

## **Global Talent Mobility, Innovation and Growth**

### **Global Talent Attraction and Retention. Case Study Ontario**

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Focusing on the empirical case of Ontario, this profile examines the recruitment and retention of high-skilled professionals and international students in the case of Canada and one of its most important destination regions for high-skilled immigrants. The aim of this study is to foster a deeper understanding of the role that policy programs and industry strategies play in attracting and retaining migrant professionals in STEM (Science, Technology, Engineering and Mathematics).

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## Key Messages

- **Prior to the outbreak of COVID-19, Ontario and its clusters strongly depended on professionals with degrees and skills in Science, Technology, Engineering and Mathematics (STEM). Demand for STEM talent was found to be increasingly unmet due to an aging workforce, strong growth in Ontario's STEM-industries, and significant out-migration to other provinces and countries, which threatened to undermine Ontario's growth, innovativeness and competitive edge.**

Primarily concentrated in Toronto, Kitchener-Waterloo and Ottawa, and prior to the outbreak of COVID-19, Ontario's innovation clusters were experiencing significant growth. Ontario had the advantage of a well-educated, albeit limited, STEM workforce, as well as being a well-established landing province for global STEM talent and international STEM students arriving in Canada. Despite these advantages, the province and its main clusters were experiencing challenges recruiting enough talent for innovation and growth, due to demographic changes, an aging workforce, brain drain to other provinces and countries, and increasing labour demand by STEM-reliant industries. Taken together, these developments increased the importance of policy reforms and enhanced practices which would help to promote the successful recruitment and retention of more STEM migrant talent, while at the same time, also facilitating re-training and re-skilling of Ontario's work force.

- **Ontario's provincial immigration programs and policies attempt to ease, regulate, and fast-track the admission of high-skilled (including STEM) migrant professionals. The Canada-Ontario Immigration Agreement (set to expire in November 2022) stipulated admission caps which, prior to the outbreak of COVID-19, were said to significantly undermine Ontario's potential to better leverage its recruitment and retention programs effectively for stronger innovation and growth.**

In Canada, the federal government maintains full jurisdiction over the total number of migrants allowed to relocate to Canada and its provinces. Stakeholders reported that prior to the outbreak of COVID-19 this fact considerably strained Ontario's flexibility in admitting and facilitating the access and retention of global STEM talent, and further managing migration to meet the demands of Ontario's growing STEM-industries at the time. To better meet labour needs across different high-skilled and STEM-related occupations, Ontario partially re-focused its efforts on the retention of international students, and their transition after graduation from accredited Canadian universities into permanent resident status. The province also started to focus on the labour market integration of non-economic migrants. While this did not minimize the general limitations, posed by the federal caps on diverse immigration categories, it did allow the province to better target areas deemed to be in strong demand of labour.

- **A lack of comprehensive data and access to important information inhibits effective policy-advising and policymaking.**

There is a pronounced lack of data and understanding about limitations to talent recruitment and retention in Ontario. Further research is necessary to assess the existing barriers to labour market entry put in place for STEM-related skilled workers prior to the outbreak of COVID-19, and whether these barriers were appropriate and proportional. While barriers were put in place to manage and keep immigration controlled, long-term restrictions imposed for STEM labour markets may create disincentives to high-skilled migration to Ontario and exacerbate the issues that come with a shrinking

workforce. This may become even more clear as COVID-19-related restrictions are eased, and the economy of Ontario begins to recover. An overall deficit of more recent data and information (within the past five years) severely limits comprehensive understandings and therefore effective policy making.

- **While federal, provincial and municipal involvement in Ontario's economic immigration programs provide a model for inter-governmental engagement, further streamlining of immigration pathways may be necessary for attracting and retaining STEM workers, especially as the economy begins to recover from the effects of the COVID-19 pandemic.**

In an effort to attract and retain foreign STEM workers more effectively, Ontario's Immigrant Nominee Program (OINP) created several pathways for economic migration of global STEM talent – most notably through accredited Canadian universities and the retention of international students. However, between the federal and provincial immigration programs, the multivariate options served to confuse and deter potential global talent workers, international students and employers from utilizing the program. As such, further efforts should be made to consolidate and simplify immigration pathways to take advantage of skilled immigration programs, particularly as the economy struggles to recover in the aftermath of COVID-19.

- **The federal and provincial governments must effectively communicate with industry stakeholders and adapt to ongoing developments due to the COVID-19 outbreak, and to prepare for the post-COVID relaunch of Ontario's economy.**

Ontario will need to be strategic in utilizing a recovery framework that will not deter provincial attraction in the long-term and can sustain global talent recruitment in STEM sectors and beyond. With rapid growth in the country's digital economy, there are pro-active measures that can be taken to ensure high-skilled immigrants that can often be further marginalized during periods of economic recession are adequately valued. This would include investments into up-skilling and training workshops for employees to adapt to online business models, credential recognition and academic equivalency services, and employment bridging programs. It is also in the best interest of the province to research and reflect on both the advantages and limitations of existing immigration programs, strategies, and services to better prepare and take advantage of high-skilled professionals wishing to immigrate once talent restrictions are lifted. Moreover, this will ensure that Ontario's STEM industries are able to utilize and retain talent while remaining globally competitive in their capacity for attraction.

## I. Economic Situation and STEM Sector

Ontario's economy had been in a process of transition since the late 20<sup>th</sup> century and prior to the COVID-19 pandemic. Although the province remained highly industrialized, with a number of manufacturing industries continuing to comprise a major part of the province's production, employment in goods-producing industries fell from 37% to 28% of the labour force between 1981 and 1993, while the labour force itself experienced significant growth during the same time period.<sup>1</sup> This signaled a major shift in the structure of the provincial economy. As Bathelt et al (2013) noted, Ontario's economy had transformed through multiple crises, each of which involved a 're-bundling' of resources in Ontario's major industries.<sup>2</sup> This referred to the process in which "*new resources [were] integrated into the regional production process and how existing resources, such as knowledge, [were] used in different ways to serve a different purpose.*"<sup>3</sup> To this end, Ontario's pre-existing comparative advantage in manufacturing and goods-producing industries paved the way for a technology and knowledge-based provincial economy. Pre-existing skills and resources were successfully 're-bundled', which allowed Ontario to respond to changes in the global market. This transformation had demonstrated that the foundations of the provincial economy had shifted away from its traditional base towards a knowledge-based economy based on a newer generation of Science, Technology, Engineering, and Mathematics (STEM) industries.

This economic shift had not been exclusive to the province of Ontario. The total number of people employed in natural and applied sciences and related occupations across Canada experienced a positive increase of 50.4% between 2000 and 2018 (from 984,000 to 1,479,600 individuals), whereas the total number of Canadians employed in manufacturing and utilities decreased by 23.8% over the same time period (from 1,130,700 to 861,600 individuals). Ontario correspondingly experienced a 29.6% decrease of individuals employed in manufacturing and utilities (555,800 to 391,400 individuals) between 2000 and 2018. The number of Ontarians employed in natural and applied sciences and related occupations increased by 41.3% (428,300 to 605,100 individuals) during the same time period.<sup>4</sup>

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<sup>1</sup> Gertler, Meric & Wolfe, David (2004), "Ontario's Regional Innovation System: The Evolution of Knowledge-based Institutional Assets", in: Hans-Joachim Braczyk (eds.), *Regional Innovation Systems*, London: Taylor & Francis, 464 pp., p. 115.

<sup>2</sup> Bathelt, Harald et al (2013), "Challenges of Transformation: Innovation, Re-bundling and Traditional Manufacturing in Canada's Technology Triangle," *Regional Studies* 47(7): 1111-1130, 1115.

<sup>3</sup> Bathelt, Harald et al (2013), 1115.

<sup>4</sup> Statistics Canada (2019), *Labour Force Characteristics by Occupation, Annual Report, Table 14-10-0335-01*, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410033501>

Since 2015, Canada's technology sector had been comprised of 71,000 firms, representing 6.1% of all Canadian businesses and directly generating \$117 billion (7.1%) of Canada's economic output.<sup>5</sup> In Ontario, the technology industry made up 7.5% of total businesses in the province. Ontario's highly diversified STEM economy was based on eight main sectors: aerospace, automotive, chemical and biochemical, clean technology, information technology (including financial technology), food and beverage manufacturing, industrial automation and robotics, life sciences and mining (*table 1*).<sup>6</sup> These sectors also played a crucial role in keeping Canada's economy innovative and globally competitive as a whole. In Ontario, spending on research and development (R&D) related activities reached \$15.3 billion in 2016. To put this figure into perspective, Statistics Canada estimated Canada's total R&D spending in the same year to be \$34.4 billion, with Quebec and British Columbia trailing behind Ontario, and spending \$8.8 billion and \$4.0 billion on R&D, respectively.<sup>7</sup>

Ontario's competitive advantage was attributed to a number of factors: First, the province had a more educated workforce when compared with the average educational attainment of countries assessed by the Organization for Economic Co-operation and Development (OECD).<sup>8</sup> Many employers have noted that an advantage of locating in southern Ontario is the availability of high-skilled individuals, as well as access to leading universities and other post-secondary educational institutions.<sup>9</sup> However, even prior to the outbreak of COVID-19, Ontario's growing skills gap had already begun to jeopardize this advantage over other provinces and countries abroad. As a way to maintain this key advantage, the province embarked on a strategy of attracting high-skilled foreign professionals to address the growing skills gap.<sup>10</sup> According to Canada's 2016 census, of the 1,131,440 immigrants working in STEM industries, 591,930 (52%) worked in Ontario.<sup>11</sup> Ontario to this day continues to have an extremely diverse workforce, considering that half of the people immigrating to Canada each year tended to choose Ontario as their province of residence.

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<sup>5</sup> Lamb, Craig & Seddon, Matthew (2016), *The State of Canada's Technology Sector*, Toronto: Brookfield Institute for Innovation and Entrepreneurship, <https://brookfieldinstitute.ca/report/the-state-of-canadas-tech-sector-2016/>, p. 35.

<sup>6</sup> Invest Ontario (2019a), *Industries*, <https://www.investinontario.com/industries>

<sup>7</sup> Statistics Canada, *Spending on Research and Development, 2018 Intentions*, <https://www150.statcan.gc.ca/n1/daily-quotidien/181212/dq181212c-eng.htm>

<sup>8</sup> Invest Ontario (2019b), *Why Ontario?*, <https://www.investinontario.com/why-ontario#costs>

<sup>9</sup> Bramwell, Allison & Wolfe, David (2008), "Universities and Regional Economic Development: The Entrepreneurial University of Waterloo", *Research Policy* 37(8): 1175-1187, 1180.

<sup>10</sup> Picot, Garnett & Hou, Feng (2018), "Immigrant STEM Workers in the Canadian Economy: Skill Utilization and Earnings", *Canadian Public Policy* 44(1): 113-124.

<sup>11</sup> Statistics Canada (2017), *2016 Census of Population*, Catalogue no. 98-400-X2016272, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm>

**Table 1: Ontario's industrial sectors**

Source: Invest Ontario (2019a)

<b>Industry sector</b>	<b>Number of companies in Ontario</b>	<b>Employees in Ontario</b>	<b>Annual revenue (or relative valuation metric)</b>	<b>Annual export revenue (or relative valuation metric)</b>
<b>Aerospace</b>	200	21,000 direct employees (17,000 indirect employees; 14,070 with postsecondary education and 39,000 STEM graduates per year)	\$6 billion	\$4.8 billion
<b>Automotive</b>	1,200 (700 parts suppliers, 500 tool, dye and mould makers)	104,000 (44,720 with postsecondary degree)		
<b>Chemical and biochemical</b>	700	26,000	\$16 billion	\$12 billion
<b>Clean technology</b>	3,000	65,000	\$8 billion	\$1 billion
<b>Information Technology &amp; Financial Technology</b>	20,000	280,700 (224,560 with postsecondary education)		
<b>Food and Beverage Manufacturing</b>	3,000	96,700 (65,750 with postsecondary education)	\$12.3 billion (2012)	\$12 billion (2013)
<b>Industrial Automation and Robotics</b>	350		Projected \$41 billion by 2020	
<b>Life Sciences</b>	1,900	60,000	\$2.6 billion in sponsored research income	
<b>Mining</b>	1,500		\$11 billion (2014)	

Another key advantage of Ontario was that it consistently offered some of the lowest business costs among G7 countries in terms of corporate taxes and average salaries. Moreover, it has a key advantage in its close proximity to the United States and its massive consumer market.<sup>12</sup> To observe the broader picture as well,

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<sup>12</sup> Invest Ontario (2019a).

Ontario experienced a 2.2% growth of its gross domestic product (GDP) in 2018, and the province's GDP accounted for 38.7% of Canada's total GDP in the same year.<sup>13</sup> Moreover, a survey of the economic development plans of different cities in Ontario conducted by Cleave et al (2017) found that STEM-related and knowledge-based industries are becoming vitally important in municipal development strategies across the province.<sup>14</sup>

This brief overview of the state of Ontario's STEM industry shows that prior to the outbreak of COVID-19, the province successfully 're-bundled' the skills and knowledge of its pre-existing manufacturing industries to develop a highly competitive knowledge-based economy in which various STEM sectors played a critical role.

While Canada has already started to see an economic upturn following the plunge produced by the restrictions and measures implemented in reaction to the first wave of the COVID-19 outbreak (first half of 2020), meaningful growth is expected to be incremental and even “[s]olid gains in 2021 and 2022 will not suffice to bring Canada's economy back to full potential.”<sup>15</sup> At the time of writing, Ontario as the rest of the world is heading into yet another wave of the COVID-19 pandemic and there is great uncertainty about the impact of new mutations of the Corona virus on the province and its economy. Ontario's technology sector will be key in supporting the eventual relaunch and growth<sup>16</sup> of the provincial economy. Particularly, Ontario's digital economy has proven critical in supporting the ability of companies to transition their operations toward remote work and navigate other everyday life demands (e.g. online shopping) during the first COVID-19 outbreak. To ensure Ontario's industry is well equipped, it will be necessary for companies to easily find and rapidly hire people with the required skills and knowledge. This will include a quick relaunch of existing and perhaps new immigration programs to recruit essential talent from abroad, as well as facilitative measures that allow for the retention of temporary knowledge workers and international students. The government of Canada has already instated reactive measures directed at essential workers earlier in the pandemic<sup>17</sup>, it may benefit from doing so to accommodate for workers coming to assist the economy as needed.

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<sup>13</sup> Ontario Ministry of Finance (2019), *Ontario Fact Sheet*, <https://www.fin.gov.on.ca/en/economy/ecupdates/factsheet.html>.; Statistics Canada (2019), *Gross Domestic Product by Industry: Provinces and Territories 2018*, [www150.statcan.gc.ca/n1/daily-quotidien/190501/dq190501a-eng.htm](http://www150.statcan.gc.ca/n1/daily-quotidien/190501/dq190501a-eng.htm)

<sup>14</sup> Cleave, Evan et al (2017), “Cities’ Economic Development Efforts in a Changing Global Economy: Content Analysis of Economic Development Plans in Ontario, Canada,” *Area* 49(3): 359-368.

<sup>15</sup> Conference Board of Canada (2020), *Canadian Two-Year Outlook*, [https://www.conferenceboard.ca/docs/default-source/pdf\\_downloads/se\\_canadian-two-year-outlook\\_sept2020.pdf](https://www.conferenceboard.ca/docs/default-source/pdf_downloads/se_canadian-two-year-outlook_sept2020.pdf)

<sup>16</sup> *Technology sector central to next phase of Ontario's Action Plan. Budget 2020 is the first step in Ontario's economic recovery and represents a responsible plan amid COVID-19*, November 5, 2020, <https://www.globenewswire.com/news-release/2020/11/05/2121664/0/en/Technology-sector-central-to-next-phase-of-Ontario-s-Action-Plan.html>

<sup>17</sup> Government of Canada (2020d), *Prioritizing work permit processing for essential occupations*, <https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/operational-bulletins-manuals/service-delivery/coronavirus/temporary-residence/work-permit.html#toc5>

### ***Ontario's top innovation clusters***

Prior to the effects of the COVID-19 pandemic on the province, Ontario's STEM-dependant industries — except for mining and to some extent automotive production — were concentrated around Toronto, Kitchener-Waterloo (part of the Greater Toronto Metropolitan Area) and Ottawa.<sup>18</sup> In 2015, approximately 59% of all Information and Communication Technology professionals in Ontario were employed in Toronto, while 20% worked in Ottawa and an astonishingly low 2% in Kitchener-Waterloo.<sup>19</sup> Recently, there have been significant changes in the size of clusters in the Greater Toronto Area and the Kitchener-Waterloo corridor as larger technology firms establish a greater presence in these areas' STEM sectors.<sup>20</sup> Both Google and Ipsen Pharmaceuticals have located their new Canadian headquarters in Kitchener and Mississauga, respectively. Furthermore, seven of the ten largest tech companies in the world, including Apple, Google, Microsoft, Oracle, IBM, Intel and Cisco conduct part of their R&D activities in Ontario.<sup>21</sup> Additionally, Amazon had seen potential in investing in southern Ontario. In 2018, Amazon opened offices in downtown Toronto, resulting in 600 additional technology jobs, and started to plan further expansions for the coming years in and beyond the Greater Toronto Area.<sup>22</sup>

This high concentration of STEM industries and employment reflects the fact that over time, well-developed clusters have evolved around universities and industries in the mentioned city regions. For example, the proximity of the University of Toronto to the city's massive technology industry<sup>23</sup> had cemented the STEM sector as a major part of the city's economy. Additionally, the cluster in Kitchener-Waterloo generated significant academic interest<sup>24</sup> as a result of its high concentration of STEM-sector firms and their close connection to the region's research-strong universities. The Kitchener-Waterloo cluster hosted some of

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<sup>18</sup> Invest Ontario (2019a).

