



# Biosciences booster

Student Work Placement Program propelling  
Canada's bio-economy forward

# BioTalent Canada

BioTalent Canada supports the people behind life-changing science. Trusted as the go-to source for labour market intelligence, BioTalent Canada guides bio-economy stakeholders with evidence-based data and industry-driven standards. BioTalent Canada is focused on igniting the industry's brainpower bridging the gap between job-ready talent and employers and ensuring the long-term agility, resiliency, and sustainability of one of Canada's most vital sectors.

Recently named a Great Place to Work® and Best Workplaces in Healthcare for 2023, by Great Place to Work Canada®, as well as being listed as a Best Workplace by HRD Canada for 2023 and a 5-Star Diversity, Equity and Inclusion Employer by Canadian HR Reporter, BioTalent Canada practices the same industry standards it recommends to stakeholders. These varied distinctions were awarded to BioTalent Canada following a thorough and independent analysis of the organization.

**For more information visit [biotalent.ca](https://biotalent.ca)**



## MEMBERS



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# President's Message

In May 2023, Canadians exited the pandemic, thanks in large part to the hard work, research, and innovation of bio-economy companies. But maintaining a strong and resilient sector is dependent on encouraging Canada's post-secondary students to discover employment possibilities in this burgeoning field.

Since its inception in 2017, BioTalent Canada's Student Work Placement Program (SWPP) has led more than 11,000 students from across Canada to find work placements within the health and biosciences sector and kick-start a meaningful career.

These student work placements have proven to be invaluable to Canada's biosciences and healthcare firms, many of which are small and medium-sized businesses. The placements are also helping to fill 65,000 biotechnology jobs across the country that will be needed by 2029.

The wage subsidies administered by BioTalent Canada on behalf of the Government of Canada have also had a meaningful impact on under-represented groups such as Indigenous peoples, Women in STEM, persons with disabilities, members of a visible minority, and newcomers to Canada.

Beyond the data and charts that you'll find in this report, there are countless anecdotes from people in every region of Canada about how SWPP played a critically important role in the career they have today.

SWPP has proven invaluable to people such as Paramita Chaudhuri Basu, who today has earned both a PhD and Master of Business Administration (MBA) degrees and has a busy career in the biotechnology industry because of her involvement in the program.

"The Student Work Placement Program not only gave me the practical experience I needed, it enabled me to build relationships that continue to be helpful to this day," she says.

More broadly, the funding provided through SWPP is helping Canada's biosciences sector grow and succeed in an increasingly competitive global economy. Canada's biotech industry continues to play a leading role in the national economy, particularly when it comes to advances in vaccines, healthcare innovations, and clean energy.

Many of the goals and priorities set by the Government of Canada, like addressing future pandemics and combatting climate change and food insecurity, will be achieved through the biotech sector and the confident talent who work in it because of the start they got through SWPP.

I hope that this report makes clear that the funding provided by the federal government to date has had a positive impact. The health and biosciences sectors in Canada are stronger today because of the wage subsidies and student work placements created through SWPP.

However, future success of the industry is not guaranteed. Without continued support, Canada risks falling behind other nations in the war for talent. What's needed now is for the Student Work Placement Program to be made permanent through ongoing and renewable funding. Building a competitive, advanced, and resilient bio-economy that benefits all Canadians through life saving medicines, innovation and jobs.

Sincerely,



Rob Henderson  
President & CEO  
BioTalent Canada



# Executive Summary



BioTalent Canada's Student Work Placement Program (SWPP) has been a win-win for employers and the students they hire.

The program provides wage subsidies to help students obtain valuable placements with biosciences and healthcare organizations across Canada. Evidence, both technical and anecdotal, shows that SWPP has better prepared students to be job ready in the fast-moving, scientific-based sector.

Specifically, SWPP covers the cost of a student's salary by 70% up to a maximum of \$7,000. As demonstrated, these students often have transformative impacts on biotech organizations.

Industry has made clear that the program helps them fill the talent gap and be more competitive. Many organizations hire a student for a special project and find that, at the end of the placement, they have a skilled recruit who is familiar with their company and can help meet their future staffing and talent needs.

*"SWPP is a fantastic program that benefits Canadian youth and small technology start-ups to secure talent towards improving the Canadian economy in the long term."*

*"I really have to thank BioTalent [Canada] for its support. It really helped our startup, a hardware tech company with very limited resources, get to a revenue-generating stage."*

- Run Ze Gao, Co-Founder and CEO – Air Microfluidic Systems Inc., Waterloo, ON

*Consider the following achievements over the past six years:*



More than **11,000 placements** from **252 universities** and **departments, 89 colleges,** and **16 polytechnics** across Canada.



More than **2,000 biosciences** and **healthcare organizations** have participated in the program.



Placements in **every province** and **two territories.**



**Labour mobility** of **over 8%.**



A **satisfaction** rate of **97%** among biotech companies that have utilized the program.



A student participation rate of **77%** among **under-represented groups.**



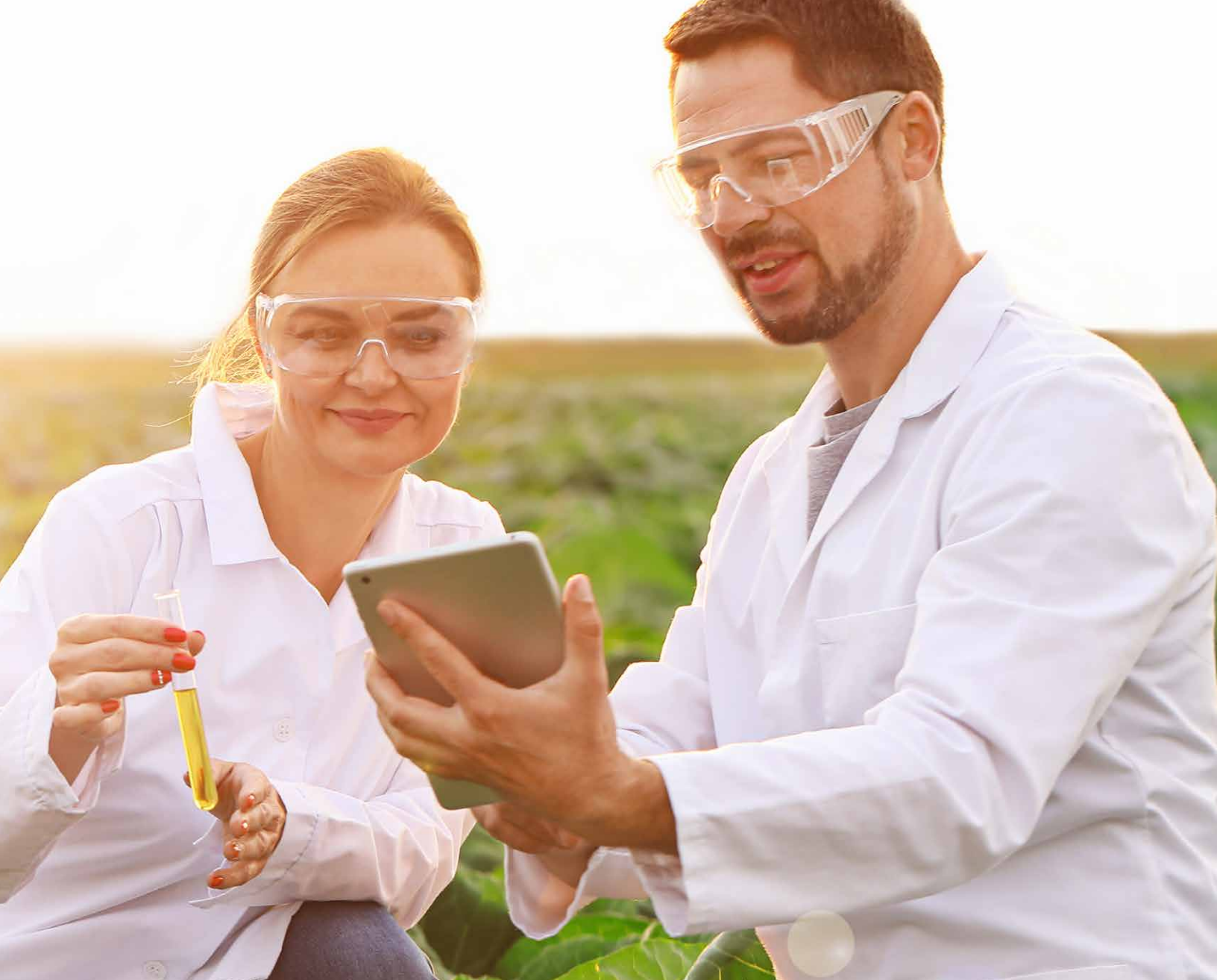
SWPP placements account for **6%** of the biotech sector's **200,000 national workforce.**

Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

*"This program is an incredible opportunity that allows company's such as ours to easily access funding. This allows us to hire more students to better serve the development and exposure for your STEM students entering into the biotech industry."*

- Christian Blom, Senior Manager, Research and Product Development – Spectral Medical Inc., Etobicoke, ON





Anecdotal evidence also indicates a return on investment for the Federal Government through the tax dollars re-couped on an ongoing and sustainable basis. There has also been evidence to suggest that the salaries of graduates that once participated in SWPP increased significantly thanks in large part to the skills and experience attained through the program.

Perhaps most impactful is the fact that **70% of participating biosciences organizations say that a position would not have been created or are unsure if they would be able to hire, without the support provided through SWPP. Equally impressive are comments from students, 97% of whom say they feel better positioned to secure meaningful employment because of their participation in SWPP.**

While much has been achieved, the need to provide continued support to industry through the Student Work Placement Program is growing.

Consider that 33% of companies in the biotech sector report a skills shortage among staff, and 40% say that the skills shortage is hurting their ability to operate effectively. Furthermore, 80% of biotechnology organizations in Canada are small to medium-sized businesses, and 70% of them operate without a formal human resources department.

### Recommendation:

What's needed now is for the Government of Canada to make SWPP permanent. BioTalent Canada is therefore asking that funding for SWPP be provided on an ongoing and renewable basis each fiscal year.

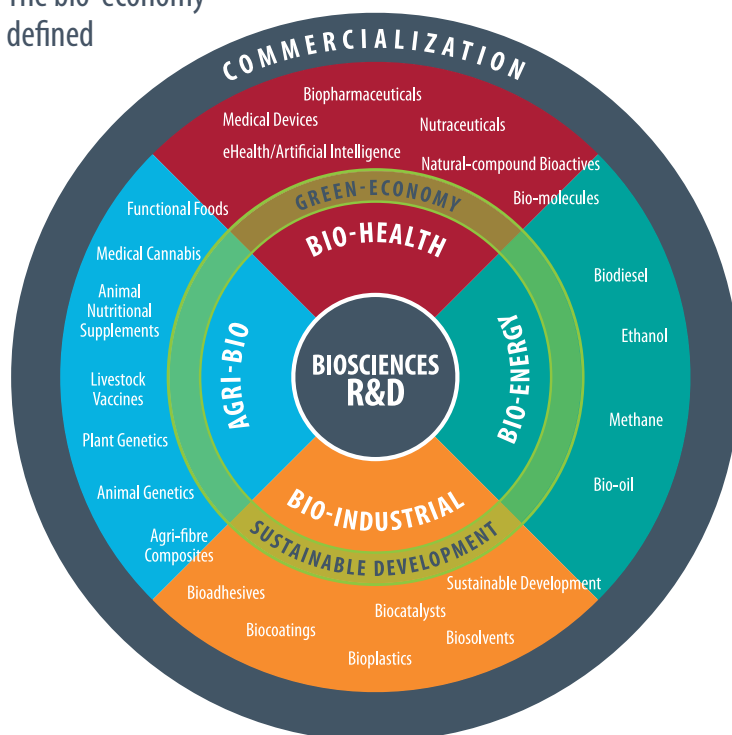
# What is the bio-economy?



The bio-economy (also known as biotech or biosciences industry) is defined as the economic activity associated with the invention, development, production and use of primarily bio-based products, bio-based production processes and/or biotechnology-based intellectual property (Figure 1). It includes the use of resources from agriculture, forestry, fisheries/aquaculture, organic waste and aquatic biomass.

The field is multidisciplinary in that it cuts across the bio-health, bio-energy, bio-agriculture (agri-bio) and bio-industrial (chemicals and materials) sub-sectors. These four are all rooted in their own foundations of research and development and all have products, processes or intellectual property that are involved in the “green” or sustainable development economy as well, to a greater or lesser extent. The bio-economy sub-sectors share a common objective: the commercialization of resultant bio-products, processes and/or intellectual property.

