



SECTOR INSIGHTS BRIEF

Unlocking Immigrant Talent in BC's Bio-economy

What the sector needs, what newcomers bring,
and what needs to change



Unlocking Immigrant Talent in BC's Bio-economy

British Columbia's bio-economy is one of Canada's most innovative and fastest-growing sectors, anchored in life sciences, biotechnology, biomanufacturing, and a deep concentration of research and development activity. It is also one of the province's most talent-constrained sectors, with shortages in highly specialized roles that domestic supply alone cannot address. RBC Economics found that bringing immigrants up to the wage and employment levels of those born in Canada could produce gains of as much as 2.5% in annual GDP, approximately \$50 billion. The Conference Board of Canada found that 844,000 Canadians are unemployed or underemployed because their credentials are not adequately recognized, more than 60% of them immigrants, at a cost of up to \$17 billion annually in lost earnings. In BC alone, the province welcomed approximately 70,000 permanent residents in 2023, while facing over one million job openings projected between 2025 and 2035. The gap between arriving talent and employer need is not a small problem. It is a significant and measurable drag on BC's economic potential.

Internationally trained newcomers already make up a meaningful share of the bio-economy workforce, and employers who have hired them consistently report strong technical competence, adaptability,

and motivation. But systemic barriers in immigration, credential recognition, and employer capacity are preventing this talent from being fully tapped at the scale and speed the sector needs. For the purposes of this brief, internationally trained newcomer talent refers to individuals who completed their highest level of education outside Canada and arrived within the last ten years, recognizing that this includes workers across the immigration continuum, from international students and open work permit holders through to permanent residents.

This brief draws on primary employer research conducted across BC's bio-economy in partnership with BioTalent Canada, a national workforce development organization with deep expertise in Canada's life sciences and bio-economy sectors. BioTalent Canada's established connections with bio-economy employers across British Columbia made it possible to engage firms that are actively hiring, growing, and navigating talent shortages in real time, ensuring the findings reflect current employer realities rather than relying only on dated data or static labour market snapshots. IEC-BC partnered with Biotalent to understand what employers are saying, where the gaps are, and what action is needed from government, employers, and workforce partners to close them.



Executive Summary

BC's bio-economy is growing faster than the domestic labour supply can fill it, with 54% of employers currently holding unfilled roles and 74% expecting to grow staff over the next two years. Internationally trained newcomer talent is already meeting part of this need: over half of employers currently employ ITNT and describe them as technically strong, adaptable, and highly motivated. What is holding this talent back is not capability, it is structural friction in immigration timelines, credential recognition, and employer capacity to navigate both, friction that falls hardest on the small and early-stage firms that make up most of the sector. Closing this gap requires coordinated action: government needs to simplify and speed up immigration pathways, employers need practical tools to hire and retain ITNT with confidence, and training institutions need to deliver job-ready bridging and skills-recognition support. This brief lays out what employers told us directly, and what each of these three groups can do next.

Top Priorities



For government: Extend work permit durations and create bridging permits so employers do not lose talent to status uncertainty just as it becomes most productive.



For employers: Adopt skills-based hiring assessments in place of credential screening. IEC-BC's SME Workforce Readiness Diagnostic and ASCEND for Employees programs are built to help with this directly.



For training institutions: Build accredited, industry-aligned bridging programs for GMP, SOPs, and Health Canada regulatory literacy, the single largest workplace skill gap employers report.

BC's Bio-economy: Labour Market at a Glance

The Sector

BC's bioeconomy is a strategic growth sector for the province, with ambitions to become a global hub for life sciences and commercial-scale biopharmaceutical and medical manufacturing. The sector includes therapeutics, diagnostics, medical technologies, cell and gene therapy, RNA delivery, biomanufacturing, agri-bio, and environmental biotechnology. With more than 2,000 life sciences companies and approximately 20,000 workers concentrated in Metro Vancouver, the sector punches above its weight in innovation output, R&D intensity, and export potential.

The sector is characterized by a high concentration of small and early-stage firms, nearly half of bio-economy employers have fewer than 10 employees, which shapes both the nature of workforce needs and the capacity employers have to address them. The innovation pipeline runs from early-stage research through to scale-up, clinical advancement, and commercialization, each stage requiring different and often highly specialized expertise.