<sup>19</sup> Information and Communications Technology Council (ICTC) (2015), *The Smart Economy Reshaping Canada's Workforce: Labour Market Outlook 2015-2019*, Toronto: ICTC, 23.

<sup>20</sup> *New Thomson Reuters Toronto Technology Centre to Create 1,500 Jobs in Canada*, October 7, 2016, <http://www.newswire.ca/news-releases/new-thomson-reuters-toronto-technology-centre-to-create-1500-jobs-in-canada-596274171.html>

<sup>21</sup> Ontario Ministry of Economic Development and Growth (2016), *Ontario's Highly Skilled Workforce Attracting Investment and Jobs*, <https://news.ontario.ca/medg/en/2016/10/ontarios-highly-skilled-workforce-attracting-investment-and-jobs.html>

<sup>22</sup> Smith, Ainsley (2018), *Amazon Expands Tech Hub in Toronto With 600 New Jobs*, December 18, 2018, <https://dailyhive.com/toronto/toronto-amazon-600-tech-jobs-downtown-office>

<sup>23</sup> Spigel, Ben & Bathelt, Harald (2011), "University Spin-offs, Entrepreneurial Environment and Start-up Policy: The Cases of Waterloo and Toronto (Ontario) and Columbus (Ohio)", *International Journal of Knowledge-Based Development* 2(2): 202-219.

<sup>24</sup> Bramwell & Wolfe (2008); Hari, Amrita (2015), "Intergenerational and Transnational Familyhood in Canada's Technology Triangle", in: Man, Guida & Cohen, Rina (eds.), *Engendering Transnational Voices: Studies in Family, Work, and Identity*, Waterloo: Wilfrid Laurier University Press, pp. 53-74; Bramwell, Allison et al (2008), "Knowledge, Innovation and Institutions: Global and Local Dimensions of the ICT Cluster in Waterloo, Canada", *Regional Studies* 42(1): 101-116; Bathelt, Harald et al (2011), "Social Foundations of Regional Innovation and the Role of University Spin-Offs: The Case of Canada's Technology Triangle", *Industry and Innovation* 18(5): 461-486.

Canada's largest software, hardware, e-learning and satellite companies.<sup>25</sup> Because of this, the region is vital for attracting high-skilled foreign STEM workers, as it had *"become one of the top ten destinations for immigrants arriving in Canada and among the top five for immigrants entering Ontario."*<sup>26</sup> The success of Kitchener-Waterloo was primarily due to the dynamics of its STEM cluster, which itself developed as a result of the symbiotic relationship between the University of Waterloo and local firms. Bramwell & Wolfe (2008) call Waterloo an 'entrepreneurial research university' that both attracted and developed high-skilled individuals, but also shared their talents with local firms through a highly innovative cooperative education program.<sup>27</sup> Additionally, despite its widely-held perception as a government and mainly administrative town, Ottawa managed to develop into a major technology cluster comprised of a large number of information and communication technology firms.<sup>28</sup> Various federal research laboratories played a key role in the development of Ottawa's telecommunications cluster *"through talent attraction and spin-off creation."*<sup>29</sup> Since then, the National Capital Region (the Greater Ottawa Area) became an attractive cluster for technology entrepreneurs because of its diversity of STEM jobs and its educational environment supported by a number of joint institutes between the University of Ottawa and Carleton University and a strongly government-supported R&D sector.<sup>30</sup> Toronto, Kitchener-Waterloo, and Ottawa had highly developed STEM clusters as a result of their respective universities and local industries which fostered an entrepreneurial environment<sup>31</sup>, attracted high-skilled international students and workers<sup>32</sup> and built upon pre-existing STEM industries. Ultimately, as the province plans its approach to rebuild the economy in the aftermath of the COVID-19 pandemic, the future success of these clusters and their respective industries will strongly rely on Ontario's continued ability to mitigate the growing skills gap in the STEM workforce by attracting and retaining high-skilled foreign professionals.

### ***Spotlight: Ontario's Information Communication and Technology (ICT) sub-sector***

Information and Communication Technology (ICT) remains an incredibly important part of Canada's technology sector, accounting for the majority of R&D in this industry, as demonstrated by *figure 1*. Ontario's STEM economy is especially centred around its highly productive ICT sector. However, prior to

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<sup>25</sup> Waterloo Region Economic Development Corporation (2019), *Access to Top Talent*, <http://www.waterlooeconomicdevelopment.ca/en/advantages-of-waterloo-region/Economy.asp>

<sup>26</sup> Hari (2015), 60.

<sup>27</sup> Bramwell & Wolfe (2008), 1176.

<sup>28</sup> Madill, Judith et al (2004), "Networks and Linkages Among Firms and Organizations in the Ottawa-Region Technology Cluster", *Entrepreneurship & Regional Development* 16(5): 351-368.

<sup>29</sup> Spigel, Ben (2017), "Bourdieu, Culture and the Economic Geography of Practice: Entrepreneurial Mentorship in Ottawa and Waterloo, Canada", *Journal of Economic Geography* 17(2): 287-310. .

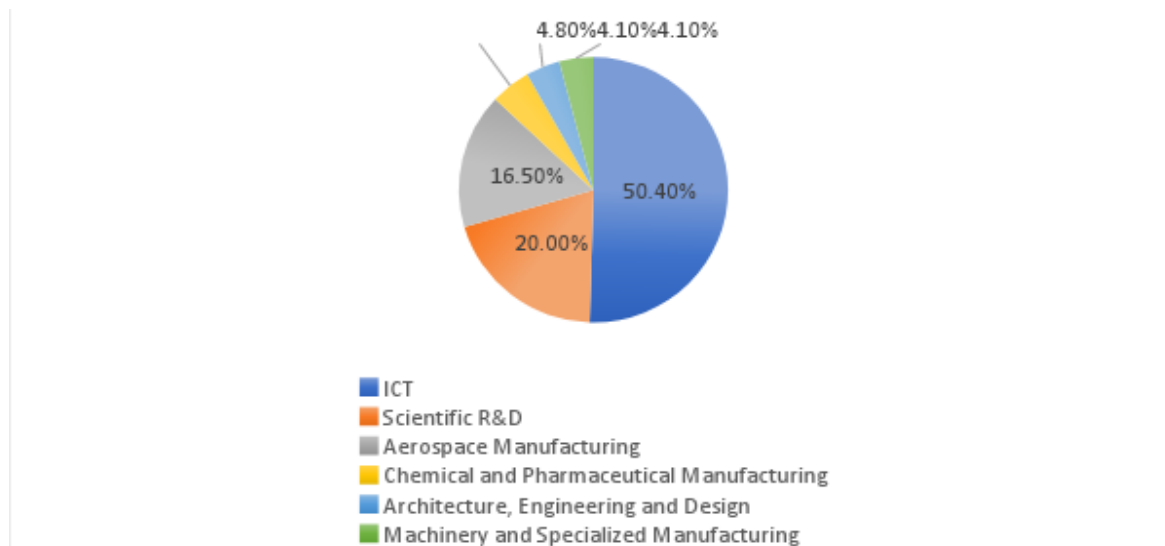
<sup>30</sup> Harrison, Richard et al (2004), "Entrepreneurial Activity and the Dynamics of Technology-based Cluster Development: The Case of Ottawa", *Urban Studies* 41(5-6): 1045-1070.

<sup>31</sup> Spigel & Bathelt (2011), 202-219.

<sup>32</sup> Flynn, Emma & Bauder, Harald (2015), "The Private Sector, Institutions of Higher Education, and Immigrant Settlement in Canada", *International Migration & Integration* 16: 539-556.

the COVID-19 pandemic, this industry was also experiencing a greater and growing need for high-skilled professionals. Reflecting Ontario's already significant dependence on foreign STEM professionals, 47.8% (177,000) of the 369,730 ICT professionals employed in Ontario in 2015 were immigrant workers<sup>33</sup> – a number that was representative of the general situation prior to the outbreak of the COVID-19 pandemic. As a means to address this skills gap, private firms increasingly sought to fill vacant jobs with foreign professionals. Labour market projections from the Information Communications and Technology Council (ICTC) estimated that 88,000 ICT jobs will be created by 2021, with specific growth in artificial intelligence (AI), 5G mobile development and 3D printing capabilities.<sup>34</sup> Table 2 demonstrates that by 2019, cumulative hiring requirements for ICT positions were expected to be over 52,700 in the Greater Toronto Area, over 9,700 in the Greater Ottawa Area (including Gatineau, Quebec), over 3,800 in the Kitchener-Waterloo region, and over 9,900 in the rest of Ontario.<sup>35</sup> These numbers will likely change, as the STEM sector faces new challenges due to the effects of COVID-19. Demand for immigration of foreign STEM talent to Ontario will likely increase even more so than projected, which will only further increase Ontario's reliance on foreign talent and the need to continue and expand the province's active recruitment and retention efforts within its economic recovery framework.

**Figure 1: Tech Sector Business Enterprise R&D by Industry Group, 2015<sup>36</sup>**



<sup>33</sup> ICTC (2015), 23.

<sup>34</sup> ICTC (2017), *The Next Talent Wave: Navigating the Digital Shift - Outlook 2021*, Ottawa: Information and Communications Technology Council, 16.

<sup>35</sup> ICTC (2015).

<sup>36</sup> Based on Lamb & Seddon (2016), 28.

**Table 2: Projected labour demand in Ontario's ICT sector by 2019<sup>37</sup>**

<b><u>Occupation</u></b>	<b><u>Projected Job Growth</u></b>
Information Systems Analysts and Consultants (NOC 2171)	35,510
Computer and Network Operators, Web Techs (NOC 0213)	9,880
Computer Programmer and Interactive Media Dev (NOC 2174)	9,320
Software Engineers (NOCs 2173, 2174)	7,410
Computer and Information Systems Managers (NOC 0213)	5,380
Web Designers and Developers (NOC 2175)	2,760
Graphic Designers and Illustrators (NOC 5241)	2,670
Computer Engineers (NOC 2147)	2,640
Electrical Technologists and Technicians (NOCs 2241, 2133)	2,290

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<sup>37</sup> ICTC (2017), 16.

## II. STEM Workforce

In 2016 and prior to the COVID-19 outbreak, STEM-related jobs accounted for 6.2% of Ontario's total provincial employment, a higher proportion than the Canadian average of 5.6%.<sup>38</sup> Also as of 2016, there were 1,205,365 people with an educational background in STEM working in Ontario.<sup>39</sup> Of those, 334,085 had a degree and skills in the field of engineering, 342,680 in science and science technology, and 288,300 in mathematics and computer information science.<sup>40</sup> The province's high-skilled workforce and leadership in innovation attracts considerable investment in the STEM sector. Large STEM firms such as Thompson Reuters, Google, Ipsen Pharmaceuticals, Slack, Paytm Labs, Akka Technologies and Turo all launched or expanded existing operations in Ontario between 2015 and 2016.<sup>41</sup> Other companies have developed organically out of Ontario's strong STEM sector. Shopify, the world's second largest e-commerce platform, is one of Ottawa's new pillars in technology.<sup>42</sup> Company founder and CEO, Tobi Lütke, stated that Ottawa had a *"deep talent pool"* and the *"smartest people I've met anywhere in the world."*<sup>43</sup>

Much of this workforce originated from the Greater Toronto Area, Kitchener-Waterloo, and the Ottawa-Gatineau region, as each have well-renowned universities that both attracted and developed domestic and foreign talent. Due to their proximity to universities, many Ontario companies in these clusters had gained direct access to new STEM talent, including international students, through collaborations with academic institutions such as the University of Toronto, Carleton University, and the University of Waterloo. Reflecting Lütke's comments, Ontario had one of the best-educated workforces in the G7, with 67% of the population holding a postsecondary degree.<sup>44</sup> Specifically, the University of Waterloo had received a substantial amount of attention due to its high concentration of mathematical and computer science talent.<sup>45</sup> As Bramwell & Wolfe (2008) argue, Waterloo had been enormously successful because of its *"ability to attract, retain, and train top caliber graduates and researchers, and to link them with local and nonlocal employers; the provision of R&D support to local firms; the interactive exchange of tacit knowledge at both local and global levels; and the active facilitation of entrepreneurial activities."*<sup>46</sup>

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<sup>38</sup> Lamb & Seddon (2016), 6.

<sup>39</sup> Statistics Canada (2017).

<sup>40</sup> Statistics Canada (2017).

<sup>41</sup> Ontario Ministry of Economic Development and Growth (2016).

<sup>42</sup> *Canadian E-commerce Firm Shopify Looks Set to Challenge Amazon*, CBC, October 30, 2019, <https://www.cbc.ca/news/business/canadian-e-commerce-firm-shopify-looks-set-to-challenge-amazon-1.5339370>

<sup>43</sup> *Our Canadian CEO of the Year You've Probably Never Heard Of*, The Globe and Mail, November 27, 2014, <https://www.theglobeandmail.com/report-on-business/rob-magazine/meet-our-ceo-of-the-year/article21734931/>

<sup>44</sup> Ontario Ministry of Economic Development and Growth (2016).

<sup>45</sup> Waterloo Economic Development Corporation (2019).

<sup>46</sup> Bramwell & Wolfe (2008), 1179.

Universities in Ontario have been committed to further improving employment accessibility for recent graduates. The University of Waterloo has created one of the largest post-secondary co-op/internship programs of its kind in the world, with over 19,800 placements per year pre-COVID, which gave its students the chance to work with firms from a pool of 6,700 different employers.<sup>47</sup> However, this ecosystem was not unique to Waterloo. The University of Toronto,<sup>48</sup> Carleton University in Ottawa, and the University of Ottawa<sup>49</sup> had also trained high-skilled STEM workers for their respective local technology clusters. As Sá & Lee (2012) note, the industry-academy connection is crucial for growing employment in technology hubs. It is likely, this will continue to be the case during the post-COVID-19 relaunch of Ontario's economy.<sup>50</sup> As of 2017, 241,400 technology sector workers lived in the Greater Toronto Area, while employers in the Greater Ottawa-Gatineau Area were able to tap into a labour pool of 70,600 STEM-trained workers.<sup>51</sup> However, although Ontario's STEM sector was experiencing a period of significant growth prior to the COVID-19 outbreak and the province had taken steps to graduate more STEM professionals and to attract more international STEM talent, "[m]any of the Ontario Chamber of Commerce's 60,000 members" [had] reported that they "[were] having trouble finding the skilled workers they [needed] to compete and grow the economy."<sup>52</sup>

Prior to the restrictions imposed by the COVID-19 pandemic, high-skilled migration was a significant source of labour with the power to actively combat skills shortages which pose an extreme threat to the growth and development of Ontario's vital STEM sector. In 2011, immigrants accounted for approximately 21% of the Canadian population, but "*almost one-half of all university graduates trained in the STEM fields.*"<sup>53</sup> As such, immigrants and foreign workers remained a crucial part of Ontario's STEM sector. Exacerbating Ontario's labour shortages was also the fact that fewer economic migrants capable of filling the skills gap were being drawn to Ontario, while high-skilled workers nevertheless continued to leave the province. Despite having had one of the highest proportions of landed immigrants among all provinces, "*the number of economic immigrants positioned to come to Ontario declined by 46% from 95,091 in 2001 to 50,948 in 2014,*"<sup>54</sup> which will certainly be further impacted by the border restrictions and changing

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<sup>47</sup> University of Waterloo (2019), *About Co-operative Education*, <https://uwaterloo.ca/co-operative-education/about-co-operative-education>

<sup>48</sup> Spigel & Bathelt (2011), 202-219.

<sup>49</sup> Harrison et al (2004), 1045-1070.

<sup>50</sup> Sá, Creso and Lee, Hana (2012), "Science, Business, and Innovation: Understanding Networks in Technology-based Incubator", *R&D Management* 42(3): 243-253.

<sup>51</sup> Coldwell Banker Richard Ellis (CBRE) (2018), *Scoring Canadian Tech Talent*, Toronto: CBRE, <https://cbrevictoria.com/2018-canada-scoring-tech-talent>, 10.

<sup>52</sup> Holmes, Andrea et al (2014), *Think Fast: Ontario Employer Perspectives on Immigration Reform and the Expression of Interest System*, Toronto: Ontario Chamber of Commerce, 1.

<sup>53</sup> Picot & Hou (2018), 116.

<sup>54</sup> Sullivan, Karen (2016), *Passport to Prosperity: Ontario's Priorities for Immigration Reform*, Toronto: Ontario Chamber of Commerce, 4.

incentives to work abroad due to the pandemic. According to Ontario's "Population Projections Update 2014-2016", "[in] the past 30 years, net interprovincial migration [had] not contributed to Ontario's population growth, with net losses averaging about 1,100 people per year."<sup>55</sup> Despite these losses, between 2008 and 2013 Ontario had the highest retention rate of immigrants amongst Canadian provinces, as 93.1% of all immigrants arriving in Canada during this timeframe continued to reside in Ontario<sup>56</sup>, which must remain an indefinite priority if the province seeks to maintain its competitive advantage beyond the conditions of the pandemic.