**FIGURE 1**  
The bio-economy defined





# Sub-sectors

## BIO-HEALTH

The **bio-health** sub-sector encompasses the invention, development, manufacturing, commercialization and use of products that improve therapeutics, diagnostics, prevention and health administration, as well as the development and production of nutraceuticals and applications of medical cannabis. Research and development activities contribute to the development of new products, bio-based technologies and intellectual property related to the production of bio-health products and technologies.

## BIO-ENERGY

The **bio-energy** sub-sector encompasses the invention, development, production, commercialization and use of renewable fuels through the conversion of organic material into heat or power. Research and development activities contribute to the development of new products, bio-based technologies and intellectual property related to the production of bio-energy.

## BIO-INDUSTRIAL

The **bio-industrial** sub-sector encompasses the invention, development, manufacturing, commercialization and use of goods for industrial use, such as bio-chemicals and bio-materials, through the conversion of organic material. Research and development activities contribute to the development of new products, bio-based technologies and intellectual property related to the production of bio-industrial products. Among others, the development and production of biocatalysts are an integral part of this sub-sector.

## AGRI-BIO

The **agri-bio** sub-sector encompasses the invention, development, production, commercialization and use of new or modified products resulting from the manipulation, modification or alteration of the natural features of plants and crops, animals and/ or other food sources. Research and development activities contribute to the development of new products, bio-based technologies and intellectual property that support improved quality, yield and efficiency in the agricultural sector and food production.

The small- and medium sized employers that make up this critical sector to the economy ensure that Canadian innovations are at the forefront when it comes to combatting future pandemics, climate change and food insecurity both at home and around the world.

For more information on the bio-economy and the subsectors within, visit [biotalent.ca/facts](https://biotalent.ca/facts).

## Economic contributions

The bio-economy touches nearly every part of the Canadian economy and contributes more than \$600 billion to the nation's gross domestic product (GDP) each year.

The entire bio-economy is rooted in research and development (R&D), underpinning all sub-sectors of the industry and often serving as the entry point for workers. More than two-thirds (69%) of bio-economy employers surveyed said they engaged in R&D activities, with 41% naming it as their primary or secondary business activity.

Research and development is often early-stage scientific work that is carried out by small firms prior to commercialization, manufacturing and scale-up, which are needed to achieve a globally competitive bio-economy.

Too often, Canadian innovations and the talent that developed them are acquired by foreign entities. To combat this, the Health and Biosciences Economic Strategy Table called in 2018 for an increase in last-stage funding to support domestic growth and the development of larger anchor firms that can better compete globally.

# How BioTalent Canada supports the bio-economy

Canada's bio-economy is growing, thanks to demand for bio-based products, including renewable energy, vaccines and medications, and agricultural products. To meet the growing demand, the sector must hire 65,000 additional workers by 2029.

As the bio-economy's talent development partner, BioTalent Canada is dedicated to working with its network to help the sector meet employment needs with critical labour market information, skills development supports, and assistance finding talent.

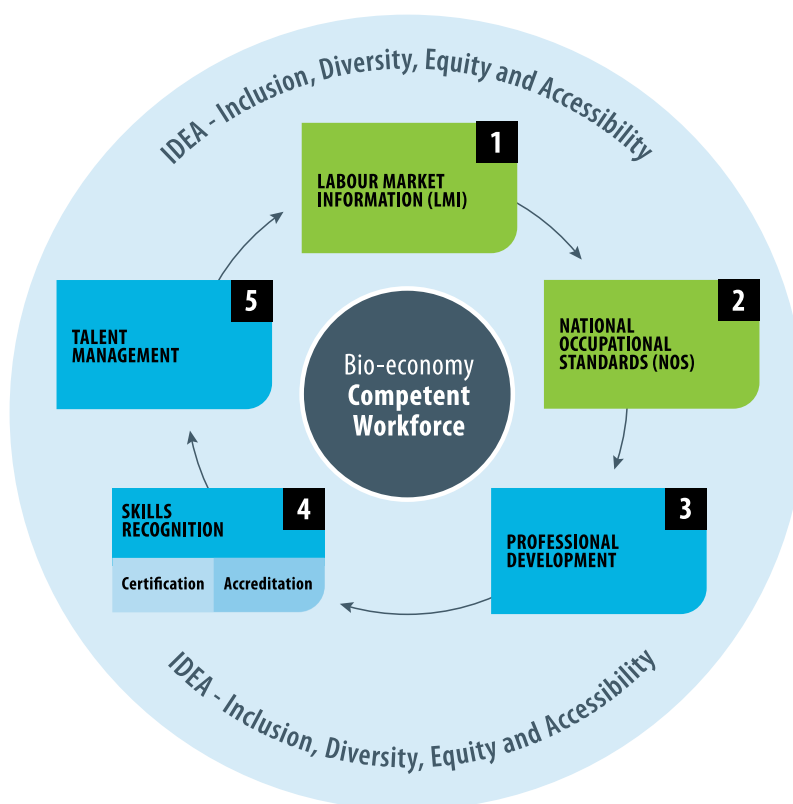
To that end, BioTalent Canada has developed a national talent strategy (Figure 2) for the delivery of key programs and resources that help ensure Canada's bio-economy employers have access to a competent workforce that can meet the needs of the industry today and in the future.

Woven throughout all BioTalent Canada initiatives is the concept of IDEA: inclusion, diversity, equity and accessibility. These principles are vital to ensuring a healthy bio-economy where everyone is able to bring their best and contribute to the success of the sector.

The Student Work Placement Program (SWPP) fits under the talent management section of BioTalent Canada's national talent strategy, which includes tools to bring employers and workers together. Examples of these include a bio-economy-exclusive job board, The PetriDish™, and BioSkills Match™ database that helps employers and job-seekers narrow in on the right role. Wage subsidy programs, including SWPP, take the risk out of hiring new graduates, newcomers to Canada, or others with little formal bio-economy experience.

**FIGURE 2**

## BioTalent Canada's National Talent Strategy



For more information on BioTalent Canada's National Talent Strategy, visit [biotalent.ca/talentstrategy](https://biotalent.ca/talentstrategy)



## Wage subsidy success

While participation in wage subsidy programs (Figure 3) has been rewarding and impactful, this report focuses on BioTalent Canada's Student Work Placement Program (SWPP), launched in 2017; its unique characteristics and the positive impact it has had for both employers and employees in Canada's biotechnology industry.

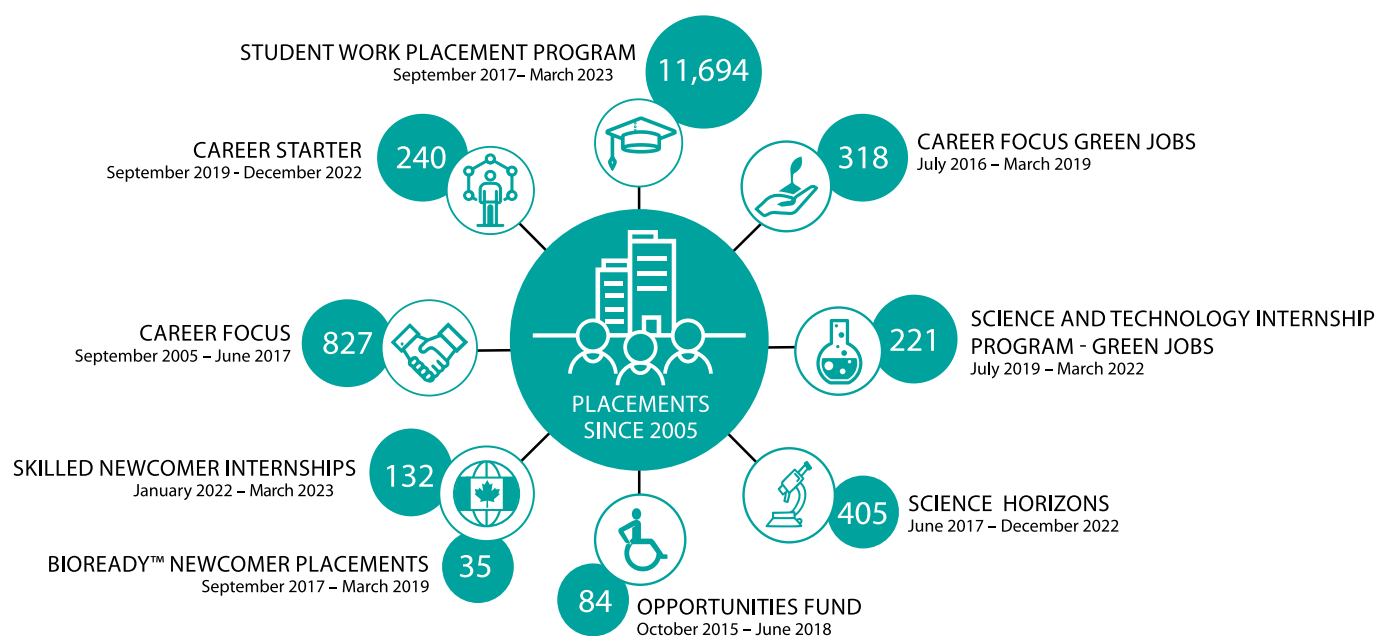
Having helped place **over 11,000 students** into the bio-economy, SWPP has proven to be a pivotal part in engaging young minds to build a career in an industry that has struggled with attracting talent. It not only supports the hiring of under-

represented groups, but it also encourages labour mobility by encouraging students to seek opportunities outside of where their post-secondary institutions are located.

The role of SWPP in building lasting connections between industry employers and academia has been critical to the continued success and sustainability for a sector composed primarily of small- and medium-sized companies with little support in place to attract and retain talent.

**FIGURE 3**

### BioTalent Canada's wage subsidy track record



Numbers as of March 31, 2023



## Success Story

### An Unexpected Career Path Provides A Breath Of Fresh Air



University of Toronto student Melissa Renn took part in the Student Work Placement Program (SWPP) when she was looking for an internship to complete her Master's in Engineering. She had her eyes set on the medical device industry and Picomole piqued her interest.

***"I was initially attracted to Picomole because of the various potentials of their technology," Melissa explains. "Although, I did not have practical experience developing biomedical products from prototype to commercial release, my courses at the University of Toronto focused just on that, i.e., developing proper requirements, design control, human factors, regulatory requirements."***

Picomole is a medical device company focused on using infrared spectroscopy to conduct breath screening for lung cancer. Picomole's own origin story is interesting in that it began in Edmonton in 2005 as a spin out from the University of Alberta and relocated across the country in 2011 to its current home in Moncton.

And like Picomole's story of starting in one place and moving to another, Melissa was hired to investigate some of the properties of Picomole's thermal desorption tubes and develop a strategy for optimal cleaning and storage. If you're confused, don't worry, because here's where the story turns.

#### **Organizations weren't the only ones to pivot**

Sensing an opportunity to contribute in other areas of the company that interested her, Melissa took the bull by the horns. She offered to work quality assurance. Being multi-dimensional makes an employee, especially a new hire, an asset.

***"In a small company, it's essential to have employees that see a problem and take initiative to solve it," says Chris Purves, Chief Technology Officer at Picomole. "(It was then that) I knew Melissa had the right attitude to transition to a full-time employee."***

And really, that's one of the benefits of SWPP. The program introduces students who are about to enter the talent pool to employers who are looking to add brainpower to their staff. For companies like Picomole, it's essential not to swing and miss too often when onboarding employees. Having been introduced to Melissa through SWPP and having her learn the business while still in school gave the company some level of assurance that she was the right fit.

***"SWPP has been very impactful on my career," explains Melissa. "It has given me the opportunity to complete my internship at Picomole which has led directly to a full-time job here. Picomole has been a place for me to learn and grow, try new things, and discover new interests."***

#### **Make your mark**

Since joining Picomole, Melissa has been instrumental in the implementation of a quality management system that enabled the company to seek ISO 13485 certification and to implement effective design controls, greatly improving the quality of its product design.

Her Master's degree in biomedical engineering has filled a gap in Picomole's knowledge base and has made her a de facto subject matter expert within the company. All of this from a student brought in, initially, to work on the characterization of thermal desorption tubes.

Picomole and Melissa are a great example of how SWPP is a mutually beneficial experience for employer and participant. Students like Melissa bring fresh perspectives to an organization while gaining invaluable expertise and skills that they can employ in their future careers. Particularly, for start-up companies, interns are not limited to one department but can develop a varied body of work.

***"We have hired Melissa and one other SWPP intern for permanent positions," says Chris. "We consider the internship an ideal way to fill our pipeline for future hiring needs."***

The lesson here is that organizations that give talent the opportunity to discover their strengths and trust them to execute will reap the benefits for a long time.

