



Project Insights Report

Building Resiliency and Sustainability for the Bio-Economy to Withstand Disruption



PARTNERS

BioTalent Canada



LOCATIONS

Across Canada



INVESTMENT

\$1,035,000



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Executive Summary

Led by BioTalent Canada, the project “Building Resiliency and Sustainability for the Bio-economy to Withstand Disruption” tackled pressing issues faced by the Canadian bio-economy during the COVID-19 pandemic. This sector mostly encompasses small and-medium enterprises (SMEs). The project highlighted how enhanced HR functions are critical in helping SMEs thrive despite adversities. The findings emphasized that inclusion, diversity, equity and accessibility are essential in shielding businesses against disruptions.

To assist with the development of better HR policies, the project produced the I.D.E.A.L Bioscience Employer™ Recognition Program and the Building Workplace Resiliency Resources initiative. These tools helped organizations adopt and practise inclusive, equitable and accessible corporate principles, thereby boosting resilience and sustainability.

BioTalent Canada not only helped to mitigate the immediate impacts of the pandemic but also prepared SMEs for future crises. This approach has established BioTalent Canada as a leader in promoting resilience through strategic HR management within the bio-economy, offering a replicable model for other sectors seeking sustainability and resilience in the face of global challenges.

KEY INSIGHTS

- 1** The implementation of equity, diversity and inclusion (EDI) policies and crisis management in Canadian biotechnology SMEs proved to be essential in the face of disruption like the COVID-19 pandemic.
- 2** Building Workplace Resiliency Resources supported employers to enhance HR practices like onboarding and retention.

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The mixed-methods approach that BioTalent Canada took proved to be crucial for creating resources that SMEs would actually use.

▶ The Issue

The Canadian bio-economy was profoundly impacted by the COVID-19 pandemic. The sector, largely made up of SMEs, faced numerous challenges, such as workplace restrictions and persistent talent shortages. That said, some of these SMEs actually prospered during the pandemic.

Prior labour market intelligence research conducted by BioTalent Canada had already identified a crucial lack of accessible tools and resources that could help employers create modern, diverse and inclusive workplaces—a key to building organizational resilience. The findings revealed that while larger companies in the bio-economy might have internal resources to manage these challenges, the majority—particularly SMEs, which make up 83% of the sector and often earn less than \$1 million annually—did not have dedicated HR departments to navigate these HR challenges during and after disruptions.



🔧 What We Investigated

With this in mind, BioTalent Canada wanted to produce a tool kit for SMEs in the biotechnology sector so that vulnerable SMEs could learn from those SMEs that grew during disruption, thus future-proofing their operations. Key to this was the ability to recruit, onboard and retain diverse talent through frameworks that promote EDI—something that many SMEs lack the resources to properly implement.

To address these gaps, the project developed a suite of tools and resources based on thorough research and evidence-based practices. These tools aimed to improve HR practices in onboarding, retention and recruitment, and were specifically tailored to the unique challenges faced by SMEs in the bio-economy. By incorporating a mixed-methods approach, including surveys and qualitative interviews across the sector, the project sought to build a foundation of resilience capable of withstanding not just the current pandemic but future disruptions as well.

To further supplement their understanding of the needs of SMEs in the bio-economy sector, BioTalent explored the following research questions:

1. How have certain operational models succeeded?
2. In what ways have diversity and inclusion played roles in bolstering organizations against disruptions?
3. What specific supports do small and midsize employers in this sector need to enhance their resilience?

The project plan included two phases across a timeline from spring 2021 to fall 2023.

The first phase involved data collection to better understand best HR practices across sectors as well as pertinent academic and policy literature. To properly situate these findings against the actual HR structures of SMEs in the bio-economy, BioTalent conducted a survey of 344 employers, semi-structured qualitative interviews with 33 sector representatives, and focus groups with 18 employers. This phase resulted in the creation of four case studies that highlight successful, innovative approaches to dealing with disruption.

The second phase took a mixed-methods approach to blending quantitative data from the surveys with qualitative insights from interviews and case studies to create practical tools aimed at improving onboarding, retention and recruitment practices that support organizational resilience. This deployment aligned with the principles of inclusion, diversity, equity and accessibility (IDEAL).

Through this project, BioTalent Canada not only highlighted the needs of the bio-economy sector but also provided a blueprint to enhance resilience and sustainability in response to disruptive global events.

What We're Learning

Project coordinators surveyed 344 employers and conducted 33 semi-structured interviews, which resulted in the development of [eight research reports and four thematic case studies](#).