### ***Spotlight: Foreign graduates from post-secondary institutions and their retention in STEM fields***

Canada's immigration system has been heavily reliant on the attraction of high-skilled migrants and this strategy of growth is likely to continue if not strengthen as a significant part of its economic recovery framework following the pandemic. Due to already existing skill shortages, an aging workforce, and new challenges brought on by COVID-19, this immigration approach will be incredibly important in maintaining Ontario's competitiveness in the global knowledge-based economy.<sup>57</sup> In the long run, it is "*only such supply-driven systems that can meaningfully attract and capitalize on human capital.*"<sup>58</sup> Universities in Ontario have been vital in both attracting high-skilled individuals, and in assisting them in becoming permanent residents in Canada.<sup>59</sup> To this end, the synergy between private firms seeking high-skilled employment and universities seeking talented students will remain a crucial factor in both attracting and retaining high-skilled migrants.<sup>60</sup>

From 2012 to 2016 and prior to the onset of the pandemic, the number of international students graduating from Canadian postsecondary institutions increased from 40,371 to 65,832 annually.<sup>61</sup> The significance of international students in Canadian academic institutions cannot be understated, as the number of international students enrolled grew by over 200% between 2000 and 2014.<sup>62</sup> In order to capitalize on this growth, the Ontario government made it a priority to aggressively promote Ontario post-secondary

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<sup>55</sup> Ontario Ministry of Finance (2018), *Ontario Population Projections Update, 2014-2016*, <https://www.fin.gov.on.ca/en/economy/demographics/projections/#s4f>

<sup>56</sup> Van Huystee, Monica (2016), *Interprovincial Mobility: Retention Rates and Net Inflow Rates, 2008-2013 Landings*, Ottawa: Immigration, Refugees and Citizenship Canada.

<sup>57</sup> Boyd, Monica (2014), "Recruiting High Skill Labour in North America: Policies, Outcomes and Futures," *International Migration* 52(3): 40-54..

<sup>58</sup> Czaika, Mathias & Parsons, Christopher (2017), "The Gravity of High Skilled Migration Policies", *Demography* 54: 603-640.

<sup>59</sup> Flynn & Bauder (2015).

<sup>60</sup> Desai Trilokekar, Roopa Desai et al (2016), *International Students as 'Ideal' Immigrants: Ontario Employers' Perspective*, Toronto: York University, 78 pp.

<sup>61</sup> Statistics Canada (2019), *Table 37-10-0020-01, Postsecondary Graduates, by Institution Type, Status of Student in Canada and Sex*, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710002001>

<sup>62</sup> Sá, Creso & Sabzalieva, Emma (2018), "The Politics of the Great Brain Race: Public Policy and International Student Recruitment in Australia, Canada, England and the USA", *Higher Education* 75: 231-253.

institutions abroad, and between 2012 and 2017 the number of international students registered in Ontario universities and colleges grew from 70,260 to 102,546.<sup>63</sup>

Before the outbreak of COVID-19, the rapid increase in international students enrolled in Ontario post-secondary institutions had been facilitated by the streamlining of the application processes and the revision of policies regulating off-campus work and post-graduation work permits.<sup>64</sup> As a result, Ontario had become “the primary destination for international students in Canada.”<sup>65</sup> This strategy to increase international student enrolment was directly related to Canada’s goal of addressing skills shortages through immigration. Consequently, this meant that the increase coincided with the country’s shift towards skill-based migration.<sup>66</sup> As Lu & Hou (2019) identified, of the “temporary foreign residents who received student permits from 1990 to mid-2014, more than 270,000, or 19 per cent, have become permanent residents.”<sup>67</sup>

The recruitment of international students into STEM programs was especially important, considering the growing labour shortages in these industries. 24.4% of enrolled international students entered engineering and technology programs between 2011 and 2014, when compared with only 21.7% in the case of domestic students over the same time period.<sup>68</sup> The regions in Ontario with strong STEM-related industrial activity also attracted most of the foreign students: “While the growth in international students is faster in the rest of the province, Toronto colleges still [represented] almost half of the total international student population.”<sup>69</sup> Among professional programs across Ontario institutions, engineering programs had attracted a significant number of international students, as 42.8% of the 13,662 international students enrolled in undergraduate engineering programs across Canada studied in Ontario as of 2016.<sup>70</sup>

Despite the provincial and federal efforts being made to allow businesses to capitalize on the talents of international students in Ontario, there were still procedural barriers that had effect on employer’s decision making in hiring international students which are now exacerbated by the mobility challenges and declining incentives to study in Canada as a result of the pandemic. York University reported that employers saw international students as more ‘risky hires’ due to the complicated immigration policies and lengthy

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<sup>63</sup> Statistics Canada (2019), *Table 37-10-0018-01 Postsecondary Enrolments, by Registration Status, Institution Type, Status of Student in Canada and Sex*, <https://www150.statcan.gc.ca/n1/daily-quotidien/181128/dq181128c-cansim-eng.htm>

<sup>64</sup> Decock, Henry et al (2016), *International Students at Ontario Colleges: A Profile*, Ottawa: Canadian Bureau for International Education, 1.

<sup>65</sup> Decock et al (2016), 1.

<sup>66</sup> Cudmore, Geoffrey (2005), “Globalization, Internationalization, and the Recruitment of International Students in Higher Education, and in the Ontario Colleges of Applied Arts and Technology”, *The Canadian Journal of Higher Education* 35(1): 46.

<sup>67</sup> Lu, Yuqian & Hou, Feng (2019), “Student Transitions: Earnings of Former International Students in Canada’s Labour Market”, in: Kwak, Min-Jung & Kim, Ann (eds), *Outward and Upward Mobilities: International Students in Canada, Their Families, and Structuring Institutions*, Toronto: University of Toronto Press, 219-245.

<sup>68</sup> Decock et al (2016), 7.

<sup>69</sup> Decock et al (2016), 3.

<sup>70</sup> Rossi, Vinicius (2016), *Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded 2016*, Ottawa: Engineers Canada, 7.

immigration procedures involved in hiring international students.<sup>71</sup> Moreover, attracting international students was only one part of the equation. Ontario needed to effectively retain these high-skilled individuals, as indicated by She & Wotherspoon (2013) who explain that only around 15% to 35% “*of international students [could] be expected to work and settle in their host countries.*”<sup>72</sup> Additionally, more work needed to be done to better match international students with prospective employers, because “*even in an area of skill shortage, [international students] with local qualifications often [faced] multiple barriers to labour market entry.*”<sup>73</sup> To this end, both retaining high-skilled migrants and ensuring that their talents are used appropriately must be of the utmost concern for policymakers seeking to cement Ontario’s competitiveness in the global economy and looking for a foundational strategy to recover from further losses to STEM industries caused by the COVID-19 outbreak.<sup>74</sup>

In reaction to the COVID-19 pandemic, federal and provincial officials must continue to adapt talent immigration strategies to meaningfully accommodate for an innovative recovery model that prioritizes the attraction and retention of international students. This will require further data collection and research in terms of how the virus and travel restrictions has impacted prior motivations to study in Canada and generally shifted provincial attraction capacities. These research outcomes would be timely in informing new immigration campaigns and policy adjustments to effectively fill existing gaps in Ontario’s STEM sectors and for paving the way for sustainable growth despite challenges brought by the virus and others mentioned that will persist beyond when COVID-19 is controlled. Pro-active measures to limit the negative impacts on international student mobility and enrollment into Ontario STEM related faculties in the long run will be essential. It will be in the best interest of federal and provincial policymakers, as well as post-secondary administrations to coordinate within the recovery strategy, methods to institutionally compensate for diminishing incentives for international students to study in Canada.

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<sup>71</sup> Scott, Colin et al (2015), “International Students as ‘Ideal Immigrants’ in Canada: A Disconnect Between Policy Makers’ Assumptions and the Lived Experiences of International Students”, *Comparative and International Education/Éducation Comparée et Internationale* 43(3): 6.

<sup>72</sup> She, Qianru & Wotherspoon, Terry (2013), “International Student Mobility and Highly Skilled Migration: A Comparative Study of Canada, the United States, and the United Kingdom,” *SpringerPlus* 2(1): 2

<sup>73</sup> El Masri, Amira et al (2015), *The Global Competition for International Students as Future Immigrants: The Role of Ontario Universities in Translating Government Policy Into Institutional Practice*, Toronto: Higher Education Quality Council of Ontario, 9.

<sup>74</sup> Ontario Ministry of Advanced Education and Skills Development (2018), *Ontario's International Post-Secondary Education Strategy 2018: Educating Global Citizens and Realizing the Benefits of International Postsecondary Education*, <http://www.tcu.gov.on.ca/pepg/consultations/maesd-international-pse-strategy-en-13f-spring2018.pdf>

### III. Global Talent Recruitment and Retention

Historically speaking and prior to COVID-19, it had never been a challenge for Ontario to attract newcomers.<sup>75</sup> The receiving communities which expanded around the Greater Toronto Area and the National Capital Region, as well as the growing technology and innovation clusters in these same areas, presented a prime opportunity for immigrants to thrive. This environment had been cultivated by the entrance of immigrants through multiple avenues, from programs for skilled economic migrants with predetermined employers, to family reunification and also the resettlement of refugees. In the years following the COVID-19 pandemic, Ontario's strengths in innovation and immigration attraction may prove to be the key to the province emerging from the COVID-19-induced economic recession.

Furthermore, to sustain provincial STEM-sector labour needs, it had proven to be insufficient to solely focus on the attraction of high-skilled professionals. Retaining these professionals had been equally important in ensuring the long-term development of Ontario's technology sector. A newly landed workforce will not be inclined to stay long enough to satisfy labour needs if it does not feel welcomed or adequately compensated. It may also be the case that even when new immigrants do wish to settle in Ontario there may be no avenues for employers to easily support and retain them. For example, international students who have become desirable candidates for employment may not in fact be hireable due to conditions of their immigration status. As such, retention remains a significant factor that must be prioritized to ensure the futurity of the Canadian economy following the negative impacts of the COVID-19 pandemic, and to mediate challenges associated with international travel restrictions.

As discussed in the previous sections, Ontario's innovation clusters centred around Toronto, Kitchener-Waterloo, and Ottawa were experiencing significant growth before the outbreak of the virus. These developments had benefitted from these areas' student population and existing post-graduate talent, which in themselves were also composed of temporary and permanent migrants who were able to work through a number of programs further explored in the following. Companies had taken more deliberate action to ensure they could take advantage of this pool of resources. For example, in 2016, Shopify, in partnership with Carleton University (Ottawa) and York University (Toronto), established a program called the "Dev Degree" to ensure that upon graduation students would already have hands-on experience that would make

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<sup>75</sup> Conference Board of Canada (2019), *Which Canadian province welcomes the most immigrants?*, Ottawa: Conference Board of Canada, <https://www.conferenceboard.ca/insights/blogs/which-canadian-province-welcomes-the-most-immigrants>

them desirable job candidates for Shopify and other employers.<sup>76</sup> This program demonstrates that innovation and technology stakeholders already recognized the need to create an environment that entices long-term stability of migrants and that international students could satisfy labour demand. Ultimately, this further highlights another coping mechanism that may prove to be an advantage in the face of COVID-19

For a period of ten years prior to the outbreak of COVID-19, immigration into Ontario had accounted for 72% of the province's population growth.<sup>77</sup> In 2019, 45% of immigrants (153,413) coming into Canada chose to settle in Ontario, a number that, prior to the outbreak of COVID-19, was expected to further increase in 2020.<sup>78</sup> In the short run there will be a decline in immigration while Canada manages to cope with the pandemic and its aftermath, and while it is planning the reopening of borders and restoration of immigration avenues.<sup>79</sup>

### 3.1 Canada's and Ontario's migration governance system

In Canada, immigration remains a matter of shared federal-provincial jurisdiction. However, federal law prevails over provincial law in matters where the federal government and provincial government disagree. Moreover, the federal government is responsible for developing the national policy framework on immigration, including setting and monitoring national standards and outcomes. Currently, Canada's points-based framework remains directed towards attracting skilled individuals.<sup>80</sup> This system was developed in response to the structural economic changes experienced in Canada, and Ontario more specifically, towards an "*education-based knowledge economy*."<sup>81</sup> Under this system, immigration to Ontario is handled completely at the federal level through the Federal Skilled Worker Program (for those seeking permanent residence) and the Temporary Foreign Worker Program (for those working temporarily). However, different labour market challenges across provinces have shown that federal control has been insufficient in responding to provincial needs. As such, some responsibility for immigration has been devolved to the provincial level over time.<sup>82</sup> This led to the creation of the "Canada-Ontario Immigration Agreement"

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<sup>76</sup> Shopify (2016), *Dev Degree Program*, <https://devdegree.ca/pages/program>

<sup>77</sup> Government of Ontario (2020b), *Ontario's Long-Term Report on the Economy*, <https://www.ontario.ca/document/ontarios-long-term-report-economy/chapter-1-demographic-trends-and-projections#section-2>

<sup>78</sup> Government of Ontario (2020b).

<sup>79</sup> Canada will need newcomers after coronavirus pandemic, immigration minister says, Global News, May 15, 2020, <https://globalnews.ca/news/6949767/immigration-coronavirus-canada/>

<sup>80</sup> Boyd (2014).

<sup>81</sup> Reitz, Jeffrey (2005), *Tapping Immigrants' Skills: New Directions for Canadian Immigration Policy in the Knowledge Economy*, IRPP Choices 11(1): 2.

<sup>82</sup> Sullivan (2016), 2.

(COIA) first signed in 2005<sup>83</sup>, which would outline Ontario's immigration goals and responsibilities moving forward.

### **3.1 The Ontario Immigrant Nominee Program (OINP)**

In 2007, Ontario began the Ontario Pilot Provincial Nominee Program (later to become the Ontario Immigrant Nominee Program, or OINP) under the COIA in order to exercise greater provincial control over labour market recruitment by allowing employers to directly attract individual workers from abroad. In 2019, the OINP was split into the three streams seen today (see figure 2) in its current form: the employee job-offer stream, the human capital stream, and the business stream.<sup>84</sup> The employee job offer stream is further divided into three types of job offers. First, and most straight forward, foreign workers with job offers from Canadian firms are able to apply for permanent residency in Canada. Second, international students studying at academic institutions in Ontario are also able to apply to immigrate. Finally, an in-demand skills stream enables workers with specific skills to be nominated for permanent residency. The second major stream within the OINP is the human capital stream, which is composed of the international graduate category for international students with a master's degree or PhD from an Ontario university, and the Express Entry stream which allows employers and the government to select potential immigrants from the pool of express entry applicants. Lastly, the business stream is for entrepreneurs seeking to invest in Ontario by either starting a new firm or buying an Ontario company.

Overall, the level of employment for immigrants in Ontario had been consistently improving as a result of the OINP and prior to the COVID-19 pandemic. Since 2010, the unemployment rate of recent immigrants had been steadily decreasing to reach a low of 9.3% in 2017, while the unemployment rate for less recent immigrants largely converged with that of Canadian-born individuals.<sup>85</sup> This reflects how the OINP was designed to directly match potential immigrants and employers seeking workers with in-demand skills. Despite this, skill-matching remains a pressing issue for immigrants. Grenier & Xue (2011) found that immigrants face increasing challenges in finding employment in their field as time goes on, thus making it vital for newcomers to find relevant work upon settlement in Canada, lest they end up working in professions for which they have not trained.<sup>86</sup> In 2006, only 24% of immigrants with foreign-education and degrees

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<sup>83</sup> Ontario Ministry of Citizenship and Immigration (2005), *Canada Ontario Immigration Agreement*, <http://www.citizenship.gov.on.ca/english/keyinitiatives/coia.shtml>

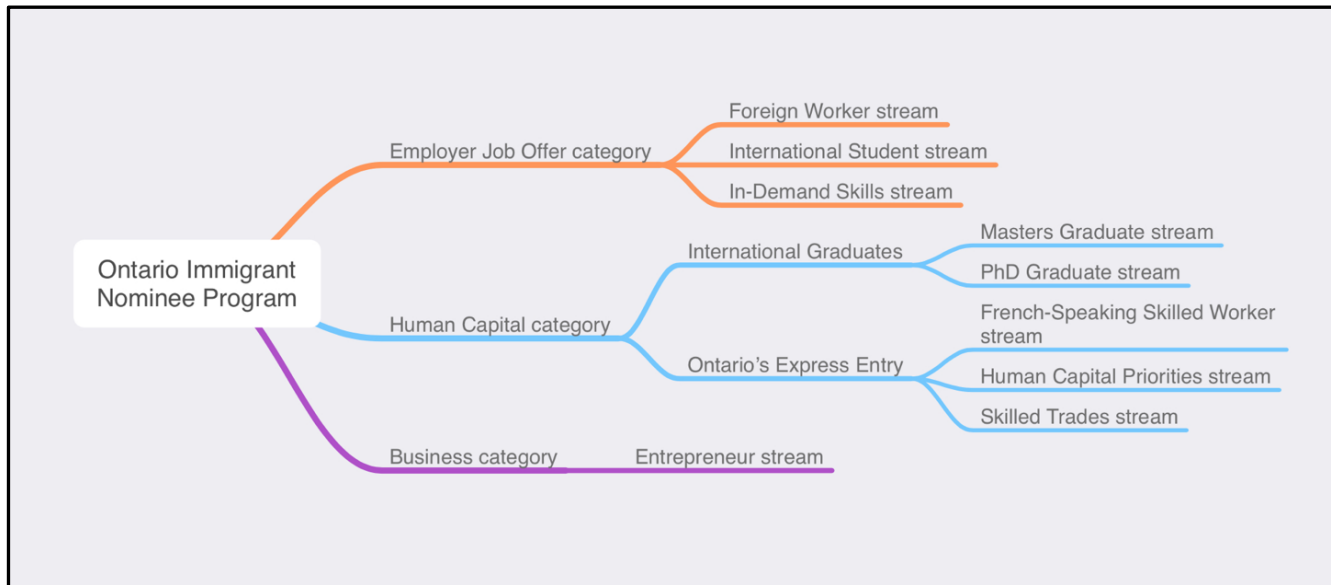
<sup>84</sup> Government of Ontario (2020a), *Ontario Immigrant Nominee Program*, <https://www.ontario.ca/page/ontario-immigrant-nominee-program-oinp>

<sup>85</sup> Yssaad, Lahouaria & Fields, Andrew (2018), *The Canadian Immigrant Labour Market: Recent Trends From 2006 to 2017*, Ottawa: Statistics Canada, <https://www150.statcan.gc.ca/n1/pub/71-606-x/71-606-x2018001-eng.htm>, 10.