# Student Work Placement Program objectives



The main objectives of the Student Work Placement Program (SWPP) are to drive systemic change in the skills development system, and to align the technical, foundational and “work-ready” skills of students with the skills required by Canadian employers. SWPP also increases access to work-integrated learning (WIL) opportunities for students throughout Canada.

In the end, SWPP improves the job readiness of post-secondary graduates within the bio-economy and helps industry meet its employment needs. This is achieved through a partnership model that enhances the practical ability of new graduates entering the biotech sector through thousands of subsidized WIL opportunities.

## Addressing the skills gap

Canada’s bio-economy will need an **additional 65,000 workers by 2029**. A key issue in meeting this labour demand is ensuring that post-secondary graduates have both the hard and soft skills to function at a high level within the biotech sector.

**Problem-solving is rated as very important by 86% of bio-economy employers. Around three-quarters (75%) of employers also stressed the importance of collaboration, communication, adaptability, and interpersonal skills.** Information from employers shows that while graduates from Canadian post-secondary institutions enter the workforce with solid technical and scientific skills, they often lack the “soft skills” that employers covet and need.

Finding the right skills match is often difficult due to the nature of the jobs employers are trying to fill within the bio-economy. Many roles are cutting edge and highly specialized. Other positions in small companies require employees to be flexible and fulfill multiple roles, bringing a wider range of skills to their work.

# Searching for unicorns

It is rare to find job candidates who have all the required skills — to the point that they are often referred to as “unicorns.” As we know, finding unicorns can be next to impossible. Rather than invest time and effort in searching for unicorns, employers can develop their own, through work-integrated learning, by hiring candidates who are strong in some of the desired skill areas and then train them in the other skills that are needed.

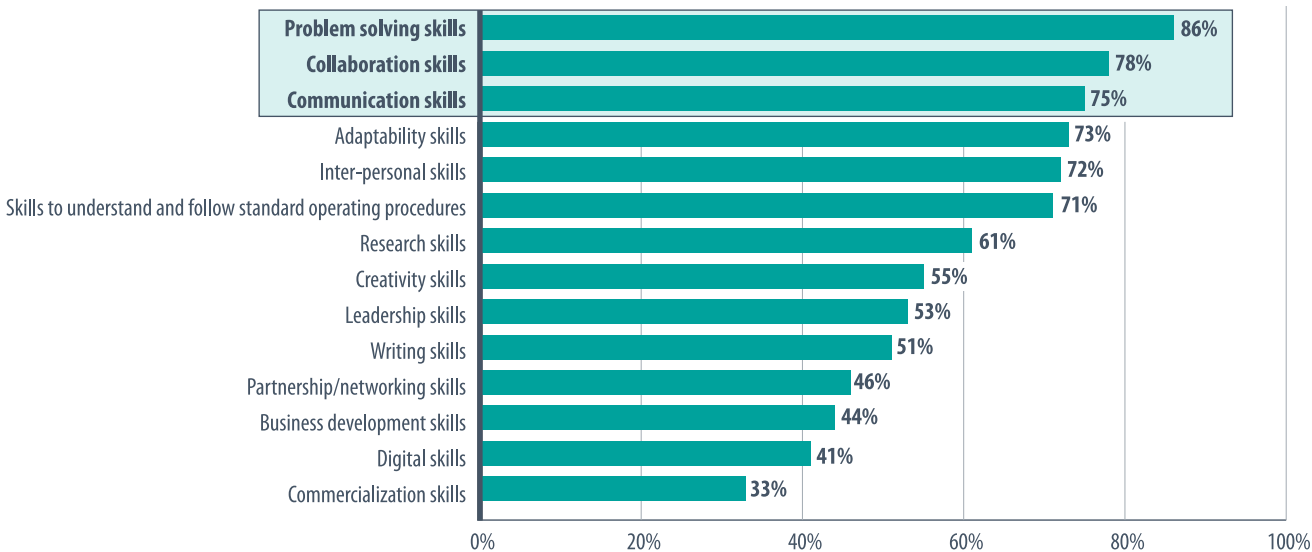
Targeted training programs, such as SWPP, that address the specific skills cited by many employers has been found to be extremely useful. Work-integrated learning (WIL), including co-ops, work placements, internships, and clinical placements, can also be an effective way to develop some of the key skills students may not already have when they enter the workforce. In the end, hiring students is a way to develop the biotechnology talent pool in Canada.

An alignment of the skills employers value is seen when comparing data from BioTalent Canada’s 2021 LMI report: *Close-up on the bio-economy: National report* (Figure 4) to data from SWPP employer job descriptions (Tables 1 and 2). For example, problem solving, collaboration and communication. Programs like SWPP ensure any skills gaps are addressed by giving students the hands-on training they need to successfully enter the workforce upon graduation. To further support skills the skills development of students participating in SWPP, BioTalent Canada offers free access to their Essential and Technical Skills Fundamentals Courses – a resource that gives participants a strong foundation for success.

Find these courses at [biotalent.ca/essential](https://biotalent.ca/essential) and [biotalent.ca/technical](https://biotalent.ca/technical).

FIGURE 4

Skills rated very important for bio-economy organizations



Source: BioTalent Canada Survey of Employers (2020)

*“The student has shown exceptional growth in both her technical skills and her knowledge foundation. Her work contributes significantly to the field and will result in publications in peer reviewed journals.”*

- Chao Wang, Scientist – Sunnybrook Research Institute, Toronto, ON



**TABLE 1: Bio-economy skills in SWPP job descriptions**

BIO-ECONOMY PLACEMENTS: 2,166					
Skills for Success		Analytical Skills		Technical Skills	
<b>Collaboration</b>	<b>68%</b>	Evaluation	43%	Operation and Control	76%
Digital	66%	Researching and Investigating	37%	Technology Design	25%
Writing	61%	Quality Control Analysis	34%	Equipment Maintenance	22%
<b>Communication</b>	<b>57%</b>	Operations Analysis	26%	Operation Monitoring	18%
Reading	38%	Problem Solving	23%	Troubleshooting	17%
Creativity and innovation	37%	Critical Thinking	15%	Equipment Selection	14%
<b>Problem solving</b>	<b>23%</b>	Decision Making	14%	Installing	13%
Numeracy	21%	Learning Strategies	7%	Setting up	8%
Adaptability	10%	Systems Analysis	5%	Repairing	6%

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

**TABLE 2: Healthcare skills in SWPP job descriptions**

HEALTHCARE PLACEMENTS: 1,604					
Skills for Success		Analytical Skills		Technical Skills	
<b>Communication</b>	<b>74%</b>	Researching and Investigating	36%	Operation and Control	59%
Digital	61%	Evaluation	19%	Equipment Maintenance	13%
<b>Collaboration</b>	<b>61%</b>	Problem Solving	18%	Equipment Selection	9%
Writing	49%	Quality Control Analysis	17%	Technology Design	8%
Reading	29%	Learning Strategies	15%	Operation Monitoring	6%
Creativity and innovation	24%	Critical Thinking	12%	Troubleshooting	5%
Numeracy	24%	Operations Analysis	10%	Installing	4%
<b>Problem solving</b>	<b>18%</b>	Decision Making	10%	Setting up	3%
Adaptability	8%	Systems Analysis	1%	Repairing	2%

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

## Skills definitions

**Skills for Success** are skills that help you in a quickly changing world. Everyone benefits from having these skills. They help you to get a job, progress at your current job and change jobs. The skills also help you become an active member of your community and succeed in learning.

**Analytical Skills:** Developed capacities that people need to process information and data logically to produce useable results.

**Technical Skills:** Developed capacities used to design, develop, integrate, set-up and operate machines and technological systems, and correct malfunctions involving their application.

# Measuring the impact of SWPP

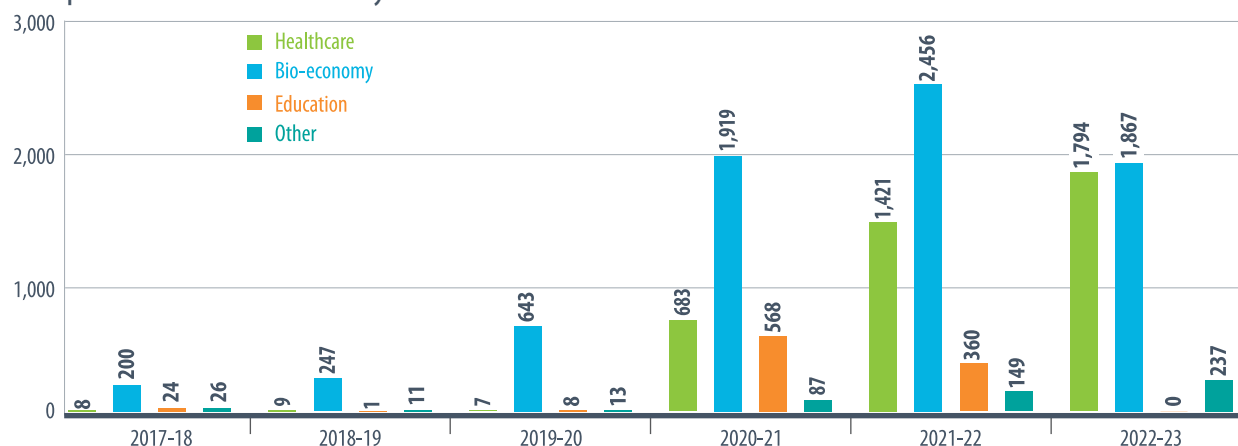
The number of SWPP placements in the bio-economy and healthcare sectors has grown steadily over the last six years (Figure 5), showing the importance the program has had on building strong connections between post-secondary institutions and employers within these sectors. **An increase in the number of placements, per employer, in 2022-23 of 4.46, up from 2.44 in 2017-18 (Figure 6) indicates the increased value work-integrated learning has had on these organizations in**

**moving their research and innovations forward.** The increase in SWPP participation also coincides with the COVID-19 pandemic, when the success of Canada's health and bioscience sector was paramount to the health and safety of Canadians.

As the government continues its commitment to bring research and development and bio-manufacturing infrastructure back to Canada, this demand for programs like SWPP will grow.

**FIGURE 5**

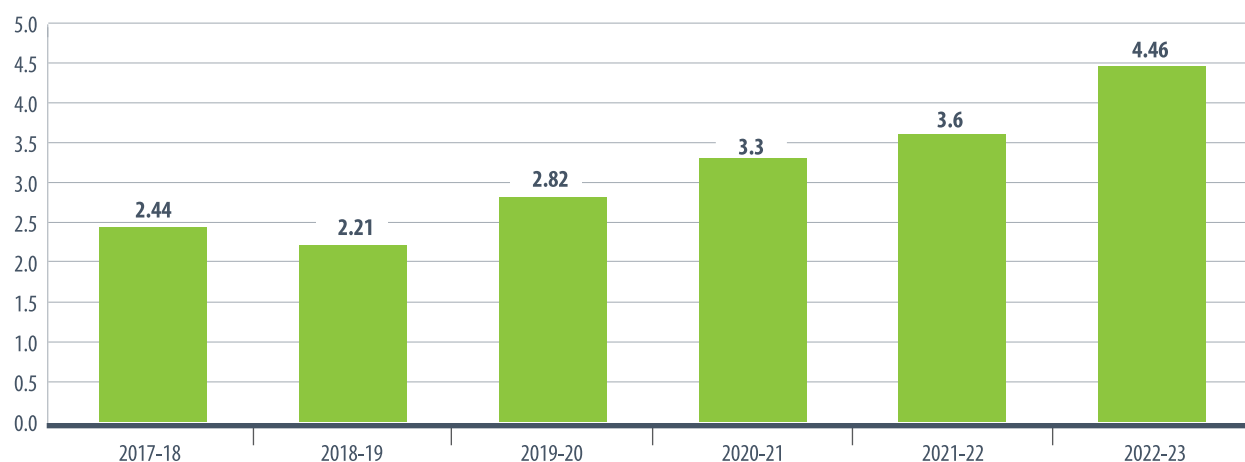
Number of placements in each industry



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

**FIGURE 6**

Average SWPP placement per employer



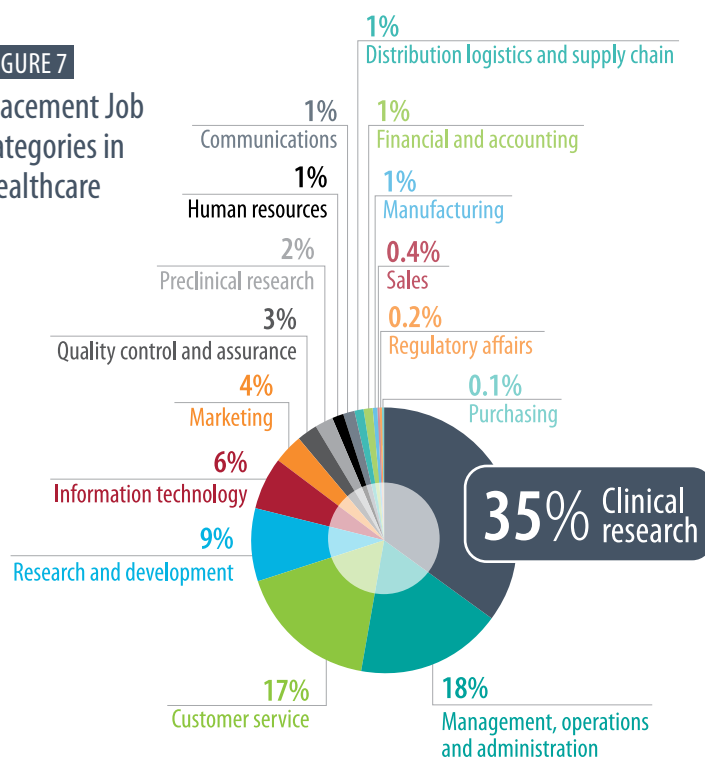
Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

## Placement job categories in healthcare (of 1,604 placements)

Of 3,770 job descriptions analyzed, more than 1,600 placements through SWPP have been in the healthcare sector, notably clinical trials (Figure 7).