2,000+

life sciences companies in BC

~20,000

workers in BC's life sciences sector

500

estimated current talent gap, projected to reach 5,500 by 2027

25%

of biomanufacturing openings fillable nationally by 2029 without intervention

The Labour Shortage

Talent shortages are acute and sector-wide. Over half of bio-economy employers (54%) currently have unfilled positions requiring specific skills or experience, and 74% anticipate increasing staffing levels over the next two years. These are not temporary gaps, they reflect a structural mismatch between the specialized expertise the sector requires and the domestic supply available to provide it.

Shortages are most concentrated in roles that sit at the intersection of scientific and commercial capability: experienced R&D scientists, GMP manufacturing specialists, quality assurance and quality control professionals, regulatory affairs experts, data scientists, and executives who can guide firms through the critical transition from research to commercialization. These are globally scarce skill sets, not just BC-specific shortages.

Functional Areas Most Affected by Recruitment Challenges

MANUFACTURING AND PRODUCTION	76%	of employers report significant or some challenges
RESEARCH AND DEVELOPMENT	74%	of employers report significant or some challenges
MARKETING AND BUSINESS DEVELOPMENT	70%	report challenges
QUALITY CONTROL AND ASSURANCE	57%	report challenges
LEGAL AND REGULATORY AFFAIRS	47%	report challenges
INFORMATION TECHNOLOGY AND DATA SCIENCE	43%	report challenges

Retention is also a significant challenge. Sixty-eight percent of bio-economy employers report some or significant difficulty retaining employees, driven primarily by non-competitive compensation relative to Eastern Canada and the US, high housing and living costs in BC, and for ITNT specifically, uncertainty around work permit status and permanent residency pathways.

The capacity to manage these challenges is not evenly distributed. Employers with fewer than 10 employees report far higher rates of limited internal HR capacity to support newcomer recruitment than larger firms, 61% agree or strongly agree, compared to just 13% of firms with 50 or more employees. The smallest firms also feel permanent residency uncertainty more acutely, with 91% saying it affects hiring decisions, compared to 68% of larger employers. Given that close to half of bio-economy employers have fewer than 10 employees, this is not an edge case, it is the sector's dominant profile.

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“The visa and work permit process is extremely unreliable and caused multiple project cancellations due to the challenges we face in bringing international talent for different projects”

BC Bio-economy Employer, BioTalent Canada Survey 2026



How Immigration and Immigrant Talent Can Help

Newcomers Are Already Driving Innovation in BC's Bio-economy

Over half of bio-economy employers (54%) currently employ internationally trained newcomer talent, and the experiences reported are overwhelmingly positive. Employers consistently describe ITNT as technically strong, highly motivated, and adaptable, with some noting that internationally trained scientists and engineers bring technical capabilities that match or exceed those of Canadian-trained peers, particularly in STEM disciplines.

90%

of employers say ITNT demonstrate strong work ethic and reliability often or always

94%

say ITNT show adaptability and willingness to learn often or always

89%

say ITNT demonstrate strong technical and hands-on skills often or always

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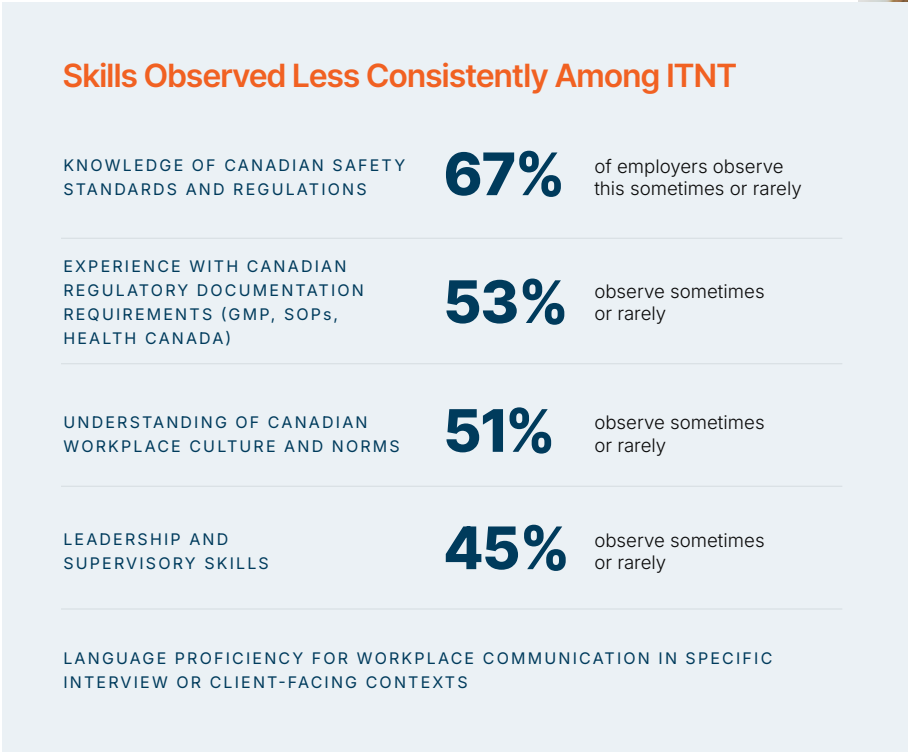
“Internationally trained newcomers often are strongly driven and possess great technical skills.”