<sup>86</sup> Grenier, Gilles & Xue, Li (2011), "Canadian Immigrants' Access to a First Job in Their Intended Occupation", *International Migration and Integration* 12(3): 275-303.

were working in their intended occupation, in comparison to 62% of Canadian-born and educated workers who were employed in the regulated profession for which they trained.<sup>87</sup>

**Figure 2: Ontario Immigrant Nominee Program Streams<sup>88</sup>**



In connecting foreign professionals with domestic firms, the Expression of Interest (EOI) system, part of the Express Entry program, remains a notable innovation in how Canada uses foreign skilled workers to respond to labour market challenges. Introduced in 2015, the EOI system was intended to relieve immigration application backlogs by creating a matching system between employers and potential immigrants. Rather than processing OINP applications as they were received, individuals were instead placed into a pool and ranked alongside other applicants according to their stated skills and professional experience.<sup>89</sup> In turn, those individuals meeting skill requirements were allowed to apply for a visa. The EOI system was purported to be especially beneficial to Small and Medium Enterprises (SMEs) by streamlining the flow of labour supply information into one government database where employers could search for viable candidates. Before implementing the EOI system, the Canadian Chamber of Commerce surveyed its members in 2013 and found that 30% of businesses in Ontario had the same difficulty of filling a job opening over the last 12-18 months because they could not find a candidate with the right

<sup>87</sup> Zietsma, Danielle (2010), *Immigrants Working in Regulated Occupations*, Ottawa: Statistics Canada, <https://www150.statcan.gc.ca/n1/pub/75-001-x/2010102/article/11121-eng.htm>

<sup>88</sup> Government of Ontario (2020a).

<sup>89</sup> Immigration, Refugees and Citizenship Canada (ICRC) (2020a), *Backgrounder: Expression of Interest (EOI): Preparing For Success in 2015*, <https://www.canada.ca/en/immigration-refugees-citizenship/news/archives/backgrounders-2013/expression-interest-preparing-success-2015.html>

qualifications.<sup>90</sup> The Ontario Chamber of Commerce estimated that the province’s skills shortages will “cost the province \$24.3 billion in foregone GDP,” as well as “\$3.7 billion in provincial tax revenues annually.”<sup>91</sup> Consequently, the EOI system was intended to remedy this issue by allowing employers to tap into a database of skilled foreign workers. Ontario, according to Reitz et al (2014), had historically been at the forefront of attempting to match immigrants’ skills with potential job opportunities through various policy innovations.<sup>92</sup> One such innovation in 2019, was the introduction of tech draws in the human capital stream of the OINP. Tech draws were intended to mitigate labour shortages<sup>93</sup> in Ontario’s technology industry by directly connecting employers seeking industry specific skills and knowledge to potential immigrants with such specialized talent and experience.

### **3.2 The Federal National Occupational Classification (NOC)**

The Government of Canada continues to use the NOC system to classify jobs.<sup>94</sup> This approach is managed by the Department of Employment and Social Development (ESDC) and Statistics Canada, and it aims to provide “a systematic classification structure that categorize the entire range of occupational activity in Canada for collecting, analyzing, and disseminating occupational data for labour market information and employment-related program administration.”<sup>95</sup> The information captured through this system served to evaluate Canada’s labour market and the direction it was heading in prior to the international virus outbreak, which further informed the type of economic migration that the government was to be focussing on. According to ESDC, the NOC system is made up of approximately 30,000 job titles, which are further organized according to four skill levels and ten broad occupational categories.<sup>96</sup> Ontario had specifically targeted multiple NOCs to be included in tech draws, ranging from software engineers and programmers, to database analysts and information systems managers.<sup>97</sup> In 2019, the province issued a total of 3,396 Notifications of Interest (NOI) for potential migrants (see table 3). Technology-related NOI’s accounted for 48.8% of the total number of NOI’s issued under the human capital stream in 2019.<sup>98</sup> Consequently, tech

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<sup>90</sup> Holmes et al (2014), 4; Kustec, Stan (2012), “The role of migrant labour supply in the Canadian labour market”, <https://www.canada.ca/content/dam/ircc/migration/ircc/english/resources/research/2012-migrant/documents/pdf/migrant2012-eng.pdf>, 22.

<sup>91</sup> Sullivan (2016), 4.

<sup>92</sup> Reitz, Jeffrey et al (2014), “Immigrant Skill Utilization: Trends and Policy Issues”, *International Migration and Integration* 15, (2014): 6.

<sup>93</sup> Thomson, Alexander et al (2018), “Is There Evidence of an Information and Communication Technology Labour Shortage in the Canadian Labour Force Survey?”, *Canadian Public Policy* 44(1): 1-12.

<sup>94</sup> Government of Canada (2020c), *Find your NOC*, <https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/express-entry/eligibility/find-national-occupation-code.html>

<sup>95</sup> Government of Canada (2020a), *About the National Occupational Classification*, <https://noc.esdc.gc.ca/Home/AboutTheNoc/15fa343f33aa4da18944da5c34660a19>

<sup>96</sup> Government of Canada (2020a).

<sup>97</sup> Government of Ontario (2020d), *OINP Tech Draws*, <https://www.ontario.ca/page/oinp-tech-drawspr.r>

<sup>98</sup> Government of Ontario (2020e).

draws had been the most recent innovation in Ontario's immigration system directed towards filling labour shortages in the province's technology industry.

**Table 3: Notifications of Interest issued under Ontario's Human Capital Priorities stream in 2019<sup>99</sup>**

Human Capital Priorities stream: Notifications of Interests Issued in 2019			
<i>Date NOIs issued</i>	<i>NOIs issued</i>	<i>CRS Score Range<sup>100</sup></i>	<i>Type of Draw<sup>101</sup></i>
January 14 <sup>th</sup> , 2019	1493	439-448	General Draw
May 31 <sup>st</sup> , 2019	1072	439-469	Targeted Draw
July 12, 2019	1623	439-459	Tech Draw
August 1 <sup>st</sup> , 2019	1773	435-458	Tech Draw
August 15 <sup>th</sup> , 2019	997	439-465	Targeted Draw

### 3.3. Canada's Labour Market Impact Assessment (LMIA) Process

In most cases, employers that are looking to hire abroad will need a Labour Market Impact Assessment (LMIA). A LMIA is a process through which ESDC examines the labour market of a region and the occupation to assess the labour market impact of hiring a Temporary Foreign Worker.<sup>102</sup> It confirms that there is a need for this hire and that no Canadians or permanent residents are able to do the job.<sup>103</sup> For employers to receive a positive LMIA, they must show reasonable efforts to recruit a Canadian or Permanent Resident.<sup>104</sup> As part of the process, employers have to fill out a complex document that requires extensive research and a clear understanding of the right information that needs to be provided for it to be approved.<sup>105</sup>

<sup>99</sup> Government of Ontario (2020d), *OINP Express Entry Notifications of Interest*, <https://www.ontario.ca/page/oinp-express-entry-notifications-interest>

<sup>100</sup> The Comprehensive Ranking System, or CRS, is the points-based system that provides potential immigrants with a score based on their specific skills, work experience, language capabilities, and education.

<sup>101</sup> Tech draws themselves are a subcategory of targeted draws but have been disaggregated here to show the number of NOI's issued to potential immigrants. In this table, targeted draws refer to NOI's issued to other priority occupations.

<sup>102</sup> Office of the Parliamentary Budget Officer (2015), *Temporary Foreign Workers in Canada. A Look at Regions and Occupational Skill*, Ottawa: Office of the Parliamentary Budget Officer, [http://www.pbo-dpb.gc.ca/web/default/files/files/TFW\\_EN.pdf](http://www.pbo-dpb.gc.ca/web/default/files/files/TFW_EN.pdf)

<sup>103</sup> Government of Canada (2020b), Find out if you need a Labour Market Impact Assessment (LMIA), and how to hire a temporary foreign worker <https://www.canada.ca/en/immigration-refugees-citizenship/services/work-canada/hire-temporary-foreign/find-need-labour-market-impact-assessment.html>

<sup>104</sup> Government of Ontario (2020c), *OINP Employer Job Offer: Foreign Worker stream*, <https://www.ontario.ca/page/oinp-employer-job-offer-foreign-worker-stream>

<sup>105</sup> *Maneuvering Through The Canadian Labor Market Impact Assessment Program*, Forbes, October 30, 2018, <https://www.forbes.com/sites/andyjsmotiuk/2018/10/30/maneuvering-through-the-canadian-labor-market-impact-assessment-program/#296c60044940>

Overall, it implies a rigorous process in which employers must provide information such as the number of Canadians that applied for their available job, the number of Canadians interviewed, and explain why those Canadians were not hired.<sup>106</sup> Although this tool aims to ensure that Canadians and already-settled migrants are prioritized in the hiring process, it has shown to be a significant barrier that completely disincentivizes employers from engaging with the immigration system.<sup>107</sup> Consequently, its influence will further disadvantage long-term economic growth if endured within the national recovery framework following the impacts of the pandemic.

### ***3.4 The Federal Global Skills Strategy and the Global Talent Stream***

The Government of Canada launched the Global Skills Strategy in 2017 with the objective of creating a “faster and more predictable process for attracting top talent and new skills to Canada, creating economic growth and more middle-class jobs for Canadians.”<sup>108</sup> The strategy was designed by Immigration, Refugees and Citizenship Canada (IRCC) in partnership with the Department of Innovation, Science and Economic Development, and sought to bring in the high-skilled talent necessary to scale up the economy.<sup>109</sup> This also included the Global Talent Stream, a dedicated immigration program created to facilitate the implementation of the strategy.

The Global Talent Stream was introduced in the form of a 2-year pilot, which gained permanency with the announcement of the 2019 budget.<sup>110</sup> Employers could gain access to the stream by either being referred by a designated referral partner or by demonstrating their intent to hire from one the NOCs in *table 4*.<sup>111</sup> It is worth noting that all the NOC codes eligible for this program required skills in the STEM sector. All employers applying to this stream must have worked with ESDC to develop a Labour Market Benefits Plan and have demonstrated their intent and commitment to engage in “activities that will have a positive and lasting impact on Canada’s labour market.”<sup>112</sup>

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<sup>106</sup> Government of Canada (2019c), *Overhauling the Temporary Foreign Worker Program*, <https://www.canada.ca/en/employment-social-development/services/foreign-workers/reports/overhaul.html>

<sup>107</sup> House of Commons (2016), Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities, Evidence Monday, May 16, 2016, <https://www.ourcommons.ca/DocumentViewer/en/42-1/HUMA/meeting-12/evidence>

<sup>108</sup> Government of Canada (2017b), Government of Canada launches the Global Skills Strategy, [https://www.canada.ca/en/immigration-refugees-citizenship/news/2017/06/government\\_of\\_canadalaunchestheglobalskillsstrategy.html](https://www.canada.ca/en/immigration-refugees-citizenship/news/2017/06/government_of_canadalaunchestheglobalskillsstrategy.html)

<sup>109</sup> Government of Canada (2017b).

<sup>110</sup> Library of Parliament (2020), Temporary Foreign Workers in Canada, Library of Parliament Research Publications, [https://bdp.parl.ca/sites/PublicWebsite/default/en\\_CA/ResearchPublications/201936E#a3.2.4](https://bdp.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/201936E#a3.2.4)

<sup>111</sup> *Global Talent Stream*, Canada Visa, September 2, 2020, <https://www.canadavisa.com/global-talent-stream.html#gs.f5uyxo>

<sup>112</sup> Library of Parliament (2020).

**Table 4: Canada's NOC System and Global Talent Stream<sup>113</sup>**

NOC code	Occupation
213	Computer and information systems managers
2147	Computer engineers (except software engineers and designers)
Sub-set of 2161*	Mathematicians and statisticians
	* Positions for actuaries or related occupations are excluded from this subset.
2171	Information systems analysts and consultants
2172	Database analysts and data administrators
2173	Software engineers and designers
2174	Computer programmers and interactive media developers
2175	Web designers and developers
2281	Computer network technicians
2283	Information systems testing technicians
Sub-set of 5131**	Producer, technical, creative and artistic director and project manager – Visual effects and video game
	**The position must require a minimum of 3 years of experience in the visual effects, video game or animation industries in 1 or a combination of the following roles: producer, technical director, creative director, artistic director or project manager, senior coordinator, department manager, with 3 years of job experience in at least 1 or more of the following skills relevant to the visual effects, video game or animation industries: surfacing and look development; character or simulation rigging; matte painting; managing budgets or teams; or technical pipeline development and application for visual effects, video games, or animation production.
Sub-set of 5241***	Digital media designers
	***The position must require a minimum of 3 years of job experience in at least 1 of the following digital media design skills: 3D modeling, compositing, paint and roto, layout and match move, digital environment and Matte painting, texture, lighting shading, character effects, effects and simulations, design and scenario, rigging, user interface or user experience, responsive design (for gaming), virtual reality, augmented reality, digital media animation, levels editing for digital media design, software editing for digital media design, pipeline software development or applications relevant for digital media design

<sup>113</sup> Government of Canada (2020e), *Program requirements for the Global Talent Stream*, <https://www.canada.ca/en/employment-social-development/services/foreign-workers/global-talent/requirements.html#gto1>

Furthermore, employers and the position they are looking to fill must meet a set of criteria, which included remunerating the potential employee with the “*prevailing wage*.”<sup>114</sup> Finally, there is a processing fee of \$1,000 for every position to be filled using this program.<sup>115</sup> In return, employers recruiting abroad would have their LMIA-exempt applications processed within 10 business days and receive assistance through the process<sup>116</sup> which mitigates two barriers that are often seen as problematic and hence deter employers from recruiting abroad. Although this program was not specifically tailored to Ontario, as a federal initiative it was an opportunity that employers in the province had utilized before the impacts of the COVID-19 outbreak and have interest in taking advantage of as the economy recuperates.

### ***3.5 The Canadian Experience Class (CEC)***

The CEC is a permanent residence category under the Express Entry system for people with skilled work experience in Canada<sup>117</sup> and another avenue available for bringing and retaining talent. It was developed for temporary foreign workers and foreign graduates with qualifying Canadian work experience,<sup>118</sup> that meet minimum language levels in English or French and plan to live outside of the province of Quebec.<sup>119</sup> With this immigration program category, the government of Canada recognizes the value in talented individuals, who have established roots (possibly with families) and intend on staying in Canada. While candidates must meet a minimum number of requirements to receive an invitation through the system, meaning a successful application is not guaranteed, if they earn sufficient points, finalization requires minimum documentation and the application is processed quickly (three to four months).<sup>120</sup> Applicants under the CEC are not required to show proof of settlement funds, as Federal Skilled Worker Class and Federal Skills Trade Class candidates are.<sup>121</sup>

### ***3.6 Retention of international students***

Even before the influence of the global pandemic, attracting high-skilled professionals was insufficient in addressing provincial STEM-sector labour issues. As mentioned, retaining these professionals remains equally important in ensuring the long-term development of Ontario’s technology sector. In surveying

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<sup>114</sup> Government of Canada (2020e).

<sup>115</sup> Government of Canada (2020e).

<sup>116</sup> Government of Canada (2019a), *Hire a top foreign talent through the Global Talent Stream*, <https://www.canada.ca/en/employment-social-development/services/foreign-workers/global-talent.html>

<sup>117</sup> Government of Canada (2021), Eligibility to apply for the Canadian Experience Class (Express Entry), <https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/express-entry/eligibility/canadian-experience-class.html>

<sup>118</sup> Government of Canada (2019b), Canadian experience class (CEC), <https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/operational-bulletins-manuals/permanent-residence/economic-classes/experience.html>

<sup>119</sup> Settlement.org (2019), What is the Canadian Experience Class (CEC)?, <https://settlement.org/ontario/immigration-citizenship/immigrating-to-ontario/immigration-categories/what-is-the-canadian-experience-class-cec/>

<sup>120</sup> Settlement.org (2019)

<sup>121</sup> Settlement.org (2019)

STEM graduates from Canadian universities, Spicer, Olmstead, and Goodman (2018) found “*evidence of brain drain in Canada’s technology and innovation sector, with one in four of the STEM graduates in our sample opting to work outside of Canada.*”<sup>122</sup> Importantly, the initial introduction of the EOI system raised concerns regarding the potential brain drain of international students, who form the basis of Ontario’s strategy to ensure the province’s competitiveness in the global knowledge economy. Prior to the EOI system, educational experience in Canada provided international students with a significant asset in their applications for permanent residency. However, the EOI system effectively undercut that advantage by disproportionately benefitting applicants with a LMIA.<sup>123</sup>

Recognizing the importance of international student retention, the federal government had since begun to provide international students with additional points under the Express Entry system, while also increasing the number of international students who are given the chance to apply for permanent residency in Canada.<sup>124</sup> The federal government had also continued to facilitate other programs for international students such as the co-op and off-campus work permits.<sup>125</sup> While the International Graduates branch of the Human Capital Category does not explicitly require applicants to have Canadian work experience, having it remains a considerable asset when evaluating the candidate’s intention to reside in Ontario.<sup>126</sup> This issue regarding the retention of international students continues to be especially important for Ontario, as the province still has the largest share of international students in the country, and as demonstrated earlier, many of these students are enrolled in STEM programs.