That most placements in the healthcare space have occurred in the area of clinical trials is no accident. The bio-economy and healthcare are closely intertwined and clinical trials are one of the fastest growing and most in-demand areas of healthcare, requiring new workers and their skill sets. This demonstrates the value of SWPP in advancing scientific discoveries throughout Canada – and BioTalent Canada's position in delivering these programs.

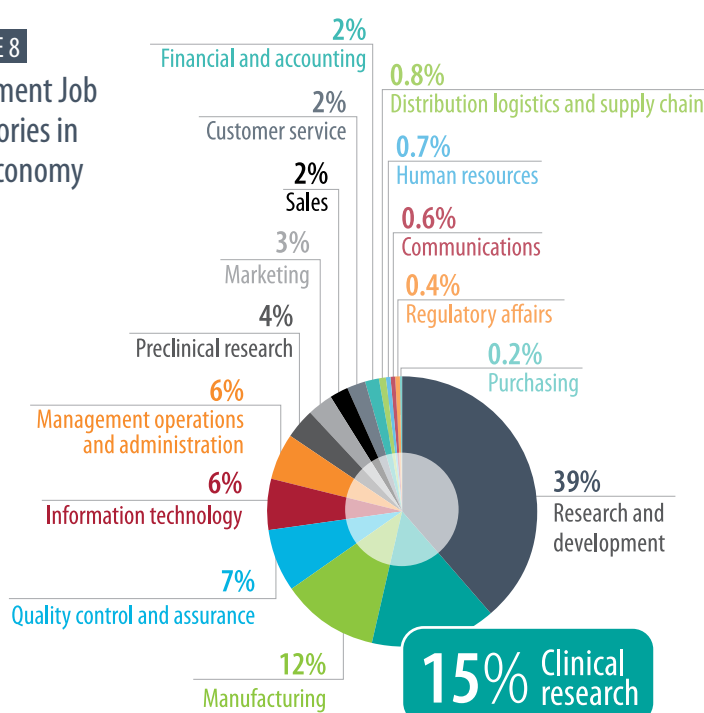
**FIGURE 7**  
Placement Job Categories in Healthcare



Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

## Placement job categories in bio-economy (of 2,166 placements)

**FIGURE 8**  
Placement Job Categories in Bio-economy



Data from BioTalent Canada's SWPP also shows alignment between the roles of student placements and the needs of the industry, as outlined in the **2021 LMI report: Close-up on the bio-economy: National report**. In-demand jobs go well beyond STEM positions and include other areas such as manufacturing, sales, marketing and quality control, among other non-scientific roles. Filling these roles will be critical to sustaining Canada's bio-economy, yet without programs like SWPP, many students may overlook careers within the sector due to a lack of holding a degree in STEM.

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023



# Impact by the numbers

Since 2017, BioTalent Canada Student Work Placement Program has supported the growth of the bio-economy with remarkable success. In only six years, the program has:



**Placed 11,694 student placements nationwide in Canada.**



**3,922**  
healthcare placements



**7,332**  
bio-economy placements



**523**  
placements in other sectors with roles related to biosciences or healthcare

Opened collaborations with employers and **325** participating **universities** and **departments, colleges, and polytechnic** institutions.

**Helped youth** with an average age of **22**

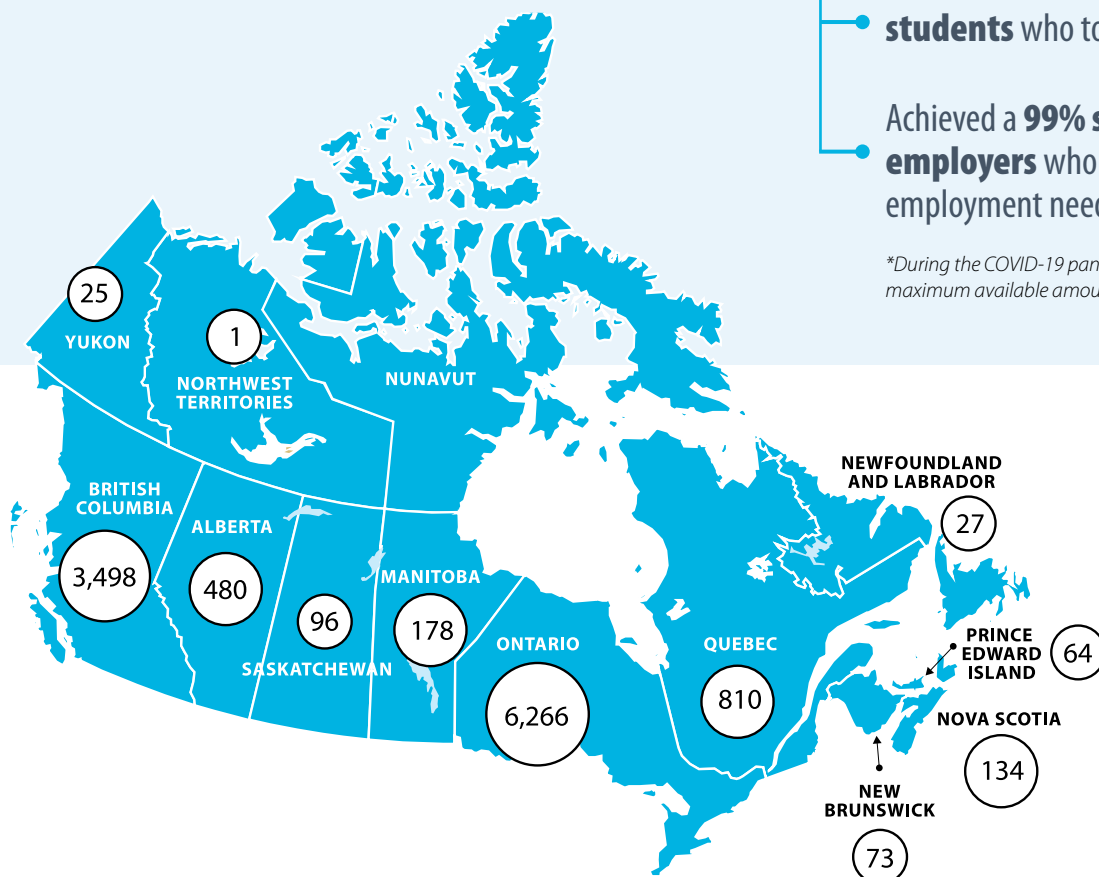
Provided an **average salary of \$35,378** per year

Provided an **average wage subsidy of \$5,716.88** in fiscal year 2022-23\*

Achieved a **97% satisfaction rate among students** who took part in SWPP

Achieved a **99% satisfaction rate among employers** who used SWPP to meet employment needs

\*During the COVID-19 pandemic, all wage subsidies received the maximum available amount.



Despite this success, more needs to be done to support this critical sector, where access to capital continues to be a challenge for employers. Programs like SWPP not only encourage students to choose the bio-economy for their careers, it helps employers offset the costs of hiring someone that may not have all the required skills.

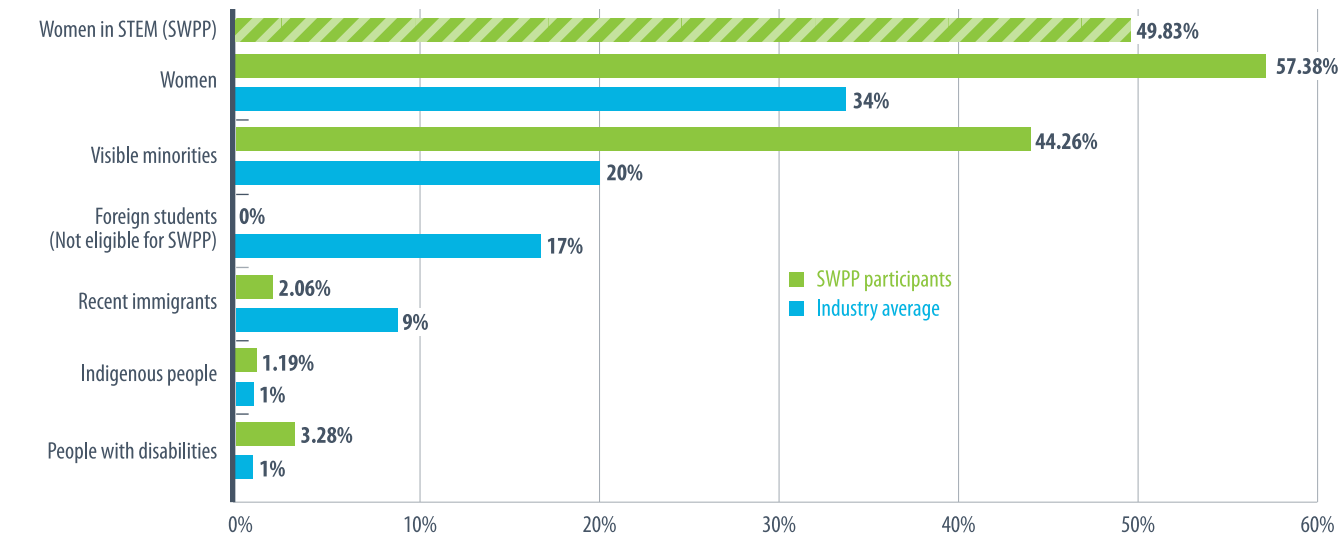
Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

# Increased access to diverse talent

SWPP supports a more diverse workforce (Figure 9). Women make up an average of roughly one-third (34%) of bio-economy workers overall. Other equity-seeking groups have less representation: visible minorities make up an average of 20% of the bio-economy workforce, internationally educated professionals (IEPs) 17% and recent immigrants 9%. Indigenous workers and workers with disabilities make up an average of just 1% of the bio-economy workforce, according to BioTalent Canada’s LMI study.

In comparison, under-represented groups particularly benefited from BioTalent Canada’s SWPP program with 77% of participants have identified as being from an under-represented minority.

**FIGURE 9**  
Under-represented groups in the industry vs. SWPP participants

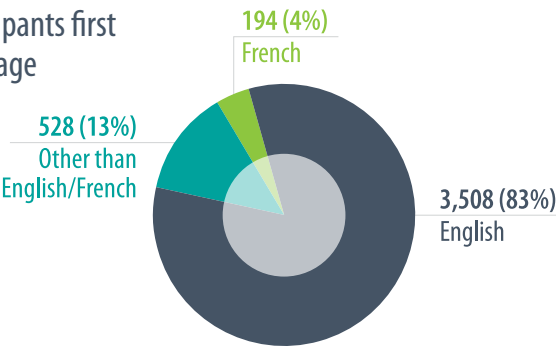


Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada and BioTalent Canada Survey of Employers (2020)

The Student Work Placement Program is encouraging more diverse hiring practices. This is a significant win for an industry that is facing a labour shortage of 65,000 workers by 2029. When employers adopt more diverse hiring practices, they increase their talent pool.

Another sign of the growing diverse hiring practices encouraged through SWPP can be found in the languages spoken among participants (Figure 10). Out of 4,230 SWPP applications received in 2022-23, 722 participants first language was something other than English – roughly 17%.

**FIGURE 10**  
Participants first language



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

# Education levels

As might be expected, the level of education among SWPP participants in the bio-economy is extremely high, with more than 80% working towards a bachelor's degree (Figure 11).

