, and clearly demonstrate economic, environmental and social benefits for Alberta. Example performance metrics include:

### Innovation and Commercialization

- Technology Readiness Level advance from start to finish
- Number of unique patents and records of invention
- Number of new companies created
- Number of new products/services commercialized/created
- Number of new and/or existing practices that have been informed/influenced/adopted
- Number of field pilots/demonstrations

### Environmental

- Projected GHG emissions reduction during the Project and from future deployment
- Percentage of reduced production inputs
- Development of eco-friendly and energy-efficient materials
- Increased availability and use of sustainable bio-based products and energy-efficient processes

### Economic

- Increased international export of goods and/or services
- Increased domestic sales of goods and/or services
- Estimated new, post-project capital investment in Alberta
- Increase in sector productivity
- Projected new jobs created from future deployment
- Number of new and retained jobs over the course of the project
- Number of students and highly qualified personnel trained over the course of the project

### Social

- Positive impact to rural, Indigenous or isolated communities
- Number of new and/or existing policies that have been informed/influenced
- Improvement in consumer acceptability

### Engagement and Knowledge Transfer

- Number of collaboration partners, including post-secondary institutions, associations, technology developers and/or other industry partners
- Number of publications
- Number of knowledge transfer events (e.g., presentations, newsletters, events, community engagement, podcasts, webinars, etc.)
- Number of new partnerships (e.g., MOU, new network or hub, joint venture, etc.)

# APPENDIX B

## EVALUATION CRITERIA

Applications for this Program will be reviewed based on several broad criteria, with more specific details evident through the information requested in the application form.

The review of the **Intake Form** includes:

- **Innovation Opportunity:** The relevance of the proposed work to the target industry, its competitive market advantage, alignment to Alberta Innovates priorities and TRL advancement during the Project.
- **Proposed Commercialization Pathway:** A realistic plan to achieve market readiness and/or adoption within the Project timelines as well as potential risk mitigation strategies.
- **Project Overview:** A sound Project design and methodology to achieve the clearly identified objectives, deliverables and outcomes. This section should demonstrate the novelty of the proposed technology or intervention.
- **Impact:** The environmental, economic, social and other proposed impacts of the work to Alberta.

A summary of the evaluation criteria for the **Full Proposal Review** includes:

- **Innovation Opportunity:** Full Proposals will be evaluated on the merits of the proposed opportunity, including its strengths and competitive advantage to address the sector challenge described and alignment to Alberta Innovates priorities. This includes: a) the relevance and feasibility of the proposed work to the target industry; b) the expected TRL advancement during the course of the Project; and c) the existing and generated intellectual property related to this proposed work and the strategy for its management and protection (if applicable).
- **Market Opportunity:** Full Proposals will be evaluated on the potential for the proposed work to be adopted by end-users in Alberta's agri-food or bioindustrial sectors. This includes: a) the estimation of the market size both at the end of the Project and five years after completion; b) the value proposition for the paying customer, early adopters and other end-users; and c) the description/comparison of the closest direct and indirect competitors for the proposed work. Please note that applicants may choose to attach a competitive analysis table.
- **Proposed Commercialization Pathway:** Full Proposals will be evaluated on the feasibility of the proposed pathway to commercialization including consideration of technical, financial and/or regulatory hurdles and the resources required to achieve success. Risk mitigation strategies should be appropriately identified and addressed. The plan to achieve market readiness and/or adoption should be realistic within the Project timelines.
- **Project Overview:** Full proposals will be evaluated on the clarity of objectives, deliverables and outcomes, quality of the proposed Project design and methodology, and the novelty of the proposed innovation. This includes the practicality of the timelines proposed and the achievability of the Project plan.
- **Project Work Plan, Budget and Team:** Full Proposals will be evaluated on the clarity and feasibility of the budget and the capacity of the Project team to execute the proposed Project. This includes: a) the

skill sets of individual team members, ability to work collaboratively as well as the addition of relevant partners; b) whether the team has the appropriate facilities and resources to achieve the Project objectives; c) the practicality of the budget, the strength of the provided budget explanation/justification and the confirmed cash and in-kind contribution from Project partners; and d) Projected performance measures.

- *Project Risk Analysis and Mitigation:* Full Proposals will be evaluated on the identification of the most evident risks that have the potential to adversely affect the Project's achievability as well as on the mitigation strategies to effectively address these risks.
- *Impacts:* Full proposals will be evaluated on their potential for significant, sustained and measurable environmental, economic, social and other identified impacts of the work to Alberta. Benefits should be realized beyond the applicant. Estimated timelines for the benefits of the work to be realized are within a reasonable range and the justification of any negative impacts are provided.