Although some graduates of Canadian institutions had sought STEM-sector employment elsewhere, Ontario had been highly successful in attracting newcomers seeking employment in the province’s technology industry prior to the conditions of the pandemic. While Toronto and Ottawa had long been major destinations for immigrants to Ontario, smaller city regions had increasingly attracted foreign professionals as a result of various labour immigration programs, such as the OINP. Surveys conducted with immigrants settled in places such as Kitchener-Waterloo found that the decision to move to places like this were “*largely shaped by pre-migration perceptions of places and associated lifestyles.*”<sup>127</sup> In this case, employment

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<sup>122</sup> Spicer, Zachary et al (2018), *Reversing the Brain Drain: Where Is Canadian STEM Talent Going?*, Toronto: University of Toronto, 9.

<sup>123</sup> *Foreign Students Left Behind in New Express Entry Immigration Program*, The Toronto Star, March 15, 2015, <https://www.thestar.com/news/immigration/2015/03/21/foreign-students-left-behind-in-new-express-entry-immigration-program.html>

<sup>124</sup> Esses, Victoria et al (2018), *Retaining International Students in Canada Post-Graduation: Understanding the Motivations and Drivers of the Decision to Stay*, Ottawa: Canadian Bureau for International Education, 2.2.

<sup>125</sup> ICRC (2020b), *Studying and Working in Canada as an International Student*, <https://www.canada.ca/en/immigration-refugees-citizenship/services/study-canada/work.html>

<sup>126</sup> Government of Ontario (2019b), *OINP Masters Graduate Stream*, <https://www.ontario.ca/page/oinp-masters-graduate-stream#section-2>

<sup>127</sup> Di Biase, Sonia & Bauder, Harald (2005), “Immigrant Settlement in Ontario: Location and Local Labour Markets”, *Canadian Ethnic Studies* 37(3): 130.

opportunities in Kitchener-Waterloo's bustling technology industry helped cement it as a desirable location for immigrants. The technology clusters in Toronto and Ottawa had similarly generated demand for and attracted significant numbers of high-skilled foreign workers. Moreover, Ontario had the highest retention rate of immigrants amongst Canadian provinces, as 93.1% of all immigrants arriving in Canada between 2008 and 2013 continued to reside in Ontario.<sup>128</sup> Thus, Ontario had been highly innovative in facing the labour market issues present in the province's technology sector through the introduction of tech draws and its emphasis on the recruitment and retention of international students. This strategy will also likely be to the benefit of the national recovery framework following a severe economic downturn.

### ***3.7 Fostering recruitment and job prospect for non-economic migrants***

As mentioned earlier and before the effects of the COVID-19 outbreak, Ontario attracted a significant immigrant population which also included non-economic (i.e., humanitarian-class/refugee) populations requiring government action to ensure adequate labour market integration. The province had sought to do this by enhancing information and referral tools for attracting and recruiting migrants, as well as working with various stakeholders to underscore the value of immigration and diversity.<sup>129</sup> However, removing barriers for migrants to be able to fully integrate into the economy had been an endeavour pursued by Ontario's government administrations for a long time. In 1992 the New Democratic Party created the "Access to Professions and Trades Unit" with the purpose of addressing this issue.<sup>130</sup> This was then followed by the Progressive Conservative government's funding of World Education Services (WES) in the year 2000, as a mechanism to ensure credentials and experience were treated equitably.<sup>131</sup> Later, the Liberal government pursued a number of changes, such as the "Fair Access to Regulated Professions Act in 2006"<sup>132</sup> and other initiatives. The government has since focused efforts on continuing to increase capacity to fund employment-focused settlement services through the COIA.<sup>133</sup>

The "Bridge Training Program" remains one of Ontario's most notable efforts to address the problem of economic integration of migrants. In 2010, the Government of Ontario announced \$1.7 million in funding

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<sup>128</sup> Van Huystee (2016).

<sup>129</sup> Government of Ontario (2017), *A New Direction: Ontario's Immigration Strategy*, <https://www.ontario.ca/page/new-direction-ontarios-immigration-strategy>

<sup>130</sup> Türegün, Adnan (2016), "Ideas and Interests Embedded in the Making of Ontario's Fair Access to Regulated Professions Act", *Journal of International Migration and Integration* 18: 405-18.

<sup>131</sup> Government of Ontario (2001), *\$12 million Ontario Government Investment Helps Foreign-Trained Ontarians to Strengthen the Provincial Economy*, <https://news.ontario.ca/archive/en/2001/05/29/12-million-Ontario-government-investment-helps-foreign-trained-Ontarians-to-stren.html>

<sup>132</sup> Ontario Ministry for Training, Colleges and Universities (2019), *Global Experience Ontario*, <http://www.tcu.gov.on.ca/eng/eopg/programs/geo.html>

<sup>133</sup> Medow, Jon & Sheldrick, Ollie (2020), *Integrating Newcomers into Ontario's Economy: A Strategy for Professionally Skilled Immigrant Success*, Ontario 360 Policy Papers, [https://on360.ca/policy-papers/integrating-newcomers-into-ontarios-economy-a-strategy-for-professionally-skilled-immigrant-success/#\\_edn5](https://on360.ca/policy-papers/integrating-newcomers-into-ontarios-economy-a-strategy-for-professionally-skilled-immigrant-success/#_edn5)

towards bridging programs throughout the province.<sup>134</sup> Since then, the services provided to support migrants in this respect have evolved and improved to create a more efficient and comprehensive system. By working with multiple partners such as Accessible Community Counselling and Employment Services (ACCES) and the Toronto Region Immigrant Employment Council (TRIEC), the program offers internationally trained migrants with non-Canadian experience the resources and support to complement their profile in order to find a job more commensurate with their skills.<sup>135</sup> Prior to the changing landscape and restrictions of the pandemic, its success had resulted in a push for expanding eligibility (e.g. for individuals on work permits) and increased funding.<sup>136</sup>

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<sup>134</sup> Hire Immigrants Ottawa (2010), *Government of Ontario Announce Funding for Bridging Programs in Ottawa*, <http://www.hireimmigrantsottawa.ca/media-centre/news-and-articles/government-of-ontario-announce-funding-for-bridging-programs-in-ottawa/>

<sup>135</sup> Government of Ontario (2019a), *Adult learning: Ontario Bridge Training Program*, <https://www.ontario.ca/page/adult-learning-ontario-bridge-training-program>

<sup>136</sup> Medow & Sheldrick (2020).

## **IV. Stakeholder Viewpoints**

Interviews with stakeholders followed the first outbreak of the COVID-19 pandemic in Ontario (spring 2020), and therefore were carried out completely online (phone, Zoom and Skype calls) according to government-mandated health and safety guidelines. Semi-structured interviews were conducted with a variety of relevant stakeholders across Ontario, specifically in Ottawa, Kitchener-Waterloo, and Toronto, with insights related to skilled immigration and its significance for the province and its innovation and technology sector. Stakeholders included companies in the technology and innovation sector, immigration law firms, representatives in academia, immigrant settlement services, and employment and business-development agencies. While the viewpoints and insights of the individuals (anonymized in the following) representing specific stakeholders are not representative of the situation of all other stakeholders in Ontario, a number of discrete themes emerged from these discussions.

### **1. Complexities and shortcomings of the immigration system are restricting provincial talent supply**

The Canadian immigration system was generally perceived to be too overly complex and intimidating to an extent that employers were reluctant to merely attempt to navigate it themselves even before the challenges brought on by the pandemic. These assumptions and various restraints on talent attraction strategies serve as critical barriers to competitive provincial growth and innovation capacities whereby employers and skilled migrants are both left at a disadvantage.

#### **1.1 Ontario Immigrant Nominee Program: Provincial constraints**

While immigrants and international students who come to Canada are increasingly attracted to Ontario, provincial initiatives for meaningful talent retention and utilization remain limited in terms of policy mechanisms at its disposal for directly recruiting high-skilled foreign workers. The primary program for doing so remains the OINP, which has been described in detail already in this report. Numerous stakeholders interviewed for this research were skeptical of the OINP's potential as a means for employers to adequately fill specialized labour shortages. They noted that the program's quotas significantly limit the amount of people who are successfully admitted, and that they often prefer to use federal pathways as involving the province in the immigration process adds another layer of complexity to an already complicated system.

Additionally, high-skilled immigrants are less likely to need the additional points granted to them by the nominee program, which allows them to simply apply through one of the Federal Express Entry streams.<sup>137</sup>

While speaking at the annual *Hire Immigrants Ottawa (HIO)* Employer Summit (March 11, 2020) – directly at the beginning of COVID-19 pandemic in Ontario, *Monte McNaughton* – Ontario’s Minister of Labour, Training and Skills Development –, also critically reviewed the OINP at length. Similar to other stakeholders, the Minister emphasized the limitations of the current program strategy. Not only does the delivery model restrict the provincial capacity to meet local demands for labour and innovation, but regulations will have long-term consequences for Ontario’s growing ICT ecosystem.<sup>138</sup> The federal government allocates a specific number of nominations for permanent residency to each province. Minister McNaughton stated that the 15% of nominations given to Ontario remains incredibly disproportionate to the overall levels of migrant attraction and settlement into the province. Following minimal increases in provincial nominations to appease provincial government and industry requests, the OINP eventually received an additional 700 spots to fill for their 2019 allocation. Due to such high program demands, all spots were completely filled within 4 weeks.<sup>139</sup> Minister McNaughton went on to discuss the concerning deficits that will endure if the long-term federal strategy does not accommodate for provincial needs and immigration realities. Furthermore, it was stated that Ontario is limited in its decision-making capacity compared to other provinces such as British Columbia, Alberta, Manitoba, and Quebec whom have greater jurisdiction to inform how nominees are selected.<sup>140</sup> This indicates a clear demand for policy change and mutually beneficial coordination with the federal government to better meet provincial industry demands and strengthen economic mobility pathways.

## **1.2 Determinants of success: Application requirements and administrative inconsistencies**

Now exacerbated by several reactive policy changes made due to COVID-19, it is absolutely vital that immigrants and companies alike understand Canada’s immigration process due to small errors that can result in ineligibility for entry into Canada or for prospective permanent residency. Although individual mistakes can have an enormous impact on an immigrant’s application, one interviewee noted that, despite strict program requirements, those operating within the Canadian immigration system are often making decisions in a ‘grey area,’ in which individuals seeking to immigrate are all unique cases and in which program officers must exercise discretion in their adjudication of applications.<sup>141</sup> What complicates this further are the competing interests and perspectives of the various bureaucratic organizations involved in Canada’s

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<sup>137</sup> Stakeholder Interview, World Skills Employment Centre (WSEC), Ottawa.

<sup>138</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

<sup>139</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

<sup>140</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

<sup>141</sup> Information provided in the following: Stakeholder Interview, Perley-Robertson, Hill & McDougall Immigration Law Group, Ottawa.

immigration system. The same respondent noted that, while IRCC promotes the federal recruitment of immigrants to mitigate long-term demographic challenges, ESDC, which processes the LMIA required for hiring foreign nationals, is highly protective of the Canadian labour market. Furthermore, the Canada Border Services Agency is an additional actor involved, and their immigration priorities and concerns are informed through the lens of national security. While Canada's immigration programs can serve their purposes well, the three separate cultures and mandates between these organizations result in a degree of inconsistency in how immigration is handled at the federal level.

### **1.3 Fueling the demand for immigration lawyers**

As of 2020, the existence of more than 80 economic immigration programs<sup>142</sup> with ambiguous distinctions from one another significantly contribute to the overall complexity and intimidation of the system itself. A Human Resource Director at a local technology firm in Ottawa noted that if they wanted to search internationally to fill a position, it would be incredibly unclear how to confidently go about doing so.<sup>143</sup> Immigration lawyers thus become a highly valuable but also absolutely inevitable resource for companies seeking to hire foreign talent. One lawyer interviewed for this report noted that there are too many immigration programs for an individual or a small to medium-sized firm to navigate on their own.<sup>144</sup> Because of this, approximately 30% of this interviewee's related cases were remedial, meaning the clients had attempted to recruit independently using the system and had failed.

When asked about the assumed necessity for immigration lawyers, a business serving stakeholder noted that their agency is more reserved when it comes to advising their clients to hire a lawyer in their international talent acquisition efforts.<sup>145</sup> According to feedback, this could likely be attributed to the organization's familiarity with both utilizing and advising clients through what is required of various high-skilled immigration streams. Moreover, the same respondent mentioned that this notion could be exacerbated by the reasonable investment that immigration lawyers and consultants have in protecting and sustaining their business within a system that was never meant to be easily understood.<sup>146</sup> The existing factor of intimidation acts as a barrier for local scaling efforts as international talent pools are assumed to be exclusively available to employers with the capacity to hire a lawyer as a proactive measure to ensure application success.

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<sup>142</sup> *Canada now operates more than 80 economic class immigration programs—the most in its history*, *CIC News*, January 31, 2020, <https://www.cicnews.com/2020/01/canada-now-operates-more-than-80-economic-class-immigration-programs-the-most-in-its-history-0113616.html#gs.fj5mpx>

<sup>143</sup> Stakeholder Interview, Iversoft, Ottawa.

<sup>144</sup> Stakeholder Interview, Carey Law, Ottawa.

<sup>145</sup> Stakeholder Interview, Invest Ottawa.

<sup>146</sup> Stakeholder Interview, Invest Ottawa.

#### **1.4 Exclusive access to talent pools: Funding to support the scaling capacities of SMEs**

Consistent feedback from stakeholders indicated a demand for more funding to address provincial gaps in attracting and retaining sufficient numbers of tech talents since utilizing the immigration system can be generally restricted based on an employer's size and scaling capacities. Inaccessible or inexistant funding for SMEs can be a large hindrance to recruiting and retaining international talent while these same businesses tend to have the most difficulties finding enough workers to grow competitively. Technology companies across the province noted that an increase in government subsidies to support HR talent acquisition efforts would influence the likelihood for extending successful searches abroad when addressing skills shortages. Moreover, this could expand the hiring opportunities for high-skilled international students transitioning into the workforce equipped with the necessary training and experience to succeed.

A stakeholder in the tech industry mentioned that their hiring strategy is exclusively directed inside of the country due to a limited amount of resources to sponsor relocations as a small to medium sized company.<sup>147</sup> The respondent also noted how SMEs in general have less capacity to specialize on-boarding support systems that would cater to international professionals.<sup>148</sup> This obstacle was also emphasized by the Director of a well-known credential assessment service provider for skilled immigrants specifically entering Canada through the Express Entry portal. The interviewee mentioned how increased funding is essential to provide SMEs with the tools to ensure the meaningful settlement, integration, and retention of high-skilled global professionals in their new positions.<sup>149</sup> Specific funding initiatives to facilitate a successful bridging process for newcomers into the STEM labour market will be further discussed later in the report.

An HR leader working in the competitive development of local technology firms at *Invest Ottawa* stated that their organization strategically leverages a talent pool database to meet the specialized demands of their clients. The respondent noted that productive scaling is only possible when enough skilled workers are made accessible to SMEs while at the same time, employers are able to offer attractive salaries to professionals with extensive experience in their fields. Investment in the expansion of agencies like *Invest Ottawa* will help sustain and diversify accessible talent pools both domestically and on an international level. Furthermore, it was emphasized that partnerships among various economic development agencies, municipal governments, the federal government, and local tourism offices has the potential to collectively promote attraction, increase the capacity of small businesses, and competitively draw migrants working in STEM professions to Ottawa instead of exclusively Montreal, Toronto, or Vancouver.<sup>150</sup> These strategies

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<sup>147</sup> Stakeholder Interview, Giatec, Nepean.

<sup>148</sup> Stakeholder Interview, Giatec, Nepean.

<sup>149</sup> Stakeholder Interview, World Education Services (WES), Ottawa.

<sup>150</sup> Stakeholder Interview, Invest Ottawa.

will be even more significant to consider in the provincial response to the economic impacts of the pandemic.

A representative from the *Toronto Region Immigrant Employment Council* (TRIEC) discussed a more recent and extremely relevant initiative to our research called the Professional Immigrant Network. In recent years, TRIEC conducted a comprehensive survey and found that there were close to 100 immigrant networks within the Greater Toronto Area alone. Most of them were occupational or diaspora specific for example, the Association of Filipino Canadian Accountants or the Association of Romanian Engineers in Canada.<sup>151</sup> To address a general lack of resources within each individual network, TRIEC sought to encourage the integration of multiple partners into a larger collective association. In total, they have managed to bring together 78 groups with the purpose of maximizing potential resources, building the capacity of the smaller and volunteer-run associations, promoting the collaborative network as a talent pipeline for newcomers, and offering relevant training for network scaling, promotion, and economic integration.<sup>152</sup> Relevant SMEs could highly benefit from engaging with and locally investing in these immigrant networks to better access incredibly diverse talent pools for long-term sustainable growth despite the conditions of international economic downturn.