And while enrollment at post-secondary institutions is down among people aged 20 to 24, enrollment overall in Canadian post-secondary education has increased by 28% since 2009 with more students (domestic and international) enrolled in post-graduate studies.

For many students, SWPP has proven to be a lifeline that has facilitated their entry into the workforce, enabling them to build the critical skills needed for a long and rewarding career in the biotechnology sector. Many students' credit SWPP for the career journey they have started. Funding from SWPP has also helped students identify career paths in a sector they may not be fully aware of.

In the latest LMI study of bio-economy employers, roughly two-thirds said they require an undergraduate degree for positions in information technology (71%), management, finance and administration (69%), and legal and regulatory affairs (64%).

While a high level of educational attainment is required in virtually all facets of the biotech industry, SWPP offers students the opportunity to gain work experience at all stages of their studies (Figure 12), helping them navigate their career paths and gain a broader understanding of how their studies can transform into a career.

FIGURE 11  
Level of Education

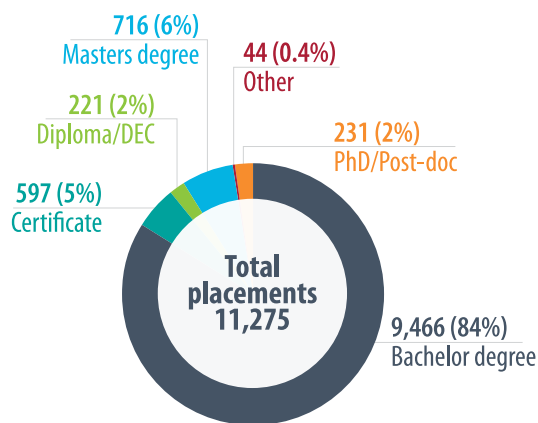
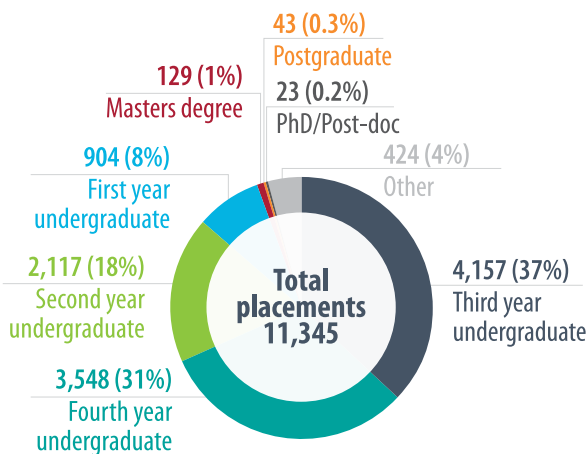


FIGURE 12  
Year of Study



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

*"Breeana is an amazing worker. She is going to work at another institution for a Co-op placement this summer to try something different which is completely understandable. We will try to get her to rejoin our team when she returns."*

- Matthew Waugh, COO – Northern Nanopore Instruments, Ottawa, ON



# Fields of study aligning with employer needs

Employers seek talent with a wide range of skills to help them research, develop, and market their innovations, and SWPP offers a direct outlet to connect with bright young minds that can move their organizations forward. This is evident when looking at the alignment of fields of study (Table 3) with the employer needs outlined in BioTalent Canada's 2021 LMI data. (Figure 13).

For example, the biological and biomedical sciences are at the top of the list when it comes to fields of study among participating SWPP students. Two-thirds of bio-economy employers recruit mainly from these two fields.

**TABLE 3: Fields of study in SWPP job descriptions analysis (of 3,787 applications)**

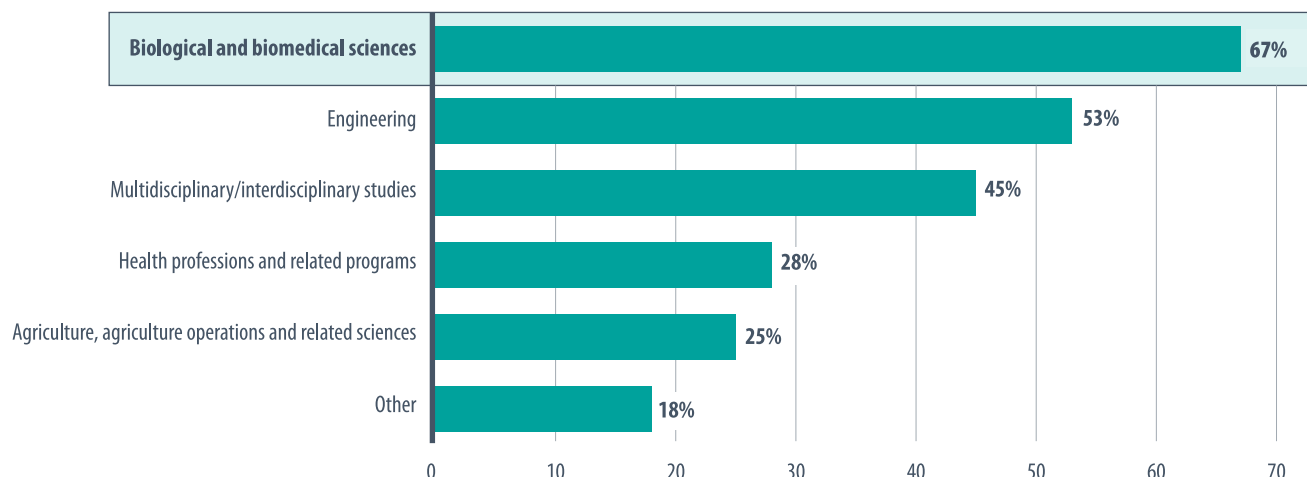
Field of study – bio-economy company			Field of study - healthcare		
1% or more	Engineering	31.9%	1% or more	Health professions and related programs	26.1%
	<b>Biological and biomedical sciences</b>	<b>29.2%</b>		<b>Biological and biomedical sciences</b>	<b>22.3%</b>
	Health professions and related programs	7.1%		Parks, recreation, leisure, fitness, and kinesiology	12.5%
	Computer and information sciences and support services	7.1%		Business, management, marketing and related support services	10.2%
	Business, management, marketing and related support services	6.6%		Psychology	7.2%
	Agricultural and veterinary sciences/services/operations and related fields	5.3%		Engineering	7.2%
	Physical sciences	4.0%		Computer and information sciences and support services	3.8%
	Engineering/engineering-related technologies/technicians	1.8%		Social sciences	2.7%
	Parks, recreation, leisure, fitness, and kinesiology	1.3%		Multidisciplinary/interdisciplinary studies	1.4%
	Psychology	1.0%		Engineering/engineering-related technologies/technicians	1.2%
Less than 1%		4.6%	Less than 1%	Communication, journalism and related programs	1.2%
				Physical sciences	1.1%
					3.1%

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

**FIGURE 13**

Top fields of study employers require



Source: BioTalent Canada Survey of Employers (2020)

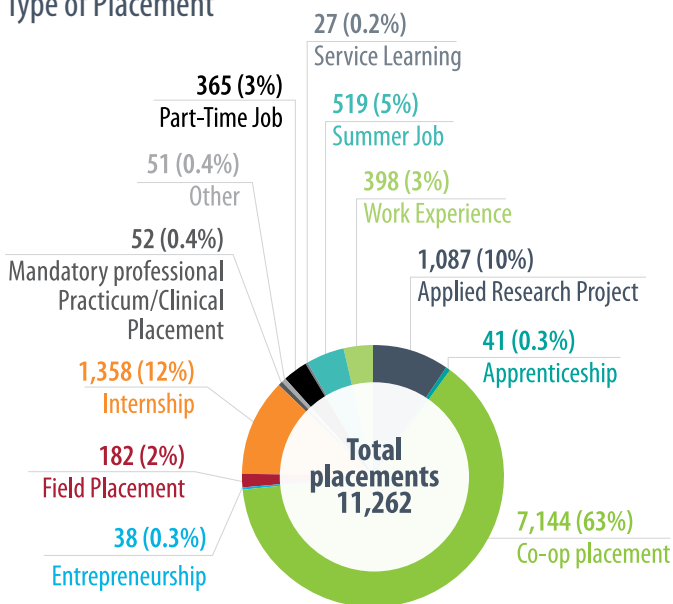
# Diversity of placements

Work-integrated learning came in many forms through SWPP (Figure 14). This indicates the various ways employers were able to integrate students into their organizations, and the support students offered these employers to complete projects both large and small.

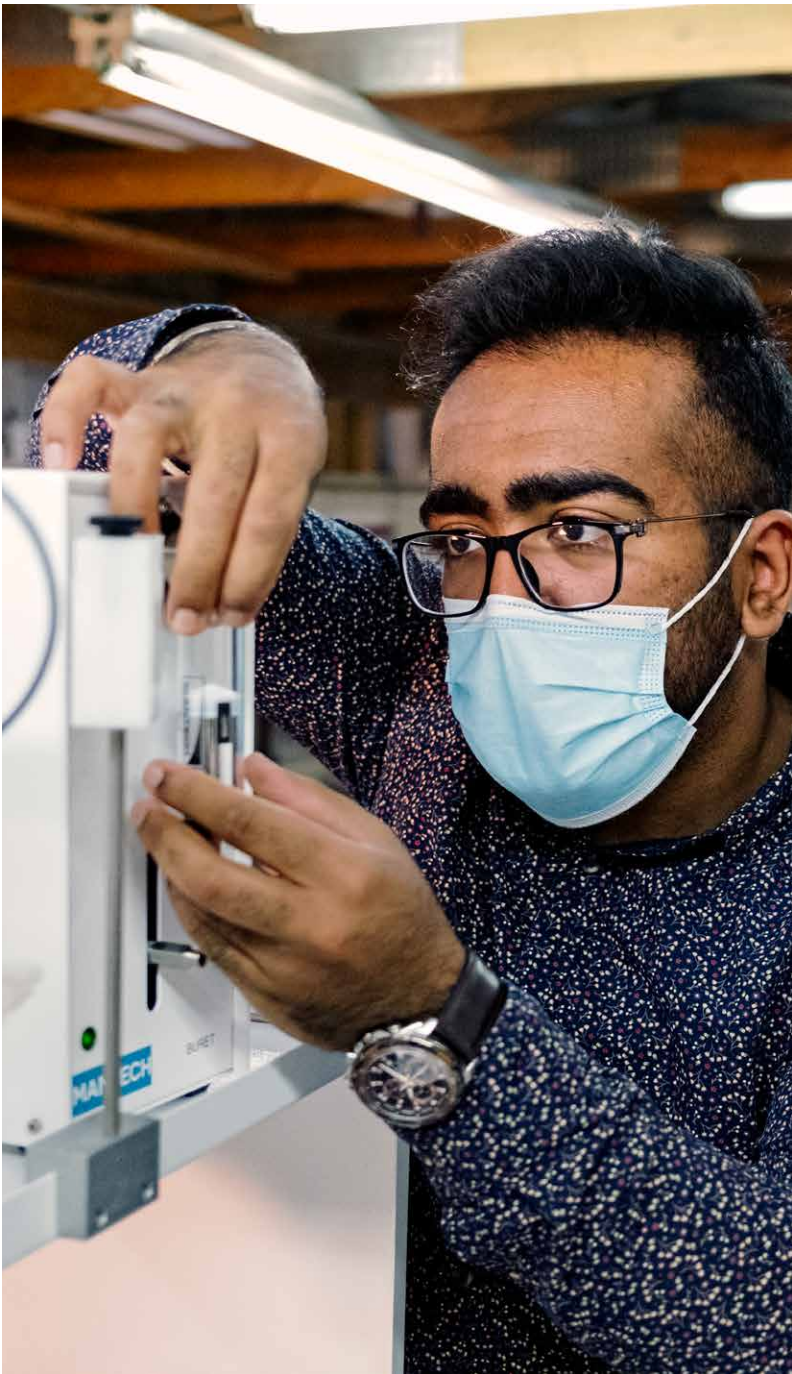
In a sector where 70% of organizations lack a formal human resources department, and 36% have insufficient capital to pay competitive wages to attract and retain qualified candidates, SWPP is seen as a critical support to help their growth and sustainability. Of the employers that participated in BioTalent Canada’s SWPP, 70% said that a co-op position would not have been created without the wage subsidy provided, or they were unsure if a co-op position would have been created.