BC Bio-economy Employer, BioTalent Canada Survey 2026

Beyond individual performance, employers also value what internationally trained scientists bring at the organizational level: access to global research networks, diverse scientific perspectives, export market knowledge, and multilingual capabilities that support commercialization in international markets, all of which are strategic assets for a sector built on innovation and global reach.

Where the Gaps Are

Despite strong performance in technical roles, employers identify areas where internationally trained talent needs additional support to integrate fully. These are not fundamental capability gaps, they are context-specific knowledge gaps that reflect the differences between Canadian and international regulatory environments, workplace norms, and professional communication expectations.



Importantly, employers in the research note that language is not a uniform barrier. ITNT in STEM fields typically have strong written and technical English from working with internationally published research. The language challenge arises more specifically in verbal interview settings or in roles requiring regulatory compliance communication, direct client interaction, or supervisory responsibilities.



When Available Talent Goes Untapped

The most significant barriers to hiring and retaining internationally trained talent in the bio-economy are structural, not capability-based. Eighty-two percent of bio-economy employers agree that immigration and work permit requirements create administrative challenges for hiring, and 77% say that uncertainty about permanent residency timelines directly affects their hiring decisions.



Top Barriers Employers Face in Hiring ITNT

- Immigration and work permit complexity, cited by 82% as creating administrative challenges
- Permanent residency uncertainty, cited by 77% as affecting hiring decisions
- Difficulty assessing international credentials and the relevance of overseas training, cited by 72%
- Limited Canadian professional references or Canadian work experience among candidates, cited by 68% and 78% respectively
- Limited internal HR capacity to manage newcomer recruitment, onboarding, and immigration navigation, particularly acute in small startups
- Wage subsidy and funding program eligibility restrictions that exclude international students and temporary residents

This pattern is particularly pronounced for workers who are still on temporary permits or post-graduate work permits, where employment uncertainty compounds the credential and experience barriers employers already cite.

Onboarding investment helps but does not fully offset immigration-related retention risk. Among employers who cite lack of permanent residency pathway or work-permit instability as a retention challenge, only 12.5% rate structured onboarding as a very effective response, while half rate it only somewhat effective. This suggests onboarding and immigration status support need to be treated as complementary strategies, not substitutes, employers cannot onboard their way out of a retention problem rooted in status uncertainty.

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“The primary barrier has been the lack of funding programs that support international hires. As a small startup, we rely heavily on wage subsidy programs. Many funding streams are limited to those with citizenship, PR or refugee status.”

BC Bio-economy Employer,
BioTalent Canada Survey 2026



Recommendations

Closing the gap between BC's bio-economy talent needs and the internationally trained workforce available to meet them requires targeted action from government, employers, and workforce partners. The sector's small firm profile, specialized skill requirements, and high dependence on immigration make a coordinated response essential. Recommendations below are organized by federal and provincial government, since these are the two levels with direct authority over the immigration and funding levers this brief addresses.

Federal

- **Extend work permit durations and introduce bridging permits:** that allow workers to remain employed while permanent residency applications are processed, preventing the loss of trained talent at critical stages of their careers
- **Create clearer and faster pathways to permanent residency:** for workers in specialized bio-economy occupations, with predictable timelines that allow employers to plan and invest in talent rather than lose them to status uncertainty
- **Expand wage subsidy and job placement program eligibility:** to include international students and workers on temporary permits, and design longer funding cycles that reflect bio-economy hiring realities rather than short-term program windows
- **Invest in national credential recognition infrastructure:** specific to bio-economy occupations, including practical equivalency frameworks for GMP, QA/QC, regulatory affairs, and R&D roles that do not fit general credential assessment models