### **1.5 Common misconceptions and preferences for certain immigration streams**

Mentioned already, *Invest Ottawa* is an economic development agency that serves businesses via comprehensive industry scaling and talent acquisition programs. Their organization recognized the significance of not having a straightforward immigration system for clients and skilled personal to utilize. That being said, one representative made sure to highlight the numerous misconceptions often associated with hiring from abroad noting that, once familiar with the formalities, certain programs can make it fairly simple to successfully hire from international talent pools. Factors that hinder strategic sourcing opportunities were noted as client hesitancy based on a lack of familiarity with the application requirements, expected time consumption and cost implications, and overall ambiguity with unlikely prospects of contacting immigration officials with specific inquiries.<sup>153</sup> There are resources available and formal initiatives in place to ease these concerns and meet the growing demand for specialized skills such as through Canada's Global Talent Stream however, feedback from stakeholders indicated an enduring reluctance to do so when navigating new territory. *Hire Immigrants Ottawa (HIO)* is in the process of creating a comprehensive 'Myth Debunking' factsheet that would serve as a proactive framework for predicting and mediating such misconceptions. The completed factsheet will be distributed to employers as an incredibly

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<sup>151</sup> Stakeholder Interview, Toronto Region Immigrant Employment Council (TRIEC).

<sup>152</sup> Stakeholder Interview, TRIEC.

<sup>153</sup> Stakeholder Interview, Invest Ottawa; confirmed also in: Stakeholder Interview, ACCES Employment, Toronto.

advantageous tool to compliment various employer serving initiatives meant to reconcile underutilized migrant skills and various talent shortages within local STEM industries.

An interviewee familiar with utilizing international hiring practices noted that in a client's search for a Java script developer, data tools were able to screen domestic labour pools and reportedly only 4 individuals in Canada were found with the skillsets required to fill the position.<sup>154</sup> These individuals were either not interested in working for the company or unable to relocate which motivated their search outside of Canada. Using the Global Talent Stream, the company was able to successfully hire a qualified specialist from Brazil with the entire process taking only 4 months to complete. The respondent noted that this was the amount of time it took for the company to simultaneously complete a new hire although from within Canada.

Another representative from the same business serving organization in Ottawa had incredibly positive feedback regarding their experience utilizing Ontario's Express Entry French-Speaking Worker Stream which waives the LMIA requirement and significantly reduces the waiting period for visa processing before relocation.<sup>155</sup>

Specialized immigration programs whereby stakeholders have had the most success in making new hires through have been created to serve local industry demands however, remain underutilized, under researched, and inadequately promoted to potential beneficiaries. An extensive disconnect also remains between the growing number of pathways for high-skilled immigration and an enduring lack of simply worded guidelines obtainable by and shared with employers and migrants. These areas of concern will be critical to address within the country's economic recovery framework in response to the COVID-19 pandemic and once international travel restrictions subside.

### **1.6 Software updates to clarify requirements and mediate ambiguity within and between programs**

Canada's federal government does have an online "*Come to Canada*" tool which is meant to simplify the eligibility determination process for those interested in various forms of movement into the country however, it is now subject to ongoing changes due to the virus outbreak. Potential applicants are required to input their reason for coming to Canada, planned length of stay, country of origin, destination province or territory if determined, family networks in Canada, and date of birth. Further questions are specialized according to the answers given by the respondent, primarily differentiated by the indicated reason of interest. For economic migrants in particular, they will be asked to input whether they intend to find permanent or temporary employment in Canada, reunite with their family, start or invest in a business, work for

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<sup>154</sup> Stakeholder Interview, Invest Ottawa.

<sup>155</sup> Stakeholder Interview, Invest Ottawa.

themselves as a farmer, sports person, or artist, and if they plan on getting a job as a caregiver. Dependent on how these questions are answered, the wizard will produce a list of available streams and programs available to the interested applicant and present options to learn more about each pathway. Although in theory this should be a valuable resource for skilled migrants to determine legitimate mobility pathways, there remains a general lack of brief and succinct guidelines, restrictions, and requirements unique to each program. Firms are also expected to navigate daunting international hiring schemes which if not familiar with, can be fairly confusing and difficult to condense the tremendous amount of information available online.

Several interviewees from technology companies, immigrant-serving organizations, and employment development agencies felt that the province should play a bigger role in helping employers and migrants navigate Canada's immigration system. Stakeholders discussed how the province could better coordinate, condense, and display information in a way that clearly communicates relevant mobility pathways specific to individual cases and professional needs. This could include a software update meant exclusively for employers to determine accessible immigration programs for global talent based on the input of skills, experience, education, and language credentials of the prospective hire.<sup>156</sup> One respondent also expressed a need to update program specific video tutorials to clarify and supplement further condensed guidelines disseminated in pdf format.<sup>157</sup> These small adjustments would better centre the user in the immigration program delivery model and mediate various misconceptions that make HR leaders reluctant to leverage high-skilled international talent simply because they do not know how. Not only will this be advantageous to the federal and provincial economic growth strategies in response to the pandemic, but an increase in overall clarity and usability would reduce the risk of consequential poaching between local STEM industry talent pools when the demand for skilled workers is not being met.

## **2. Strengthening government and industry consultation for policy and program adaptability**

It is no question that when it comes to the government, there are many factors that make flexible and reactive policy adjustments difficult to swiftly implement. This only further disadvantages competitive provincial growth by limiting the direct translation of industry needs and evidence-based program recommendations into reform and practice. Moreover, strengthening the existing capacity to adapt is particularly relevant for changing trends in provincial STEM sectors and to ensure local innovation ecosystems withstand

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<sup>156</sup> Stakeholder Interview, Invest Ottawa; Stakeholder Interview, Knak, Ottawa.

<sup>157</sup> Stakeholder Interview, Invest Ottawa.

circumstances of the virus outbreak. The demand for specific skills varies even between Toronto and Ottawa, meaning that simply recruiting software engineers is not likely to bridge the growing talent gap.<sup>158</sup> Instead, it was suggested that there is a need to strengthen information and communication pipelines for firms to report local needs to the province, which would be passed on to the federal government, and therefore inform immigration application decisions and priorities.<sup>159</sup>

## **2.1 Program requirement barriers: Labour Market Impact Assessments**

Numerous stakeholders expressed a reluctance to utilize hiring streams that formally require a Labour Market Impact Assessment (LMIA) to be successful. For a tech firm operating in Ottawa, the stress of being able to adequately prove the company could not find a Canadian worker or permanent resident to fill a certain role was the central deterrent to the prioritization of hiring high-skilled global talent.<sup>160</sup> The lack of a required LMIA was also noted to justify the preference already mentioned for using the Francophone Express Entry stream when looking to attract and recruit from abroad.<sup>161</sup> Furthermore, an agency in Toronto that specializes in scaling global tech talent pools and industry access pipelines cited this as a key motivation for employers in favoring programs such as the Global Talent Stream whereby applications also do not require this document.<sup>162</sup> As previously explained, when looking to employ high-skilled international professionals, recruiters are instead asked to complete a Labour Market Benefits Plan which includes a commitment to create jobs for Canadians and those with permanent residence (PR) status, invest in upskilling and training programs, conduct performance workshops, and utilize the knowledge of the high-skilled foreign workers to lead, train, and educate within local industry spaces.<sup>163</sup> Better government-industry consultation could communicate collective frustrations associated with the LMIA that critically restrict access to Canada's labour market for high-skilled global talent and encourage program reform to fill persistent labour shortages. This meaningful dialogue will be essential in addressing economic demands following the onset of the virus and in response to its consequences.

## **2.2 Making National Occupational Codifications more responsive to developing labour demands**

Respondents expressed that the lasting National Occupational Codification (NOC) framework for high-skilled immigration programs can be a significant challenge for both employers and immigrants. Although the system is expected to be updated regularly, feedback specifically from the tech sector indicated that adjustments and additions to occupational categories remain unable to timely reflect industry labour

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<sup>158</sup> Stakeholder Interview, Global Skills Hub, Toronto.

<sup>159</sup> Stakeholder Interview, Global Skills Hub, Toronto.

<sup>160</sup> Stakeholder Interview, Giatec, Ottawa.

<sup>161</sup> Stakeholder Interview, Invest Ottawa.

<sup>162</sup> Stakeholder Interview, Global Skills Hub, Toronto.

<sup>163</sup> Stakeholder Interview, Global Skills Hub, Toronto.

demands.<sup>164</sup> When internationally trained professionals are being hired for positions that do not conform to a particular NOC code, this can increase application ambiguity and ultimately prevent employers from effectively filling talent gaps.

Officials with jurisdiction over NOC definitions and reform often do not have the background knowledge to differentiate extremely specialized tech positions from one another.<sup>165</sup> Moreover, this can be extremely difficult within a space that is constantly evolving in response to technological advancements. An interviewee mentioned how complex the updating process is under ESDC to account for these rapidly developing innovation capacities, making the current codes out of date and without room for flexibility in terms of individual applications. The same respondent recalled an experience having to negotiate with an official about a NOC restriction that had denied a team member their visa application renewal. Evidently, this not only disadvantages employers but also high-skilled immigrants that require NOC approvals for their work permits. Issues will endure without a more industry responsive system that can actively apply feedback to the standing NOC framework. Otherwise, Canadian stakeholders will continue to suffer in terms of growth and in the creation of globally competitive innovation networks that can endure periods of economic strife.

### **2.3 ACCES Employment program delivery: Engage industry pillar and distinct sector focus**

ACCES Employment is a publicly funded workforce development agency in the Greater Toronto Area that provides incredibly comprehensive resources to job seekers meant to ensure their professional experience and non-Canadian credentials are meaningfully utilized when finding and accepting employment opportunities. Their organization includes job search support in partnership with Employment Ontario, sector specific bridging advisory programs, employment search workshops for internationally trained professionals, mentorship opportunities, pre-arrival programs to ensure labour market integration, specialized supports for women and youth, advisory programs for entrepreneurs, workplace communication and language programs, in addition to an array of online resources and extremely valuable monthly webinars which have all been adapted according to COVID-19 health and safety guidelines.<sup>166</sup>

An interviewee that had been a critical part of scaling ACCES's framework to provide the extent of services it does today, expressed the importance of their relationship to and engagement of industry to best facilitate employment based on specialized talent demands.<sup>167</sup> This communication informs virtually all aspects of

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<sup>164</sup> Information provided in the following: Stakeholder Interview, Invest Ottawa.

<sup>165</sup> Stakeholder Interview, Invest Ottawa.

<sup>166</sup> ACCES Employment (2020), *ACCES Employment Programs and Services*, <https://accesemployment.ca/job-seekers/programs-and-services>

<sup>167</sup> Information provided in the following: Stakeholder Interview, ACCES Employment, Toronto.

their organizational structure meant to impart the appropriate affiliations, technical skills, and requirements to their clients for successful integration into the labour market. Moreover, it has created an insulated support network to strengthen the efficiency of their settlement to employment pipeline. The respondent actively works to reinforce their consultation system by attending town halls and economic development planning meetings, researching labour market opinions and forecasts, and constantly monitoring industry demands and changes to determine shortages and trends. It was noted that information can thereafter be efficiently applied to make adjustments and valuable additions to their services, making adaptability of programming a key asset of their delivery model. ACCES has also formed an industry advisory committee to better facilitate the communication of demands into organizational practice. In doing so, industry not only has early access to talent pools but can inform program development according to specific talent needs. Furthermore, the ability to leverage industry partners makes their funding model more effective considering when ACCES make proposals, they also make sure to have approximately 3-20 industry representatives supporting the program and guaranteeing its utilization.

Immediate industry access to diverse talent pools also creates a space of influence for ACCES to encourage stakeholders to alleviate restrictions often faced by newcomers, mediate misconceptions of hiring high-skilled global talent and ensure ongoing support throughout the onboarding process.<sup>168</sup> As a result, employers in the STEM sector can better utilize available talent pools for sustainable growth and benefit from the insights and knowledge newcomers bring to the workplace.

Another critical advantage that ACCES continues to have in terms of workforce development can be attributed to their sector specific program strategy.<sup>169</sup> This allows the agency to build a network of trust among industry stakeholders, employers, and job seekers. Moreover, it differentiates services in response to direct needs, challenges, and innovation gaps expressed within the labour markets unique to each sector. Job developers at ACCES are critical to operationalize this strategy by acquiring sector terminology, mining job leads, and further establishing talent pipelines to serve their clients in every sector specific program. Investment in this framework also has the potential to translate the value of non-Canadian credentials, impart the significance of transferrable skills, and gain leverage to match job seekers with work in their previous or desired fields.

Prior to the effects of COVID-19, the agency's extensive network of resources based on industry consultation had managed to bridge employment before arrival for approximately 30% of clients and the rest had an estimated 97% success rate for employment within the first 6 months of resettlement.<sup>170</sup>

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<sup>168</sup> Stakeholder Interview, ACCES Employment, Toronto.

<sup>169</sup> Information provided in the following: Stakeholder Interview, ACCES Employment, Toronto.

<sup>170</sup> Information provided in the following: Stakeholder Interview, ACCES Employment, Toronto.

However, the respondent noted that their platform was operating far over-capacity and reflected on an enduring gap in evidence based research to support investment into the scaling and streamlining of their model across the country and in different agency contexts.

### **3. The hurdle of “Canadian experience” and the avenues to overcome it**

The notion of having “Canadian experience” was repeatedly mentioned throughout interviews conducted with multiple stakeholders as a condition for employment that has existed for decades and will likely persist unchanged by the conditions of the pandemic. Generally, it was brought up in the context of identifying barriers that immigrants face when trying to access the labour market and among measures to ensure long-term integration. On its own, this requirement is simply seen as having skills and practical experience within the Canadian context and having references to validate this. Stakeholders pointed out that employers have shown reluctance to hire individuals without “Canadian experience” due to the assumed likelihood to result in ‘unfit’ matches for the job and work environment of their organization. While this term may be valid on occasion, for example a person requiring a Canadian passport to easily travel between the United States and Canada to visit clients, it is not usually the case. Stakeholders pointed out the biases that this term carries and the need for employers to broaden their understanding of legitimate qualifications to a more accommodating approach that will gain them access to larger talent pools and better utilize the existing skills and credentials of immigrants in Canada.

#### **3.1 Prevalence of the need for “Canadian experience” in Ontario’s technology industry**

Stakeholders spoke about the prevalence of “Canadian experience” as a criterion for positions where there is significant communication with clients and external teams. For example, one respondent pointed out the importance of understanding the Canadian construction sector’s culture in order to engage in persuasive conversation when it came to sales and strengthening business networks and relations.<sup>171</sup> It may also be the case that these communications skills become increasingly relevant when the job is in a team that requires close working relationships. However, for certain positions in the tech sector, none of these requirements are likely to apply. As one interviewee pointed out, coding language is the same for every business around the world and skills can be easily transferrable across borders.<sup>172</sup> This would explain the low unemployment rates among immigrants with no “Canadian experience” in this sector. An immigrant-serving organization in Ottawa, with the mandate to integrate newcomers into the Canadian economy, reported that immigrants in the ICT field face lower employment barriers when finding a job because of the high demand for these

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<sup>171</sup> Stakeholder Interview, Giatec, Ottawa.

<sup>172</sup> Stakeholder Interview, Invest Ottawa.

skills and so their clientele in this field was very small.<sup>173</sup> The same agency supports newcomers through the application process to programs such as the Federal Internship for Newcomers. The initiative provides immigrant job seekers with internships in the federal government, in areas such as administration, policy, and computer science. This program and others alike not only give newcomers the Canadian work experience that is normalized as necessary to formally transition into the labour market, but also provides insight into the Canadian workplace and the federal government's practices and operations.<sup>174</sup>

### **3.2 The value of the bridge training program and the need for credential recognition**

Unemployment for immigrants in the STEM sector compared to other industries typically remains low despite condition of the pandemic however, there are programs and services that are available to assist those still having trouble entering the competitive labour market. Moreover, these services go beyond connecting immigrants with available positions. The bridge training program seeks to ensure that upon hiring, both employee and employer acquire the tools for understanding and managing expectations and norms that are necessary to succeed. The work of stakeholders such as ACCES and World Education Services (WES)<sup>175</sup>, go beyond credential recognition and academic equivalencies. Both organizations seek to equip and empower newcomers to take on jobs in which they will be valued and have meaningful opportunities for growth. They emphasize the diverse set of transferrable skills brought by immigrants which add value to any employer's organization, something that should be recognized as an asset at the moment of hiring.<sup>176</sup>

The bridge training program, as offered by one of the stakeholders interviewed, follows a 6-tier model that engages industry, imparts future skills based on industry advice, provides academic affiliation, focuses on experiential learning, connects with industry, and assists in retaining employment. Multiple stages of support assist in creating a comprehensive approach to ensuring that the individual taking the training can overcome the "Canadian experience"-barrier if confronted with it. ACCES noted that creating this program required the arduous task of peeling through various layers of the Canadian labour market to understand where the biases and duplication of efforts existed, while only taking on initiatives that would directly facilitate integration.<sup>177</sup>

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<sup>173</sup> Stakeholder Interview, World Skills Employment Centre (WSEC), Ottawa.

<sup>174</sup> World Skills Employment Centre (WSEC) (2020), *Federal Internship for Newcomers (FIN) Program*, <https://ottawa-worldskills.org/internships/>

<sup>175</sup> WES has operated in Canada since the year 2000 and is generally recognized for their academic credential evaluation service. They do about 90% of the Evaluation Credential Assessments (ECA) required by IRCC for immigrants to come into Canada, and as such they see a sizeable portion of the economic migrant population coming into the country.

<sup>176</sup> Stakeholder Interview, 3Skills, Ottawa.

<sup>177</sup> Stakeholder Interview, ACCES Employment, Toronto.