FIGURE 14

Type of Placement



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada



*“Bringing on students to our team has provided a huge benefit to our processes and building out our company’s pipeline. It has allowed us to undertake tasks and research that will be paramount to informing future development, whether by helping to streamline workflows or directly impacting company development. It has allowed the company to build out our teams, improving our overall culture, and increased our capacity to grow and expand in exciting ways.”*

- Ryan Wallace, Director, Marketing & Communications - KASTx Ventures, Calgary, AB

# Increased employment for new graduates

The Student Work Placement Program has opened the door for students to experience what a career in their field of study would be like. Feedback from the students about the impact the program has had on their career prospects has been overwhelmingly positive, with more than 90% stating they feel better prepared to find and succeed in a job after participating in SWPP.

Students who participate in work-integrated learning programs like SWPP increase their skills and experience beyond the traditional sense. The program encourages the soft skills that allow them to build the professional networks that will help them secure a career that aligns with their studies.

## Student Responses 2020-2023

### Aligning with industry needs (figure 4)

**94%**

My problem-solving skills improved

**88%**

My oral communication skills improved

**79%**

My written communication skills improved

**96%**

Gained experience that will help in the workplace after I graduate

**92%**

My critical thinking skills improved

**90%**

The work placement helped me clarify my potential career path

**92%**

The work placement contributed towards my professional network (employers, mentors, peers, students) that will help me in achieving future career goals

**91%**

The work placement was related to my field of study

**89%**

My time management skills improved

**90%**

Feel better prepared to find a job in my chosen field

## Student Responses 2017-2021

**97%**

Feel better positioned to secure meaningful employment

**95%**

Offers me adequate exposure to real-world experience

**90%**

Placement aligned with my PSI study

**86%**

Helps me develop an entrepreneurial mindset

*Note: Post-placement survey questions differed in the 2017-2021 and 2020-2023 fiscal years, resulting in two sets of data. Data collection was overlapped in fiscal year 2020-21.*

*Source: Student Work Placement Program participant surveys as of March 31, 2023, BioTalent Canada*

# Benefitting employers in an expansive sector

For employers in an innovation driven sector, finding new approaches to tackle existing challenges could mean the difference between commercialization or failure. The bio-economy spans multiple fields and employers are all competing to attract talent with specific, niche skillsets.

SWPP is a win-win for the sector in that over 50% of employers noted that they benefited from creativity, knowledge and skills the students brought into their organizations (Table 4). Giving employers an opportunity to build a direct conduit to potential employees eases the pressures of recruiting in a competitive market while supporting their research and development.

The program not only benefits the students, it gives the primarily small- and medium-sized companies (i.e. <50 employees) (Table 5) that make up Canada’s health and bioscience sectors an edge when trying to recruit talent in a competitive market. Data collected through employer participation in SWPP (Table 6) highlights the diversity in organization type looking to incorporate work-integrated learning into their organization as a tool to build their talent pipelines, with 67% of employers saying they would consider hiring their student long-term.

The majority of bio-economy placements (63%) within private companies will also help develop Canadian talent’s commercialization skills.

TABLE 4: SWPP placement benefits reported by employers (2020-23)

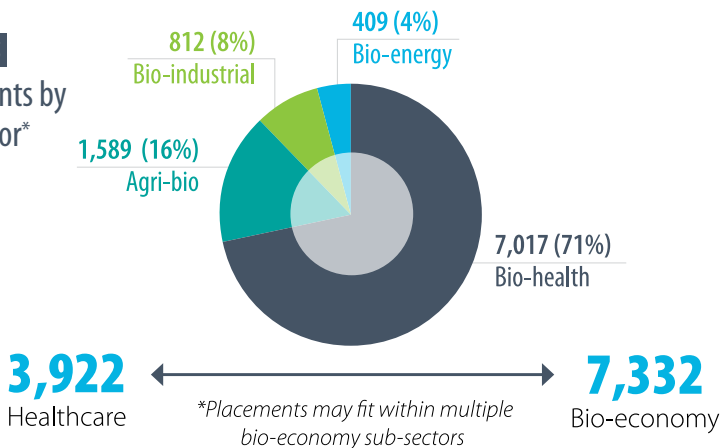
	2020-23
Access to the creativity, knowledge and skills of post-secondary students	50.32%
Ability to address short term work flow pressures	19.70%
No Response	10.21%
Other (please specify)	6.08%
Productivity and service delivery enhancements	5.54%
Opportunity to build stronger connections to education institutions (i.e. continuous source of new talent)	3.65%
Opportunity to contribute to improving post-secondary curricula	1.85%
Opportunity to provide a social good	1.51%
Opportunity for branding and to promote/market the business among students	1.15%

Source: Student Work Placement Program participant surveys as of March 31, 2023, BioTalent Canada

As Canada looks to increase its standing in the health and bioscience sector, it’s not surprising that 71% of students entered placements in Canada’s bio-health sector (Figure 15), with Canada’s agri-bio sector hosting 16% of program placements. By encouraging students into these sectors, Canada’s has the opportunity to position itself as a global leader for innovations in addressing climate change, food insecurity and future pandemics.

FIGURE 15

Placements by sub-sector\*



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada



**TABLE 5: Employers by organization size**

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1-9	25	24	48	285	345	328
10-19	8	18	47	154	162	186
20-49	18	15	42	112	143	126
50-99	6	9	25	61	54	52
100-499	23	26	29	76	94	78
500+	18	25	41	250	257	83
Other	6	3	3	2	56	

Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

#### TRENDS BY ORGANIZATION SIZE:

**1-9 Employees:** Participation in SWPP by organizations with 1 to 9 employees has grown by 1,212%, or 13 times since the beginning of the program.

**10-19 Employees:** Participation in SWPP by organizations with 10 to 19 employees has grown by 2,225%, or 23 times since the beginning of the program.

**100-499 Employees:** Participation in SWPP by organizations with 100 to 499 employees has grown by 239%, or 3.39 times since the beginning of the program.

While these trends are in part due to the increased amount of both funding and placements since the program's initiation, what is clear with these trends is that SWPP has proven to be an essential support for the small- and medium-sized organizations that make up the bio-economy. Access to funding has helped grow and sustain the sector.

**TABLE 6: SWPP placements by organization type (of 3,787 applications)**

Bio-economy organization type	%	Healthcare organization type	%
<b>1% or more each</b>	<b>109.4%</b>	<b>1% or more each</b>	<b>133.3%</b>
Private company	63.1%	Healthcare facilities	22.8%
Industry service provider	8.8%	Private company	17.7%
Contract manufacturing organization	7.4%	Other healthcare	17.3%
Non-profit biotechnology	5.0%	General medical and surgical hospital	11.3%
Medical and diagnostic laboratory	4.8%	Industry service provider	8.6%
Contract research organization	4.3%	Pharmacy	8.5%
Environmental	4.2%	Medical centre	8.0%
Healthcare facilities	3.7%	Medical and diagnostic laboratory	7.4%
Non-profit non-biotechnology	1.8%	Non-profit healthcare	7.4%
Medical centre	1.7%	Physician office clinic	4.9%
Post-secondary institution academia	1.6%	Charity	4.3%
General medical and surgical hospital	1.6%	Home healthcare service	2.7%
Non-profit healthcare	1.4%	Non-profit non-biotechnology	2.4%
<b>Other</b>	<b>4.8%</b>	Psychiatric and substance abuse hospital	2.2%
		Long-Term Care	1.8%
		Contract research organization	1.6%
		Out-patient centre	1.4%
		Other ambulatory healthcare	1.4%
		Non-profit biotechnology	1.4%
		<b>Other</b>	<b>7.0%</b>

Source: BioTalent Canada SWPP Administrative Data, January 1, 2022 to March 24, 2023

# Linking post-secondary institutions, associations & employers

*“BioTalent Canada has helped SQI over the years to build strong connections with universities in acquiring new talent and be able to address short term workflow pressures.”*

– Aurela Mehmeti, SQI Diagnostics

The Student Work Placement Program has played a pivotal role in building stronger connections between the industry and Canada’s post-secondary institutions. More than 320 post-secondary institutions across Canada have taken part in the Student Work Placement Program run by BioTalent Canada (Table 8). These institutions, which include colleges, universities, and polytechnics helped over 11,000 students get hands-on experience in over 2,000 organizations.

Furthermore, over 96% of those employers say they plan to continue their partnership with the post-secondary institution.

While the bio-economy’s three major hubs are the GTA, Greater Montreal and Metro Vancouver, SWPP encourages the growth of small and medium-sized businesses outside of these major centres

(Table 7). This growth outside of the three major hubs is also seen when looking at the increase in participation of post-secondary institutions across the provinces and territories (Figure 16). These two data sets provide evidence of the strengthening of connections between industry and academia when supports like SWPP are in place.

**96%** of employers will continue a collaborative partnership with the post-secondary institution

**TABLE 7: Placements by province and territory**

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Grand Total
No response			17	24	1		42
Alberta	10	4	10	134	207	115	480
British Columbia	75	80	175	917	1,331	920	3,498
Manitoba	1	2	8	55	64	48	178
New Brunswick		2	5	15	35	16	73
Newfoundland and Labrador	1			6	11	9	27
Nova Scotia	1	3	8	71	32	19	134
Northwest Territories			1				1
Ontario	147	140	314	1,607	1,979	2,079	6,266
Prince Edward Island	2	2	12	16	10	22	64
Quebec	17	32	103	243	238	177	810
Saskatchewan			1	14	57	24	96
Yukon			8		11	6	25
<b>Grand Total</b>	<b>254</b>	<b>265</b>	<b>662</b>	<b>3,102</b>	<b>3,976</b>	<b>3,435</b>	<b>11,694</b>

Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

TABLE 8: Number of unique participating post-secondary institutions

	University	College	Polytechnic	Other
2017-18	27	6		
2018-19	35	9	2	
2019-20	64	12	4	1
2020-21	105	43	6	7
2021-22	95	46	6	4
2022-23	156	39	5	5

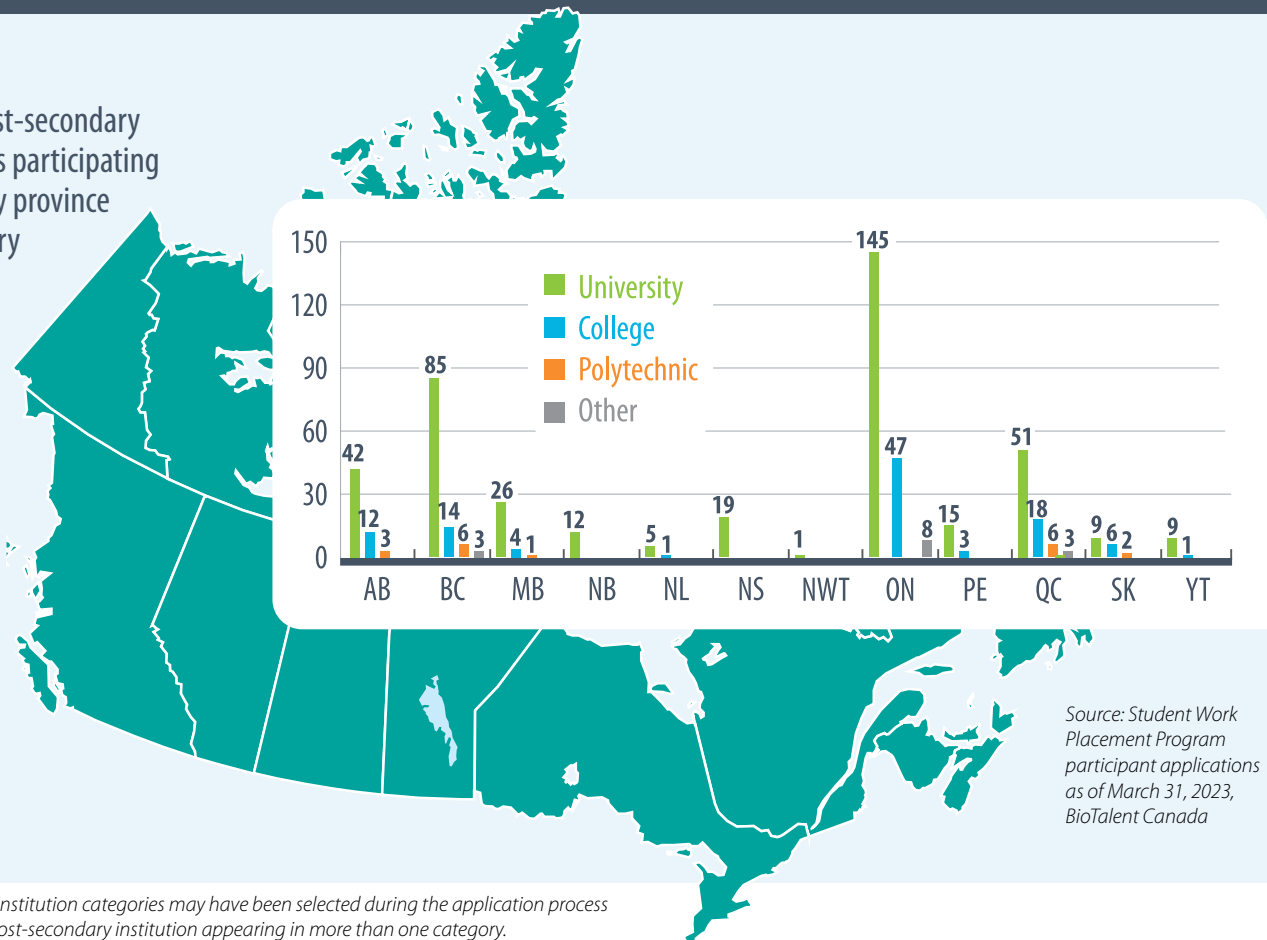
Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

Unique number of post-secondary institutions between 2017 and 2023



FIGURE 16

Unique post-secondary institutions participating in SWPP, by province and territory



Note: Multiple institution categories may have been selected during the application process resulting in a post-secondary institution appearing in more than one category.

Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

Part of this success stems from BioTalent Canada’s ability to leverage support from its partnership network, including provincial associations, to promote the benefits of this much needed program. Through direct collaboration with the industry, BioTalent Canada has been well-positioned to increase awareness of work-integrated learning as a support for growing Canada’s bio-economy.

## Success Story

### SWPP leads to a marriage of science and business

For Paramita Chaudhuri Basu, participating in BioTalent Canada's Student Work Placement Program (SWPP) allowed her to marry her passions for life sciences and business.

Chaudhuri Basu already had a PhD and was working in academia when she enrolled in a Master of Business Administration (MBA) degree to further her interest in finance.

***"I was interested in applying business to life sciences, but wasn't sure how exactly to go about it," she says. "I had no practical work experience in a business or finance role. But then I heard about the Student Work Placement Program."***

Chaudhuri Basu came across SWPP and BioTalent Canada by chance while attending a webinar. She heard the Student Work Placement Program discussed in passing and it piqued her interest.

After following up to learn more, she quickly found herself enrolled in SWPP and working in a business development role at Outbreaker Solutions, an Edmonton-based biotechnology start-up.

***"It was incredible," says Chaudhuri Basu. "In no time, I found myself immersed in business development and pitching Outbreaker Solutions at conferences. Very quickly I was able to marry my interests in both life sciences and business."***

Working in a business position at Outbreaker Solutions enabled Chaudhuri Basu to develop her networking and public speaking skills and learn practical aspects of finance and the business of running a company.

She says her experience at Outbreaker Solutions would not have been possible without the generous wage subsidy provided through SWPP, funding that enabled the small company that focuses on antimicrobial cleansers to take a chance on her.

***"The Student Work Placement Program exceeded my expectations," she says. "It's the only program I came across that took into account my STEM background, that I am a woman, and my interest in business... I would encourage others to apply."***

Today, Chaudhuri Basu has both her MBA and PhD and is employed as Director of Programs & Ecosystem Development at Applied Pharmaceutical Innovation, a national not-for-profit bridging the gap between academia and industry based in Edmonton.

At Applied Pharmaceutical Innovation, Chaudhuri Basu can successfully straddle her passions for science and business, helping the company to build incubation programs for life sciences innovators, develop stakeholder relationships, and support innovators from Alberta to commercialize their life sciences innovations.

Not only does she love what she does, but Chaudhuri Basu credits participating in SWPP with her career success. In fact, without SWPP, she is not sure she could have made the transition from academia to the business world.

***"The Student Work Placement Program not only gave me the practical experience I needed, it enabled me to build relationships that continue to be helpful to this day," she says***

***"Your support team has absolutely been phenomenal and I can't thank each and every person enough during this process."***

- Kalandra Muller, Office Coordinator – Cardon Rehabilitation and Medical Equipment, Burlington, ON



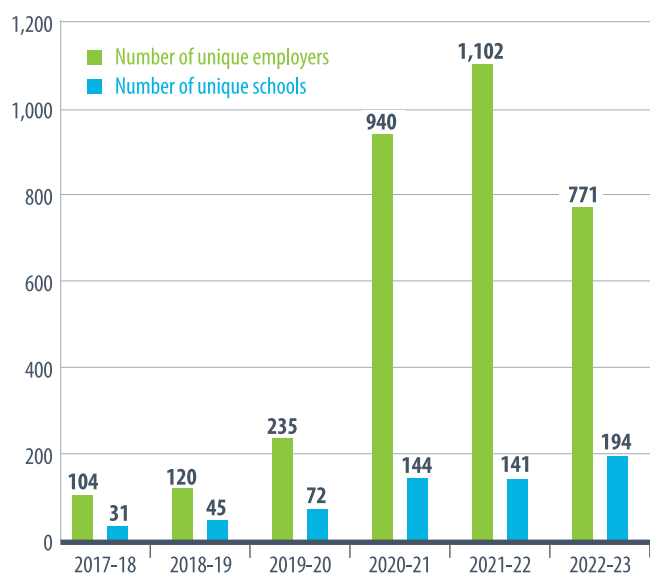
# Connecting post-secondary students with employers

Building better connections between post-secondary institutions and employers has been a critical piece for the Student Work Placement Program to achieve its objective of driving systemic change in the skills development system, and to align the technical, foundational and “work-ready” skills of students. Year-

over-year, the number of unique employers and universities participating in the program has increased (Figure 17), suggesting that SWPP has been integral in strengthening relationships – bridging the gap between industry and academia.

**FIGURE 17**

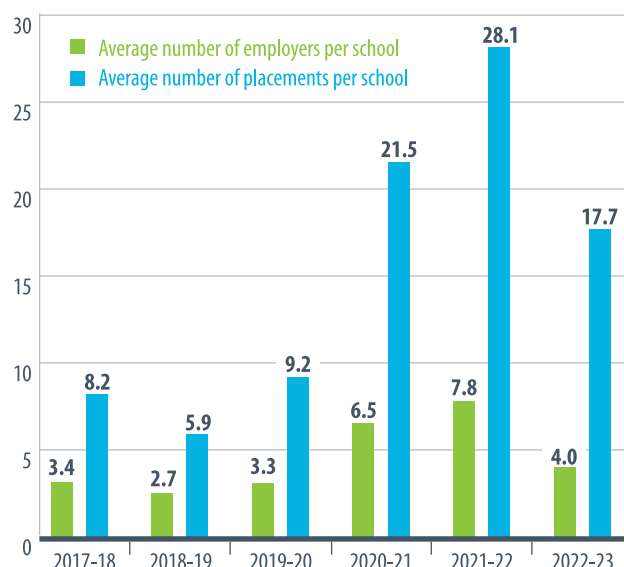
Number of unique employers/unique schools



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

**FIGURE 18**

Average number of employers per school/placements per school



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

*“Tyler’s background in electrical and mechanical engineering proved to be an invaluable skill set for the design and integration of LFAnt’s first functioning prototype in a fit-and-finished form factor.”*

- Adam Melnyk, Chief Product Officer – LFAnt Medical, Montreal, QC

# Employer engagement

The strong relationships between employers and the post-secondary institutions as a result of SWPP are giving future leaders what the sector needs for sustainable growth. The program has supported a symbiotic relationship between industry and academia, where the lessons learned in the classroom can be put into practice with hands-on training and experience.

Employer engagement with SWPP is exceptionally strong, highlighted by the fact that 99% of more than 2,000 participating organizations say they are satisfied with the experience they had.

Furthermore, 98% of companies say they would participate in SWPP again and 96% would continue the relationship they have built with the post-secondary institutions that are part of SWPP.

**Employers took, on average, five students through the program.**

**Considering that 70% of employers say a position would not have been created or are unsure if they would have been able to hire**, without SWPP funding (Figure 19), it's evident the high value that biotechnology organizations place on the program and the benefits it has had in helping them to meet their talent needs, grow their business and succeed in an increasingly competitive marketplace.

Innovation is stifled without fresh and creative ways of approaching the health, climate and food insecurity challenges Canadians are facing at increased levels each year. But in a sector that struggles to attract and retain the talent needed to drive these innovations, support is needed to build greater connections with students while they are still making decisions on what their careers might look like.

*“Julie’s performance at YouCount has been outstanding! She completed two co-op with us, for a total of 8 months. She has showed great initiative, has been excellent in the laboratory work and also excellent in the research and problem solving aspects of the job. She learned quickly and became a very productive member of team. Furthermore, she has gained a lot of valuable hands-on skills from our team on professional laboratory work, documentation of results, following lab SOPs and so forth.”*

- Nikolai Dechev, Co-Founder, CEO – YouCount Inc., Vancouver, BC

**2,187**  
Employers

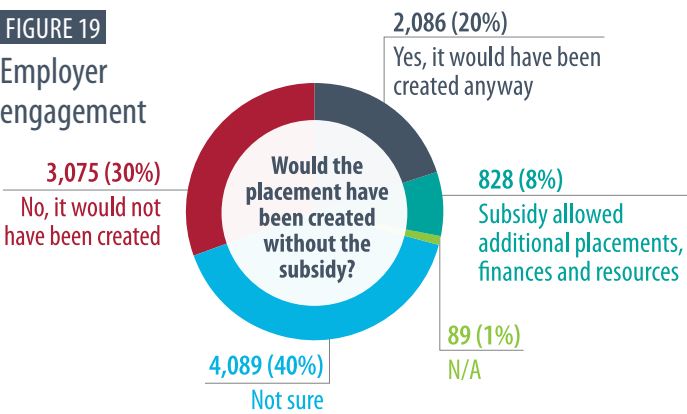
**99%**  
Satisfaction

**5 placements**  
Average per employer

**96%**  
Would continue the collaborative relationship with the post-secondary institution

**98%**  
Would participate again

**FIGURE 19**  
Employer engagement



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

# Facilitating labour mobility in Canada

As a national program, the Student Work Placement Program has also been found to facilitate labour mobility in Canada, with nearly 1,000 (8%) of student participants accepting a work term outside of their home province or where they are undertaking post-secondary studies (Figure 20).

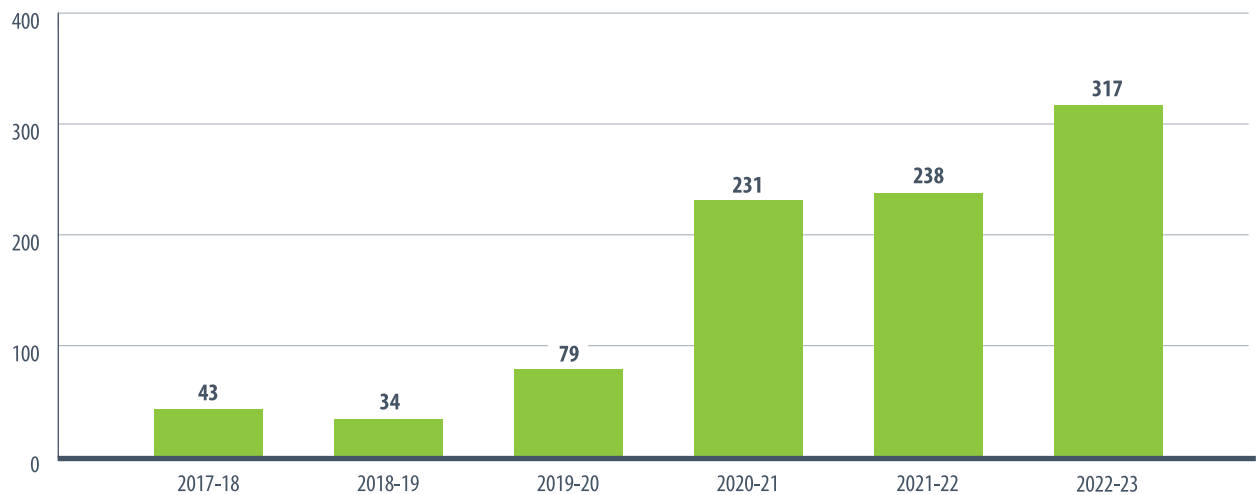
According to an analysis of graduates from 2015, most elect to remain close to the institution at which they studied. A company's proximity to a university or college can play a key role in the recruitment of new graduates and the development of relationships between that company and PSE institutions. One reason is that the location of a company impacts its ability to engage students prior to graduation.

A 2018 survey of graduates from bio-economy-related programs<sup>1</sup> backed up the findings from 2015. Most reported that they were employed in the same region where they had graduated three years previously. The outlier was the Atlantic region where 30% were working in other regions (13% in Western region, 11% in Ontario, 4% in Quebec, 2% outside Canada).