Integrating data and real-world industry insights aids tool development

The data collected during this project laid a robust foundation for developing tailored tools that materially improve employer capabilities, including resources on hiring internationally educated professionals, understanding Canadian human rights and developing organizational culture. A crucial element to extracting the most out of the data was integrating research findings with real-world industry insights. This allowed the team to validate the actual challenges faced by participant organizations.

Continuous evaluation is central to success

The continuous use of evidence to create, modify and amplify tools underscores the importance of data in creating adaptable and effective industry supports. The project succeeded in showcasing the strengths of quantitative surveys and qualitative interviews, allowing for a more holistic understanding of sectoral needs. Future projects seeking similar results should incorporate various methods of gathering and analyzing data to ensure the needs and opportunities of their target population are well understood and integrated into action plans.

Engagement leads to action

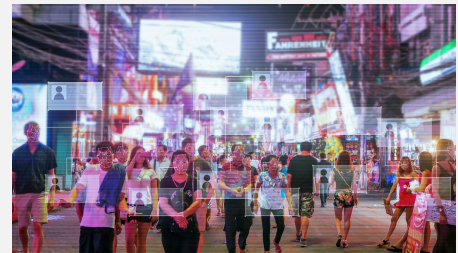
Active engagement and collaboration with industry partners and employers proved to be essential in translating research into actionable strategies and tools. This interaction not only facilitated immediate resource development but also laid the groundwork for future initiatives, such as a potential certification program for specific skills development in the bio-manufacturing sector, highlighting the project's lasting influence and relevance in bolstering the Canadian bio-economy.

★ Why It Matters

The emphasis on IDEAL leadership along with the strategic development of HR functions even in resource-strapped settings provides a viable model that can be replicated to enhance organizational resilience across different sectors. These practices can guide policies aimed at boosting SME resilience, which is crucial for economic stability and growth. This project not only enhanced the resilience capabilities of the Canadian bio-economy against disruptions but also laid the groundwork for similar future initiatives across different sectors, prioritizing evidence-based practices, stakeholder engagements, and inclusivity as cornerstones for industry-wide resilience and sustainability.

Building HR capacity among SMEs makes them more resilient

By documenting the resilience factors during the COVID-19 disruptions, these findings could shape future policies oriented toward enhancing industry-wide resilience in the face of similar large-scale disruptions. As many of the small to midsize organizations in this sector do not have dedicated HR departments, the deployment of accessibility tools and resources—particularly those promoting EDI—is a template that can be replicated to aid these businesses in achieving efficient operational and resilience standards. This project can be added to other [interventions focused on alleviating long-standing barriers faced by SMEs](#). Policy-makers should consider additional capacity-building support for SMEs, keeping in mind the essential role played by HR departments in crisis management and recovery.



State of Skills: Unleashing AI into the skills development ecosystem

To reap the benefits that AI has to offer, its adoption and deployment should be a collaborative and inclusive process that recognizes and addresses genuine concerns individuals have about AI and technology more broadly.

[Read Thematic Report](#)

Working with a broad network accelerates research and development

This project's ability to engage a large number of organizations was the linchpin to its success. The robust network of SMEs ready and willing to participate allowed BioTalent to work quickly yet efficiently in developing and distributing their industry-relevant materials. Other projects that seek similar sectoral-wide impact should consider the value in creating such a wide network or partnering with organizations that do.

► What's Next

BioTalent Canada continues to make a significant impact on organizational resilience through its annual [I.D.E.A.L. Bioscience Employer Recognition Program](#). BioTalent Canada is expanding the program to include an [I.D.E.A.L. Scholarship](#), designed to promote IDEAL leadership in science, technology, engineering and mathematics (STEM) studies. The scholarship will encourage equity-deserving groups to enter STEM studies, diversify the bio-economy and increase enrolment in STEM programs across Canada. The inaugural launch of this scholarship will specifically focus on attracting talent from Indigenous populations and people living with disabilities, based on the findings of BioTalent Canada's Labour Market Information, which highlight these two groups as the least represented in the industry.

The Future Skills Centre continues to partner with BioTalent to support the next phase of BioTalent's work: developing a certification assessment framework for working in a cleanroom environment, specifically as a bio-manufacturing production technologist or technician. This framework will leverage the competencies from the existing national skills standard and explore the potential of virtual reality simulation to create a digital twin of the cleanroom. This phase of work is expected to wrap up in September 2024.

Have questions about our work? Do you need access to a report in English or French? Please contact communications@fsc-ccf.ca.

How to Cite This Report

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