Subject to logistical changes due to the impacts of COVID-19 on mobility, various stakeholders noted the value of the bridge training program when offered as a pre-arrival service<sup>178</sup>, which remains a significant part of the delivery model that ACCES uses to assist eligible immigrants. The program costs around \$7000 per person and can take between 4 to 6 weeks to complete, depending on the person's background. The goal is to facilitate timely and effective integration into the labour market, by ensuring employment upfront. ACCES is one of a number of service providers of this nature partnered with IRCC<sup>179</sup> and as a part of their ongoing contract, they had committed to a minimum 20% rate of immigrant clients leaving their country having secured employment in Canada and 60% obtaining commensurate work to their experience and credentials within 6 months of arrival. In reality and as stated earlier, the success rate prior to COVID-19 was much higher, with 30% obtaining work before arrival and around 97% within 6 months of arrival. While ACCES noted that these were figures to highlight, they believed that further evidence of program success would be needed in order to guarantee consistent funding in the future. It may be that Ontario will have to look at other cases, such as the Atlantic Immigration Program, for this purpose.

### **3.3 The importance of inclusive and accommodating employers**

Stakeholders underscored that while the demand for skills in the STEM sector in Ontario continue to drive employers to remain open in their hiring practices, an inclusive work environment was necessary in order to ascertain integration and long-term retention.<sup>180</sup> Not only is it important to educate HR recruiters and those making the final hiring decision, but organizations must also go as far as assessing, understanding and modifying the practical dynamics of their places of employment.<sup>181</sup> For this purpose, the federal, provincial and municipal government have invested in organizations such as HIO and TRIEC whose mandates include reaching out to as many employers in Ontario as possible to offer the use of their services. By giving employers tools to evaluate their environment and benchmarks for best practices, these organizations have helped support employers to create a more accommodating environment. Stakeholders note that in doing so, they are shifting the onus of integration from a sole burden placed on newcomers, to instead being a shared endeavor.

Respondents also emphasized that employers should take further concrete action both immediately and in the long term to create an inclusive environment that accommodates newcomers and sets them up for

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<sup>178</sup> Stakeholder Interviews, Ronalee Carey Law, Ottawa; World Skills Employment Centre (WSEC), Ottawa; World Education Services, (WES), Ottawa.

<sup>179</sup> Government of Canada (2020f), *Pre-arrival services: Prepare to work in Canada*, <https://www.canada.ca/en/immigration-refugees-citizenship/services/new-immigrants/new-life-canada/pre-arrival-services/prepare-work.html>

<sup>180</sup> Information Stakeholder Interviews, Hire Immigrants Ottawa (HIO); Toronto Region Immigrant Employment Council (TRIEC); ACCESS Employment, Toronto.

<sup>181</sup> Information provided in the following: Stakeholder Interviews, Hire Immigrants Ottawa (HIO); Toronto Region Immigrant Employment Council (TRIEC).

success.<sup>182</sup> Onboarding programs are common in companies regardless of their size and every newly hired person must learn some new skills when they first take on a position. One stakeholder noted that this is the opportunity to enhance experience necessary to succeed in any given workplace.<sup>183</sup> Another stakeholder further pointed out that the “Canadian experience” barrier to economic integration can be alleviated through programs such as job shadowing or mentoring.<sup>184</sup> In the long term, it will be in the best interest of employers to promote individuals and to help them advance in their career within the company. Creating such an environment would also provide better circumstances to hire and retain talent from abroad if needed, thus further expanding the hiring capacities of employers and ability to fill talent gaps.<sup>185</sup> The notion of inclusivity will be further explored in the following section.

#### **4. Retention and inclusivity in practice: Shifting the onus to ensure own long-term success**

It was strongly emphasized in almost every one of the interviews conducted, that the province can and should play a more comprehensive role in the retention of high-skilled migrants. Investment in the long-term success of internationally trained professionals and their network of resources in Canada will not only sustain competitive STEM industries but also proactively diminish trends in emerging talent shortages. Moreover, this will be another critical component of the economic recovery strategy necessary to counter the negative impacts of the COVID-19 pandemic.

##### **4.1 Immigrant-serving organizations and employment development agencies**

Supporting and sustainably funding immigrant and international student serving organizations, and employment development agencies such as World Skills Employment Centre (WSEC), Ottawa Community Services Organization (OCISO), Ottawa Local Immigrant Partnership (OLIP), World Education Services (WES), 3Skills, Global Skills Hub (GSH), TRIEC, HIO, JobStart, and ACCES Employment will be extremely important in terms of promoting provincial retention and long-term industry growth. As the stakeholder interviews demonstrated, these organizations will continue to play a key role in proving to employers the vast potential of immigrants as a source of high-skilled labour and competitive innovation.

Specific details will be discussed later in the report however, initiatives broadly include networking opportunities, industry consultation, specialized workshops and webinars, conferences, English as a Second

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<sup>182</sup> Stakeholder Interviews, Hire Immigrants Ottawa (HIO); Toronto Region Immigrant Employment Council (TRIEC); ACCESS Employment, Toronto; 3Skills, Ottawa; World Skills Employment Centre (WSEC), Ottawa; Invest Ottawa.

<sup>183</sup> Stakeholder Interview, 3Skills, Ottawa.

<sup>184</sup> Stakeholder Interview, World Skills Employment Centre (WSEC), Ottawa.

<sup>185</sup> Stakeholder Interview, 3Skills, Ottawa.

Language (ESL) training, credential assessments, mentorships, workplace competency services and employer engagement programs. Stakeholders collectively expressed that increasing funding for, country-wide application of, and meaningful engagement with these programs and services can guarantee long-term exponential growth for localized innovation ecosystems. STEM employers can also significantly benefit from partnering with the aforementioned organizations to utilize comprehensive settlement, integration, and inclusivity resources targeted at both skilled immigrants and receiving companies when hiring global talent.

#### **4.2 Inclusive onboarding and investment in cross-cultural workplace training**

Cross-cultural competency in a professional environment is based on an inclusive framework whereby *“workers have the ability to understand, communicate, and effectively interact with people across cultures, be it their colleagues, customers, clients, or suppliers.”*<sup>186</sup> Notable feedback received about the “Express Entry system” explained that when it was first initiated, international students and skilled professionals that were already familiar with Canadian workplace culture or had networks in the country to help navigate formal social nuances had the most success.<sup>187</sup> When this pool was exhausted and without a uniform bridging program to impart the tools necessary for success, the “Express Entry system” became less and less effective even before the consequences of the virus outbreak for cross-border mobility.<sup>188</sup> The points based system is meant to value global talent however, does not include the employment bridging support necessary to effectively utilize skillsets. A respondent from the tech industry affirmed this to be a central concern when hiring internationally trained professionals as cultural competency is a top priority, particularly in roles that require business negotiation and heavy communication demands.<sup>189</sup> Furthermore, employer strategies that develop inclusive policies and initiatives are a critical dimension of fostering individual success, effective skill-sharing networks, and long-term growth and retention.

Elaborate measures focused on retention and career mobility such as those included within ACCES Employment’s program delivery model are extremely important to evaluate further. Rather than the implementation of significant but individual initiatives by other immigrant-serving employment agencies, ACCES provides a comprehensive network of resources to ensure labour market success for their clients. The central purpose of their retention initiatives sought to fill a recognized gap in employment service delivery that had yet to consistently offer cross-cultural workplace training and onboarding support throughout the new hire’s probationary period. Through their programming, immigrant job seekers are able to learn corporate culture, access up-skilling opportunities and experiential learning environments, navigate

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<sup>186</sup> Hire Immigrants Ottawa (HIO) (2020), *What is Cross-Cultural Competency?*, <http://www.hireimmigrantsottawa.ca/for-employers/what/>

<sup>187</sup> Stakeholder Interview, ACCES Employment, Toronto.

<sup>188</sup> Stakeholder Interview, ACCES Employment, Toronto.

<sup>189</sup> Stakeholder Interview, Giatec, Ottawa.

workplace ambiguity, strengthen business communication skills, be provided with language support and document editing services, and access career coaching and mentorship programs. Furthermore, their post-hire support services function to proactively mediate trends in client return based on failure to pass initial trial periods with new employers. Discussed in multiple interviews, these cases are often due to concerns that could have otherwise been addressed through more direct and open communication rather than fairly vague rejections. ACCES will consult both the new hire and employer supervisors to address expectations in detail and impart this into an action plan for their newcomer clients. Their sector specific advisors will then follow up with check-ins and determine areas of support, if necessary, based on feedback from the employer and new hire. This creates a safe space for concerns to be translated and efficiently mediated without insecurity or hesitation. Wider access to professional ‘soft-skills’ training was also mentioned to increase successful job placements and further open the labour market to newcomers with qualifications in STEM sectors.<sup>190</sup>

It is also in the best interest of employers to be critically invested in the creation of workplaces that are attractive to high-skilled migrants and provide freedom for innovation and professional growth regardless of individual backgrounds. Numerous stakeholders emphasized the priority of initiatives to ensure that diversity goes beyond representation and employers are able to foster meaningful and ongoing inclusion.

In addition to their mentorship initiatives and partners, TRIEC for example, offers inclusive workplace competency workshops, resources, and training for stakeholders to ensure basic principles are fully understood and meaningfully implemented. Their diversity and inclusion competencies handbook includes a broad inventory of tools meant to be utilized by individuals, specialized groups or teams of each employer, and extended generally to entire organizations as a whole. Central objectives are to enhance self-awareness, address various misconceptions, encourage adaptive communication styles, create spaces for collaboration and learning, mediate conflict or ambiguity, evaluate performance in an inclusive way, reinforce intolerance for inappropriate and exclusionary behavior, and generally apply best practises for an accessible, inclusive, and diverse working environment.<sup>191</sup> These measures are not only essential to leverage the knowledge and experience each person has to offer, but also to ensure long-term professional satisfaction, well-being and retention.

To complement a wide range of resources meant to foster workplace belonging and inclusion, HIO has also implemented a cross-cultural competency training program directed at employers.<sup>192</sup> The delivery model

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<sup>190</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

<sup>191</sup> Toronto Region Immigrant Employment Council (TRIEC) (2020), *Inclusive Work Place Competencies*, <https://triec.ca/competencies/>

<sup>192</sup> Stakeholder Interview, Hire Immigrants Ottawa (HIO).

includes 7 differentiated modules: (1) Introduction to Cultural Competency Building, (2) Culturally Competent Interviewing Skills, (3) Intercultural Problem-Solving Strategies, (4) Effective Cultural Adaptation Strategies, (5) Performance Management and Feedback, (6) Creating the Workplace that Accommodates Effectively, and (7) Dimensions of Inclusiveness.<sup>193</sup> As listed on HIO's website, stakeholders have a vested interest in completing the training offered to facilitate effective hiring practices, improve access to a wide and diverse talent pool, create more inclusive and innovative workplaces, improve interactions and communications with staff, vendors, partners, and customers, attract and retain top talent, and productively manage diverse work teams.<sup>194</sup>

Regardless of program strategies, respondents noted that it is challenging to practically measure ongoing diversity and inclusion efforts. Capacities to do so are unclear and firms often lack the knowledge on how to make comprehensive assessments that reflect the effectiveness of their programming in a meaningful way. TRIEC has taken a critical lead in this space with the establishment of an extensive inclusion measurement blueprint for stakeholders.<sup>195</sup> Employers have the option to independently navigate their evaluation or seek guided consultation from TRIEC in doing so.<sup>196</sup> Aims of providing this resource are to *"leverage existing data to assess the current state of inclusion in your organization, connect the goals of your organization with diversity and inclusion, [and] prioritize immediate and long-term action."*<sup>197</sup> This blueprint model is extremely valuable for the long-term retention of high-skilled global talent and competitive growth in Ontario's STEM industries. An effective framework whereby employers can assess these aspects of their organization is an incredible asset when transitioning operations online during the pandemic and will be equally as valuable once in-person responsibilities resume.

#### **4.3 Expanded retention initiatives for extended family members**

Stakeholders confirmed that part of effectively supporting immigrants in terms of comprehensive settlement and integration includes ensuring that their family is also adequately taken care of. This means that the family accompanying them should also be able to find their place within the contexts of their new environments. None of the respondents noted any deliberate initiatives for this purpose in Ontario, however, did point to other provinces that Ontario may want to emulate with the support of the federal government such as the Atlantic Immigration Program. *"A distinguishing feature of the pilot [is] the increased role of the employer, in partnership with federal and provincial immigrant settlement service provider*

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<sup>193</sup> Hire Immigrants Ottawa (HIO) (2019), *Training Programs*, <http://www.hireimmigrantsottawa.ca/for-employers/what/training-program/>

<sup>194</sup> HIO (2019).

<sup>195</sup> Stakeholder Interview, Toronto Region Immigrant Employment Council (TRIEC).

<sup>196</sup> Stakeholder Interview, Toronto Region Immigrant Employment Council (TRIEC).

<sup>197</sup> Toronto Region Immigrant Employment Council (TRIEC) (2019), *Inclusion Measurement Blueprint*, <https://triec.ca/inclusion-measurement-blueprint/>

organizations, in the settlement and retention of newcomer employees and their families.”<sup>198</sup> In doing so, the program offers an individualized settlement plan for each newcomer employee and family member based on a needs assessment.<sup>199</sup> Having a newcomer’s family establish foundational roots by ensuring that, for example, their spouses find meaningful employment and their children a proper school, further cements the path to integration, satisfaction and retention.

## 5. International students and post-graduates

Before conditions were drastically changed as a result of the COVID-19 pandemic, the number of international students studying at Canadian universities continued to grow, with 642,480 as the recorded number across Canada as of 2019.<sup>200</sup> In 2017, 315,915 of these students studied in Ontario, while the next highest number of international students (155,455) studied in British Columbia.<sup>201</sup> According to one stakeholder whose business focuses on supporting international students throughout their application process, the majority of students who previously came for an undergraduate degree entered Business faculties, followed by STEM-related programs.<sup>202</sup> The Government of Ontario stated in its international postsecondary strategy notes, “as international students often choose STEM postsecondary programs, the international postsecondary education strategy is vital to contributing to the achievement of this goal.”<sup>203</sup> As such, between 2013 and 2018, the province committed itself to increase the amount of university students graduating from STEM fields by 25%, a goal it continues to work on.

### 5.1 Why international students choose Ontario

Ottawa remains known to provide a unique setting for international students because of its educational environment, bilingual setting, and its status as a technology and government hub. One international student from Senegal noted the benefits of studying in Ottawa thus: *being “in a perfectly bilingual environment and being able to use French and English at a very high level. Moreover, international students like me can benefit from many services made available to them. Those include the mentoring program and the co-op system, which provide students the opportunity to complete paid internships while pursuing their studies.*

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<sup>198</sup> Government of Canada (2017a), *Atlantic Immigration Pilot Program*, [https://www.canada.ca/en/immigration-refugees-citizenship/news/2017/03/atlantic\\_immigrationpilot.html](https://www.canada.ca/en/immigration-refugees-citizenship/news/2017/03/atlantic_immigrationpilot.html)

<sup>199</sup> Government of Canada (2017a).

<sup>200</sup> Canadian Bureau for International Education (CBIE) (2020), *International Students in Canada Continue to Grow in 2020*, <https://cbie.ca/international-students-in-canada-continue-to-grow-in-2019/>

<sup>201</sup> Global Affairs Canada (2019), *Building on Success: International Education Strategy 2019-2024*, <https://www.international.gc.ca/education/strategy-2019-2024-strategie.aspx?lang=eng>, 4.

<sup>202</sup> Stakeholder Interview, ApplyBoard, Kitchener.

<sup>203</sup> Ontario Ministry of Advanced Education and Skills Development (2018), *Ontario’s International Postsecondary Strategy 2018: Educating Global Citizens*, <http://www.tcu.gov.on.ca/pepg/consultations/international-education-strategy-2018-en.html>, 5.

*Studying in this special location, at the heart of Canada's capital, is an incomparable experience in so many ways.*”<sup>204</sup>

Although attending university in Canada was a vital way for young, high-skilled foreign individuals to eventually participate in Canada's work force, our interviews with stakeholders demonstrated that these students faced significant hurdles in doing so prior to the pandemic and even more so now with restrictions in place due to the virus. In 2018, 53,700 international students became permanent residents of Canada.<sup>205</sup> Many international students arrive in Canada with the intention of staying upon completion of their degree however, only between 20% and 27% of international gain permanent residency in Canada.<sup>206</sup> The province touts the international education stream of the OINP, which enables international students with a Master's degree or PhD from an Ontario university to live and work in Ontario, as a crucial component of its international postsecondary strategy. However, as one stakeholder noted during our interviews, this stream had been closed for some time and the interviewee had not received notice of when it will reopen. Moreover, if the main goal is to immigrate to Canada, international students remain more likely to choose shorter and more affordable graduate certificates that will make them eligible in the most efficient way.

## **5.2 Supporting international students to settle in Ontario**

Coming to Canada as an international student can be a challenging endeavor from the start due to the many requirements that must be met and differences in education systems across the world. This is further complicated by the need to ensure that all eligibility and admissibility requirements are met in order to acquire a student permit to come to Canada and the constantly changing policy directives in response to conditions of COVID-19. The need for support in this area for international students had previously resulted in the creation of a start-up company in Kitchener; by using AI technology this company assists students in finding the institution that best matches their profile, while providing support to ensure a straightforward visa application. The rapid growth for this stakeholder's business demonstrated the demand for assistance in this process, both from students looking to come to Canada, as well as Universities and schools who pay a commission to ApplyBoard for matching students who are best fitted for their programs.