Provincial

- **Align provincial immigration nominee priorities:** with documented bio-economy shortage occupations, particularly in bioprocessing, regulatory affairs, scale-up, and clinical roles
- **Fund sector-specific immigration navigation support:** for small firms, who report the least internal capacity to manage immigration complexity on their own
- **Partner with post-secondary and training institutions:** to build practical equivalency pathways for internationally trained scientists and technicians, reducing the administrative burden on individual employers
- **Recognize the full immigration continuum in program design:** extend wage subsidy eligibility, job placement program access, and settlement supports to international students and workers on open and temporary permits, intervening at the point when employers are actually making hiring decisions rather than waiting until permanent residence is achieved



For Employers

- **Adopt skills-based hiring:** Use standardized technical assessments or practical demonstrations instead of relying on Canadian references or interview performance alone. IEC-BC's SME Workforce Readiness Diagnostic Tool and ASCEND for Employees program are built specifically to help employers make this shift.
- **Get HR capacity support if you're a small firm:** The data shows firms under 10 employees report the highest HR capacity gaps by a wide margin. IEC-BC's TalentConnect and MentorConnect connect small employers directly to pre-screened, job-ready candidates and mentor matches, reducing the manual screening burden.
- **Engage with IEC-BC's learning platforms and the IECC Learning Hub:** Both offer practical resources, tips, and tools for hiring, onboarding, and retaining newcomer talent, built specifically for employers navigating this for the first time or without dedicated HR capacity.
- **Explore BioTalent Canada's employer resources:** biotalent.ca offers sector-specific supports including Employer Supports, HR Articles, and their Access Talent (BioSkills Match) tool for connecting with job-ready candidates, a natural complement to IEC-BC's own programs given BioTalent Canada's role as research partner on this report.

- **Access BioTalent Canada's skills training programs:** Their Essential Skills Fundamentals and Technical Skills Fundamentals training programs cover core competencies like GMP, GLP, and QA/QC, along with the BioSkills Recognition Program (BioReady certification) for validating international credentials against Canadian bio-economy standards, practical, sector-specific options for closing the skill gaps this brief identifies.
- **Invest in workforce planning, not just reactive hiring:** Employers who plan ahead for ITNT recruitment, rather than responding only when a role is urgently vacant, are better positioned to use immigration pathways, wage subsidies, and onboarding supports effectively rather than scrambling under time pressure.
- **Treat onboarding as necessary but not sufficient:** Structured onboarding helps, but employers whose retention challenges stem from PR or work-permit instability rate onboarding as only somewhat effective on its own. Pair onboarding investment with active support for the employee's immigration pathway.
- **Fund workplace-specific language and communication training:** focused on interview and client-facing contexts where ITNT report the most friction, not general English proficiency.



For Training Institutions and Settlement Partners

- **Co-develop accredited, industry-aligned bridging programs:** with IEC-BC covering GMP, SOPs, quality systems, and Health Canada regulatory frameworks, the most consistently cited workplace skill gap
- **Partner on a pre-screened talent pipeline:** organized by subsector and work authorization status. IEC-BC can provide the employer relationships and demand signal; institutions can provide the training and credentialing pathway
- **Offer cohort-based applied learning:** not webinar-based training, to build both technical skills and professional networks simultaneously
- **Deliver self-assessment tools for newcomers:** so ITNT can map their international training against Canadian bio-economy requirements before applying, reducing mismatched applications on both sides

IEC-BC Programs and Resources

Employers and newcomers in BC can access supports through IEC-BC's own programs including FAST (Facilitating Access to Skilled Talent), ASCEND, and MentorConnect, which connect internationally trained professionals with inclusive employers and field mentors. These programs are open to international students and newcomers with open work permits, reflecting IEC-BC's commitment to supporting immigrant talent across the full immigration continuum and not only those who have reached permanent residence.

Precision Is the Priority

BC's bio-economy needs precision in its response to talent shortages: targeted immigration pathways for specialized roles, sector-specific bridging and recognition programs, and employer supports designed for small firms with limited HR capacity. Internationally trained newcomers bring exactly the scientific depth, global perspective, and technical capability the sector needs to move from innovation to commercialization. The systems supporting their integration into the workforce must now catch up to that reality.