Whether it is a result of a person leaving their hometown to attend school, or a student relocating for their placement, SWPP encourages the mobility of Canada's workforce.

FIGURE 20

Placements with labour mobility, by province



Source: Student Work Placement Program participant applications as of March 31, 2023, BioTalent Canada

*“The program has been great, we are very appreciative of the support, without it we would not be able to hire students and grow the business as much as we have.”*

- Victoria Valeriani, Lead, People and Culture – Doctalk Inc., Toronto, ON

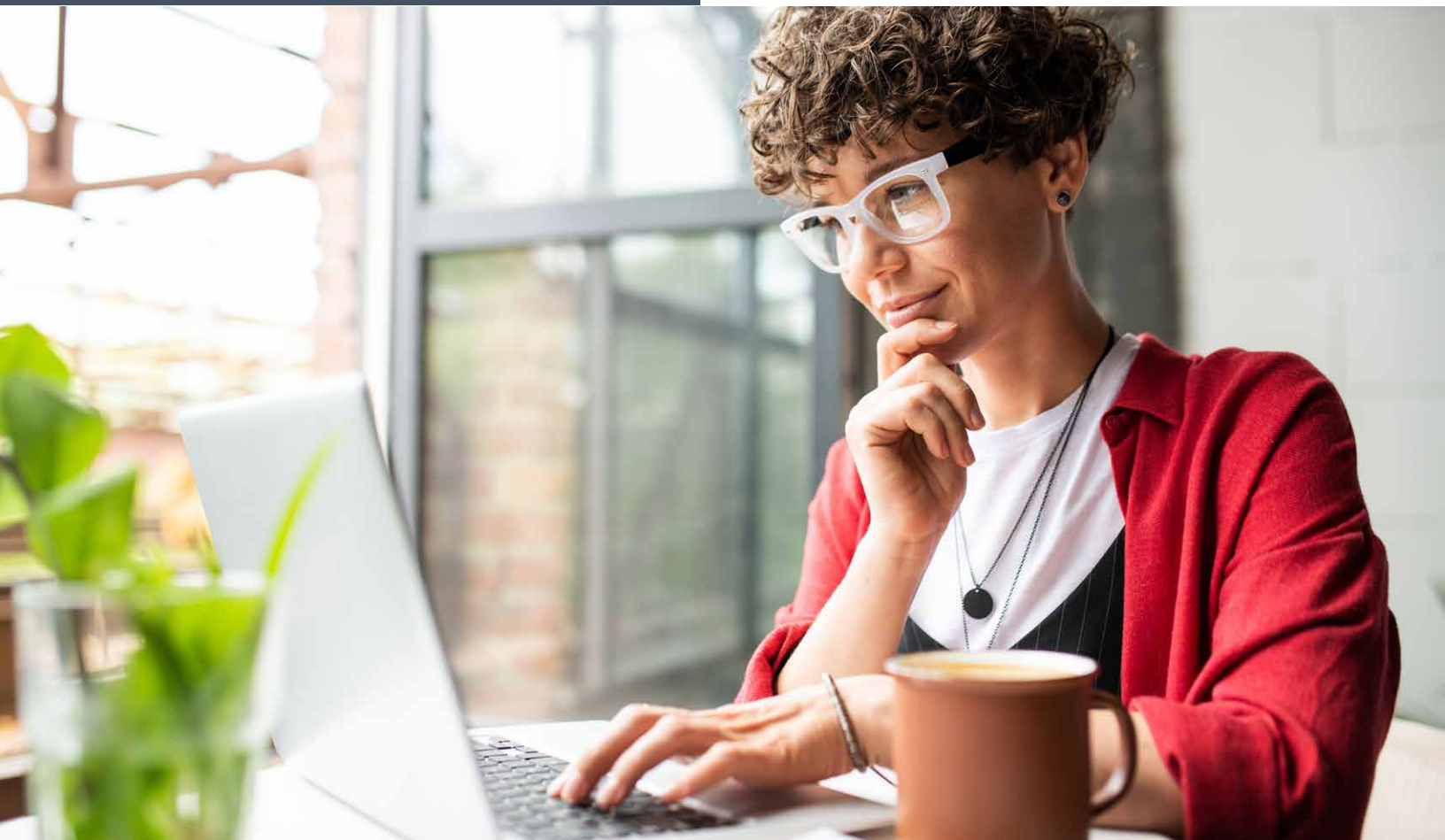
<sup>1</sup> Bio-economy related program groupings included the following Classification of Programs (CIP) codes at the two-digit level: 06-Physical and life sciences and technologies; 08-Architecture, engineering, and related technologies; 09-Agriculture, natural resources and conservation; and, 10-Health and related fields.

## Facilitating connections

BioTalent Canada continues to work closely with its partnership network to facilitate connections between post-secondary institutions and industry employers to grow the sector's talent pipeline. Their work as the voice of talent management best practices for the industry has been a key factor to their success in strengthening these relationships.

*"We are a start up company and training and hiring students allows us to stay competitive in terms of bringing new ideas and development and helps keep the expenses on a lower end."*

- Hannah Chan, COO – Skinopathy Inc., Toronto, ON



## Centralized online system

Part of BioTalent Canada's work in facilitating the connections has included ways of streamlining the application and administration process for SWPP, making access to funding as easy as possible for participating organizations. Recently, they developed an intuitive online system that enables biotech employers throughout Canada to apply for funding through SWPP and claim their eligible wage subsidies.

With the online application system available in both official languages there are more official ties with the student, employers and academic contacts.

The application and claims system provides industry with easy access to funding and has been praised for its ease of use and responsiveness. Having this system in place makes it seamless for BioTalent Canada to continue administering SWPP to organizations within Canada's bio-economy.

Employers have praised how easy it is for them to see all their placements, applications and financial claims in one convenient location.



# Increased work-integrated learning (WIL) opportunities

Programs such as co-ops, work placements, internships, and clinical placements that combine practical work experience with formal classroom learning continue to be a critical component of Canada's post-secondary education network.

Work-integrated learning (WIL) programs also play an important part in helping the biotech industry in Canada meet its need for 65,000 additional workers by 2029. They remain a great tool for organizations that are struggling to meet their objectives and can't afford the salaries of full-time employees.

*"Fantastic program, thank you so much for this opportunity as we are a very small company - I am a solo founder and having a support of a student intern made such an incredible difference!"*

- Lianna Genovese, CEO & Founder – ImaginAble Solutions, Hamilton, ON

## Propelling Canada's bio-economy forward

WIL programs give students vital real-world experience and networking skills that better prepare them to transition into practical work environments after graduation from college, university or polytechnics. Employers say time and again that graduates with work experience have an easier time hitting the ground running.

These programs help build a connection between students and bioscience and healthcare employers, providing opportunities within those networks to build long-term employment relationships.

Awareness of SWPP among employers and post-secondary institutions has grown exponentially.

- The total number of SWPP placements has risen from 254 to 11,694, an increase of 4,500% in a little more than five years.
- Among the types of placements:
  - co-op positions have increased 2,850%;
  - summer jobs have gained 2,770%; and
  - internships have grown by 320%.

This growth demonstrates that awareness of SWPP has grown, and continues to grow, throughout Canada.

For more first hand stories of the impact of the program check out the impact videos from employers and students at [biotalent.ca/success-story](https://biotalent.ca/success-story)



# Recommendations

Funding provided by the Government of Canada to date has had a positive impact and made a meaningful difference in growing a critical sector for the Canadian economy. The biotechnology industry in Canada is stronger because of the wage subsidies and student work placements created through SWPP. The 2023 federal budget extended the country's entire SWPP for an additional year to 2024-2025.

What's needed now is for the Government of Canada to make the Student Work Placement Program permanent. BioTalent Canada is therefore asking that funding for SWPP be provided on an ongoing and renewable basis.

Failure to provide consistent, long-term funding for SWPP puts the Canadian bio-economy at risk. High paying jobs, technological innovation, domestic vaccine production and the health of Canadians could all fall behind competing nations if funding for SWPP is allowed to lapse. Canada's global competitiveness as an international bioscience power is at stake.



# Gathering the data

## BioTalent Canada Student Work Placement Program surveys and applications

Data and testimonials were collected from 11,694 participant applications and 10,167 post-engagement surveys from September 2017 to March 31, 2023. Survey responses included participants and employers.

## Participant stories

Interviews were conducted with participants and employers over the years to create videos and impact stories that highlight the many successes SWPP has brought to Canada's bio-economy.

- **STEM student gets seasoning at Edmonton start-up**
- **Moncton cancer research institute unearths talent through student wage subsidies**
- **Vancouver start-up's successful COVID-19 transition aided by student wage subsidies**

## Job description analysis

BioTalent Canada provided source information for 3,787 participant records from January 1, 2022 to March 31, 2023 for job description analysis. There were three records that were provided but not used because the placement job description was empty.

For research purposes, organizations belonging to multiple industries were reclassified as primarily bio-economy, healthcare or other based on organization descriptions.

Classification of Instructional Programmes (CIP) were assigned based on the participant field of study data. And NOC and skills were assigned based on the placement job description.

In the end, three sets of nine skills each were coded:

1. The Skills for Success from Employment and Social Development Canada (ESDC)
2. The Analytical Skills from Canada's Skill Taxonomy, ESDC, 2019
3. The Technical Skills from Canada's Skill Taxonomy, ESDC, 2019.

## BioTalent Canada labour market intelligence study

BioTalent Canada conducted a widespread census of the companies within the industry to get a full picture of the composition of the bio-economy. Through extensive surveying and interviewing several reports – national, demand and supply, regional, and of key hubs – were published. The granular reports focused on the:

- **Current and future skills shortages,**
- **Supply and demand of workers, and**
- **Data to facilitate employer HR resource planning and management.**



Find full details and reports at [biotalent.ca/LMIStudy](https://biotalent.ca/LMIStudy).

# Partners

## Platinum

Innovative Medicines Canada

## Gold

adMare BioInnovations  
Applied Pharmaceutical Innovation  
Bioscience Association Manitoba  
BioVectra Inc  
Immigrant Employment Council  
of BC (IEC-BC)  
Stem Cell Network  
STEMCELL Technologies

## Silver

Ag-West Bio  
BioAlberta  
BioNova  
BIOQuébec  
Business Wire  
Canadian Alliance for Skills and Training  
in Life Sciences (CASTL)  
Gowling WLG  
HealthPartners  
Life Sciences British Columbia  
Life Sciences Ontario  
McGovern Management Group Inc  
(MMGI)  
PEI BioAlliance

## Bronze

Bioenterprise Corporation Canada  
Bioindustrial Innovation Canada  
BioLAB Business  
Blue Branch  
Borden Ladner Gervais (BLG)  
Brock University  
CAI  
City of Mississauga  
CEWIL Canada (Co-operative Education  
and Work-Integrated Learning Canada)  
EMILI (Enterprise Machine Intelligence  
and Learning Initiative)  
Lumiio  
McMaster University  
Continuing Education  
Meeturtenant Inc  
Montréal Invivo  
Northeastern University -  
Toronto Campus  
ResearchNB  
Science to Business Network  
Seneca College  
Toronto Metropolitan University  
University of British Columbia -  
Faculty of Science  
University of Calgary- Schulich  
School of Engineering  
University of Manitoba  
University of Toronto - Tri-Campus Co-op  
University of Toronto - Master of  
Management of Innovation program  
University of Toronto - Scarborough  
University of Victoria - Biomedical  
Engineering  
University of Waterloo  
York University

## Supporting

BioBenefits  
BIOTECCanada  
Calgary Region Immigrant Employment  
Council (CRIEC)  
Canurta  
City of Toronto  
Evolve Biologics  
Glyconet  
Medtech Canada  
Ontario Bioscience Innovation  
Organization  
Partner Animal Health

## Showcase

AbCellera Biologics Inc.  
BioConnect  
Charles River Laboratories  
Eurofins CDMO Alphora Inc  
Global Institute for Food Security  
Notch Therapeutics  
Ottawa Hospital Research Institute  
Providence Therapeutics  
Resilience Biotechnologies  
Sanofi  
Xenon Pharmaceuticals Inc  
Zymeworks Inc.

## Academic

Carleton University  
Loyalist College  
McMaster University-  
DeGroote School of Business  
Queen's University  
Red River College  
University of Guelph  
Western University

Would being part of a national bio-economy network of employers be an advantage for you?  
**Email Soufiane at [info@biotalent.ca](mailto:info@biotalent.ca) to find out more.**



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*The opinions and interpretations expressed in this publication are those of the author and do not necessarily reflect those of the Government of Canada.*

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