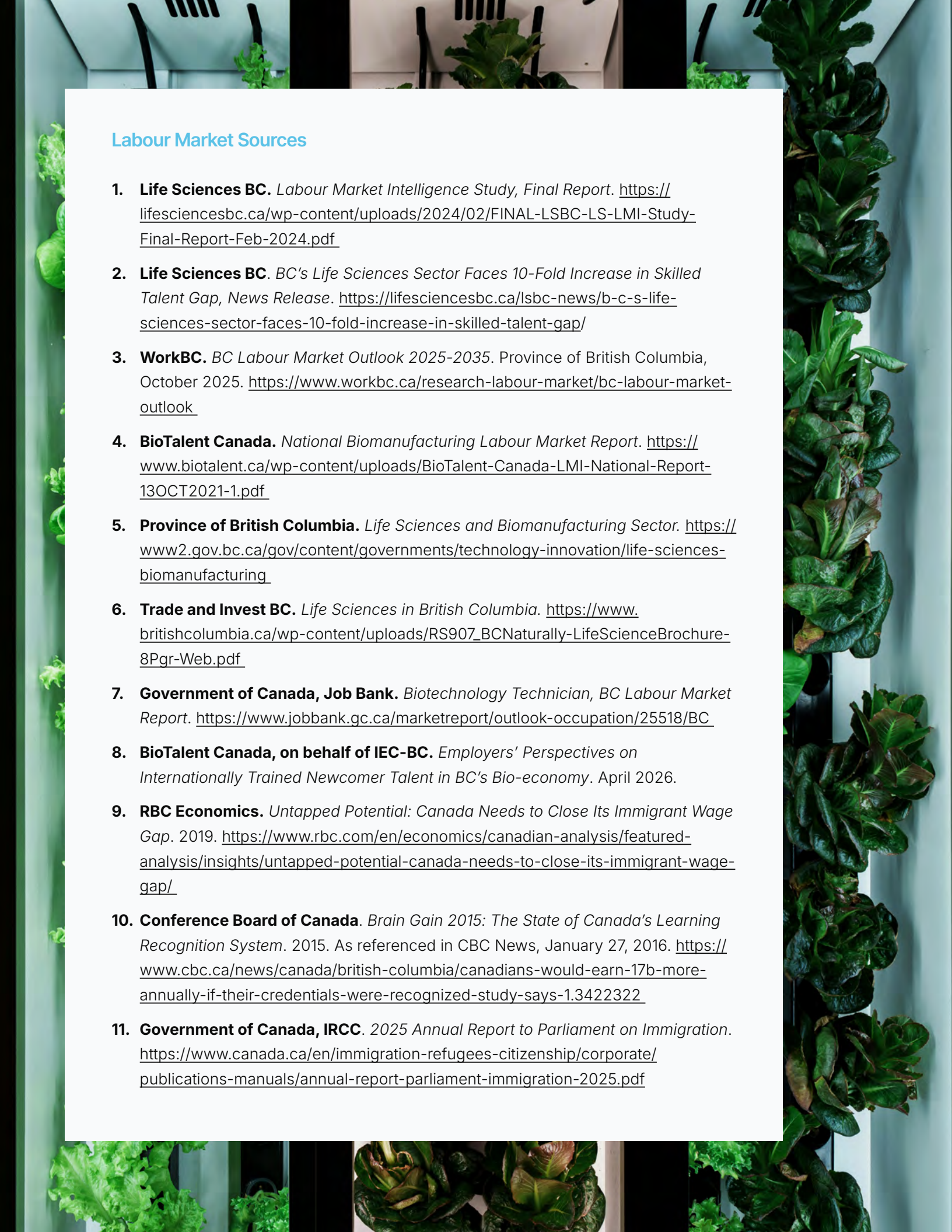
About This Research Summary Brief

This brief was developed by drawing on what we learned from labour market information and a focused study IEC-BC conducted in partnership with BioTalent Canada, a national workforce development organization dedicated to igniting the bio-economy's brainpower across Canada. BioTalent Canada's deep expertise in BC's life sciences and bio-economy sectors and their established connections with employers across the province were essential to the quality and reach of this research. The study engaged 159 bio-economy employers across BC through an online survey, 39 key informant interviews including 37 employers, and an in-person employer roundtable held in Vancouver in March 2026 with 33 participants. Employers represented a range of bio-economy subsectors including bio-health, biotechnology R&D services, bio-industrials, and agri-bio, with the majority operating as small and early-stage firms.

To complement the primary employer research, IEC-BC also drew on a review of publicly available labour market information for BC's bio-economy, including the Life Sciences BC Labour Market Intelligence Study (2024), WorkBC's BC Labour Market Outlook, and BioTalent Canada's national labour market research. Key findings from the labour market scan were woven into this brief to provide broader context on sector size, talent gap projections, and shortage occupations, and were compared against what employers told us directly to identify where employer experience aligns with or differs from published labour market data.

Primary research conducted by Biotalent Canada on behalf of IEC-BC. Learn more at <https://www.biotalent.ca/>





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