As international students graduate and investigate the possibility of staying in Canada, other businesses have emerged to further support them in this next step. While there are tech companies that are looking to profit from the talent they bring, these companies may not always be in the position to entirely support the immigration portion of the process. A stakeholder pointed out that the onus falls entirely on the student

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<sup>204</sup> Global Affairs Canada (2019), 5.

<sup>205</sup> Global Affairs Canada (2019), 5.

<sup>206</sup> Ontario Ministry of Advanced Education and Skills Development (2018), 3.

when it comes to navigating their postgraduate immigration experience and understanding the rules and regulations for transitioning their permit applications to be able to continue working.<sup>207</sup> While the OINP does not present significant opportunities for international students, there have been positive changes in the federal Post-Graduation Work Permit Program that facilitates the employment of international students. International students who have completed their degree at a Designated Learning Institute in Canada are able to apply for a Post-Graduation Work Permit (PGWP). A PGWP is a crucial component of an international student's application for permanent residency in Canada because it provides Canadian work experience points that are crucial to a successful Express Entry application. Originally, students had 90 days upon receipt of their final transcript to submit their PGWP application however, in February 2019 this was increased to 180 days.<sup>208</sup> Moreover, students are able to apply even if their study permit is no longer valid, insofar as they do so within 180 days. Prior to these changes, international students had to have student status in order to submit their PGWP application. Finally, international students have been accommodated in their ability to apply for a leave of absence, if necessary. Originally, students who went on a leave of absence for any reason were ineligible for a PGWP. Now, *"if an officer determines that the student actively pursued their program of studies during their leave and remained in compliance with their study permit conditions"* they are still eligible.<sup>209</sup> However, one stake holder noted that *"the rate of refusals for PGWPs was high as strict criteria had to be met. Any deviation from the criteria left it up to the officer to use their discretion to approve the application, but more than likely not led to a refusal of the application."*<sup>210</sup>

Prior to the circumstances of the pandemic, for international students who manage to obtain their PGWP and employment commensurate with their education and skills, navigating the system may not have been as complicated, especially when they understood exactly what they needed to fulfill the requirements. One stakeholder explained that as a company they had supported their employees who were previously international students in providing them with whatever documentation they needed for their applications.<sup>211</sup> However, not all PGWP-holders find jobs corresponding with their profile and hence struggle to meet the requirements in their applications. Companies such as 3Skills have identified the need to further support students in this area, expressing that while they may have spent significant time in Canada and therefore have "Canadian experience", they may not have yet developed their abilities to sell themselves to employers (e.g. interview skills, networking, salary negotiations, etc.). Stakeholders pointed out that it is important for both the international students and employers to share the onus in this process. This means that while

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<sup>207</sup> Stakeholder Interviews, Invest Ottawa; 3Skills, Ottawa.

<sup>208</sup> *Positive Changes to the Post-Graduation Work Permit Program*, Newsletter of the Immigration Law Office of Ronalee Carey, February 27, 2019, <https://us7.campaign-archive.com/?u=69ea95c73ef7d8f5b955c5780&id=59d9292ad1>

<sup>209</sup> *Positive Changes to the Post-Graduation Work Permit Program*, Newsletter of the Immigration Law Office of Ronalee Carey, February 27, 2019, <https://us7.campaign-archive.com/?u=69ea95c73ef7d8f5b955c5780&id=59d9292ad1>

<sup>210</sup> Stakeholder Interview, Ronalee Carey Law, Ottawa.

<sup>211</sup> Stakeholder Interview, Giatec, Ottawa.

international students can find support in companies like 3Skills, employers should look at their hiring and onboarding practices, as discussed earlier when addressing “Canadian experience” and inclusiveness in the workplace. Several business development and immigrant-serving agencies suggest that publicly funded programs should be formally extended to international students as they explore their possibilities to settle in Canada.

### 5.3 Retaining international student talent

Ontario’s international postsecondary strategy placed the retention of international talent at the core of its mission. According to this strategy, the enhancement of settlement services and integration of students into the provincial labour market was of the utmost importance.<sup>212</sup> Despite previously mentioned improvements to the PGWP program, there are still changes that need to be made to better retain international students as per Ontario’s plan. First, the limits placed on work hours for international students both jeopardizes their ability to pay tuition, as well as their chances for receiving future work permits or permanent residency. International students are allowed to work 20 hours per week off campus, and if they exceed these this they are working without authorization, which in turn makes them inadmissible to Canada, according to section 30(1) of the *Immigration and Refugee Act*.<sup>213</sup> A stakeholder<sup>214</sup> recalled the story of Jobandeep Sandhu, who, in order to pay for his \$27,000 tuition and costs of living in Mississauga worked 35-40 hours per week driving a truck, while his permit only allowed 20 hours a week. As a result, Jobandeep was arrested.<sup>215</sup> This, however, is not the only barrier facing international students. Additionally, international students who start their own businesses in Canada upon graduation are limited in their applications in the CEC. Section 87.1(3) of the *Immigration and Refugee Protection Regulations* describes how self-employment – even in what would otherwise be considered a skilled position – does not qualify as skilled Canadian work experience.<sup>216</sup> Highly innovative and entrepreneurial migrants and international students who would greatly contribute to Canada are placed at a disadvantage in their immigration applications because of this.

Ultimately, stakeholders underscored the importance of improving international students’ support system when they decide to immigrate to Canada. Not doing so isolates them from various settlement resources and

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<sup>212</sup> Ontario Ministry of Advanced Education and Skills Development (2018), 11.

<sup>213</sup> *Working Too Hard in Canada Can Get You Arrested - A Cautionary Tale for International Students*, Newsletter of the Immigration Law Office of Ronalee Carey, May 24, 2019, <https://us7.campaign-archive.com/?u=69ea95c73ef7d8f5b955c5780&id=f8da99ea3d>

<sup>214</sup> Stakeholder Interview, Ronalee Carey Law, Ottawa.

<sup>215</sup> *Working Too Hard in Canada Can Get You Arrested - A Cautionary Tale for International Students*, Newsletter of the Immigration Law Office of Ronalee Carey, May 24, 2019, <https://us7.campaign-archive.com/?u=69ea95c73ef7d8f5b955c5780&id=f8da99ea3d>

<sup>216</sup> *Why Setting Up Your Own Business After Graduation is a Really, Really Bad Idea For International Students in Canada*, Newsletter of the Immigration Law Office of Ronalee Carey, June 27, 2019, <https://us7.campaign-archive.com/?u=69ea95c73ef7d8f5b955c5780&id=a167778218>

programs meant to integrate immigrants into the labour market therefore putting them in a position of disadvantage.<sup>217</sup> International students are incredibly valuable to communities, particularly where universities are a prime factor in maintaining the growth of the local economy. Meaningful contributions should be further acknowledged through more comprehensive and available settlement support systems. Successful retention will require a concerted effort from both the private and public sectors in order to develop policies and programs that understand and reflect the value of international students from when they initially apply for a study permit, to when they secure employment and gain permanent legal status in Canada if they so desire.

## **6. The impacts of the 2020 COVID-pandemic on high-skilled migration**

In addition to the devastating economic downturn, the COVID-19 pandemic has and will continue to have significant consequences for the migration of high-skilled foreign professionals and international students to Ontario. One of the most discernable reasons for this is the closure of Canada's borders and restrictions placed on non-essential global mobility. Although this is likely a short-term phenomenon, the hiring of international talent will experience a significant slowdown due to the difficulty of international travel in the current circumstances. When regular international movement resumes, there will undoubtedly be new challenges and extreme delays in certain areas of immigration. One stakeholder noted that it is unlikely for interest in immigration to Canada to diminish, but individual applications may be put on hold, either by choice or necessity.<sup>218</sup>

### **6.1 Immediate implications for international students**

International students may be less interested in studying in Canada if classes remain online, and if choosing to do so, are sure to face greater barriers in travelling to Canada. The federal government has removed limits on international students working more than 20 hours per week until August 31<sup>st</sup> however, this is conditional for employment in an 'essential service'. Albeit restricted, this is still significant policy reform as *"according to Statistics Canada, more than 11,000 international students were enrolled in health-care programs at Canada's university and colleges, representing about four percent of health-care students in 2018."*<sup>219</sup> In addition, those who have already received a study permit are exempted from travel restrictions for entering Canada, alongside a general relaxation of *"some eligibility restrictions for the PGWP*

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<sup>217</sup> Stakeholder Interviews, World Education Services (WES), Ottawa; Hire Immigrants Ottawa (HIO).

<sup>218</sup> Stakeholder Interview, Toronto Star, Toronto.

<sup>219</sup> *As Pandemic Rages, Limits Lifted On Foreign Students Working in Canada's 'Essential Services'*, The Toronto Star, April 22, 2020, <https://www.thestar.com/news/canada/2020/04/22/as-pandemic-rages-limits-lifted-on-foreign-students-working-in-canadas-essential-services.html>

*Program.*"<sup>220</sup> The loss of a significant number of international students could prove devastating for Ontario's universities and academic innovation hubs as they account for approximately 50% of tuition revenue nationally. A large part of Canada's pull-factor for international talent, as described throughout this report, is the country's academic environment. Maintaining Ontario's caliber of education and opportunities for meaningful growth in the face of short-term, yet significant financial challenges is thus of the utmost importance as the province seeks to continue its recruitment and retention of international talent.

### **6.1 Transitioning online: Rapid development of a digital economy**

The pandemic is not only reshaping Canada's post-secondary education sector, but it is also rapidly accelerating the development of an already growing digital economy. Working remotely, shopping online, and social distancing are changing the way people produce and consume. Stakeholders with experience in the development of online marketing and e-commerce have noted that they are experiencing a surge in interest from companies seeking to build their presence online and expand their range of resource delivery.<sup>221</sup> As online shopping continues to overtake retail, and as remote work becomes more normalized, there will be a greater need in Ontario for high-skilled STEM professionals.

Multiple stakeholders in the legal, technology, and immigrant-serving sectors predict a future of immigration selection and talent acquisition that relies heavily on artificial intelligence (AI). Resume filtering and application processing technology has the capacity to extremely benefit employers looking for specific criteria and who receive an extensive amount of applications each day. However, this technology also has the ability to standardize racial biases and western-centric measures of skill and competency on paper that disadvantage qualified migrants that are already marginalized in most hiring strategies. The potential for technical prejudice when streaming for the skills and credentials necessary to fill talent shortages needs to be acknowledged and mediated if and when transitioning to AI selection processes to sustainably broaden talent pools and diversify the provincial STEM ecosystem.

The keynote speaker at HIO's Employer Summit Conference held in March of 2020, Sunil Johal, an economic development leader at the Brookfield Institute for Innovation and Entrepreneurship, gave a talk on the future of work and immigration in response to an emerging digital economy. In doing so, he preemptively touched on concerns that are even more relevant due to the circumstances of the pandemic. The digital economy has made rapid scalability possible with low costs of replication and minimal physical infrastructure footprints.<sup>222</sup> Strengthening business presence online and automation capacities has extremely

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<sup>220</sup> *Post-Secondary Schools Face Rough Autumn If Pandemic Keeps Foreign Students Away*, CBC News, May 7, 2020, <https://www.cbc.ca/news/canada/post-secondary-enrollment-1.5554348>

<sup>221</sup> Stakeholder Interviews, Global Skills Hub, Toronto; Invest Ottawa.

<sup>222</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

impacted development frameworks, decreased barriers for industry entry, and expanded non-routine cognitive employment.<sup>223</sup> Pre-COVID, Johal explained that many studies have estimated the extent of job losses due to automation and show that the types of positions most vulnerable are those with lower wages and more precarious working conditions now likely exacerbated by conditions of the pandemic. Furthermore, these jobs are often categorized by temporary and outsourced contracts, inconsistent hours, and less benefits such as life and health insurance, while unionization is also declining.<sup>224</sup> Sunil also mentioned that the automation and streamlining of the high-skilled immigration system moving forward would be important for the long-term sustainability of Canada's workforce alongside an increase in attraction and retention initiatives. However, this will necessitate extensive care going into the technology screening of immigrant applications while ensuring its coherence to uncertain and quickly changing labour market demands.<sup>225</sup> He expressed that it is in the best interest of the government to proactively invest in the employment bridging process for skilled migrants and for employers to utilize technological advancements where possible to supplement areas where immigrants may need assistance. In addition, Sunil stated that the immigration system can often be paralyzing with too many regulations, and Canada needs to put pressure on independent bodies to create opportunities for high-skilled global talent in their previous fields while also better communicating the reality that this is often much more difficult than expected.

In response to the evolving pace of disruption, employers across STEM sectors could also highly benefit from investment in retraining and absorbing individuals into other positions especially for the maintenance and management of new technologies.<sup>226</sup> This notion was emphasized by multiple stakeholders to facilitate adaptation to the emerging 'new normal' including initiatives to support technological literacy, and both upskill and retrain those who have backgrounds in STEM, but who may not be experienced in high-tech industries. If these retraining initiatives are also supported by the provincial government, they could be hugely beneficial for immigrants who have pre-existing credentials but are experiencing challenges in the labour market.

## **6.2 Recovery framework and reinforcements**

Several respondents noted that during periods of economic recession, immigrants are often further marginalized when it comes to determining the first people to let go and the last to be re-hired. Although not justified by research-based evidence, public sentiments about a need to limit immigration tend to grow which will only disadvantage the country's ability to adapt and overcome periods of economic hardship. A

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<sup>223</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

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<sup>225</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

<sup>226</sup> Employer Summit Conference, organized by Hire Immigrants Ottawa (HIO) and held in Ottawa, March 11, 2020.

possible re-focus inward to better serve migrants already settled within Canada will make investment into employment bridging programs equally important as attraction for long term competitive growth.<sup>227</sup> In addition, reactive policy that continues to prioritize the demand for international talent will be essential to a federal recovery framework that values skilled immigrants not only in STEM sectors but in general. One stakeholder discussed the opportunity for increased remote hiring without the necessity for relocation.<sup>228</sup> Although this strategy would not be able to sustainably develop local tech ecosystems, it could potentially mitigate barriers caused by settlement and integration issues in the short-term.<sup>229</sup>

It is significant to also mention Invest Ottawa's Digital Mainstreet Program in partnership with the Federal Economic Development Agency for Southern Ontario, the Government of Ontario, and other stakeholders with a collective interest in an effective delivery scheme for recovery. Released in June of 2020, the program seeks to help employers *"navigate the COVID-19 crisis by enabling them to leverage digital, e-commerce and online strategies, new business models and digital technologies to access broader domestic and global markets, customers, and revenue."*<sup>230</sup> In doing so, companies can future-proof their business models to remain adaptive and resilient to economic downturn that will depend on digital capacity. Their provincial-wide goal is to support 21,900 businesses and facilitate growth by creating approximately 14,000 employment, internship, and co-op opportunities for students within this network.<sup>231</sup> In addition to gaining valuable professional experience, international students with high enrollment rates in STEM faculties that have co-op requirements can be sure to satisfy these despite COVID uncertainties. A total of \$57 million will be invested into this incredibly innovative program with potential for application across provinces and sectors.<sup>232</sup>

A technology recruitment hub noted that with the suspension of H-1B visas in the US, internationally trained professionals specifically in the tech industry can potentially look to Canada for more open border policies and streamlined pathways for high-skilled labour migration.<sup>233</sup> This is also a central reason that immigration programs such as the Global Talent Stream need to be succinct, clearly differentiated from other pathways, and effectively promoted. Doing so will better ensure opportunities for skilled workers being turned away from the U.S to meaningfully utilize their professional skills and knowledge in Canada.

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<sup>227</sup> Stakeholder Interview, ACCES Employment, Toronto.

<sup>228</sup> Stakeholder Interview, Invest Ottawa.

<sup>229</sup> Stakeholder Interview, Invest Ottawa.

<sup>230</sup> Invest Ottawa (2020), *Helping Thousands of Main Street Companies Open Their Virtual Doors to Generate New Revenue, Survive the Pandemic and Drive Our Economic Recovery*, <https://www.investottawa.ca/blog/helping-thousands-of-main-street-companies-open-their-virtual-doors-to-generate-new-revenue-survive-the-pandemic-and-drive-our-economic-recovery/>

<sup>231</sup> Invest Ottawa (2020).

<sup>232</sup> Invest Ottawa (2020).

<sup>233</sup> Stakeholder Interview, Global Skills Hub, Toronto.

Immigration policy must continue to adapt and respond to economic demands in a timely manner. An example of this is the newly released temporary policy reform that allows migrants with an existing job offer to apply for a work permit without having to leave Canada.<sup>234</sup> This was a pressing concern expressed by one interviewee as work permits were suspended due to COVID related layoffs and migrant workers could not obtain other forms of work without an entirely new work permit.<sup>235</sup> Their options were to wait for approximately 6 months to process a new permit or cross the border, come back, and re-apply which could not be done when the borders were closed.<sup>236</sup> The policy change will create opportunities to fill labour shortages with workers that have been stuck in extremely precarious positions and given no accessible pathways to employment. The federal government has also made significant changes to the benefit of international students and Canadian post-secondary institutions. Requirements necessary for a PGWP had strictly limited the amount of time an international student could pursue a degree by means of distance learning and would deduct time from their permit depending on how long they studied abroad.<sup>237</sup> As of May 14, students will remain fully eligible to obtain a permit when starting their programs outside of the country and with up to 50% of their program being completed online.<sup>238</sup> The ability to remain flexible and efficiently satisfy changing industry demands will be critical to a successful post-COVID strategy.

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<sup>234</sup> *New temporary public policy will allow visitors to apply for a work permit without having to leave Canada*, Government of Canada, August 24, 2020, <https://www.canada.ca/en/immigration-refugees-citizenship/news/2020/08/new-temporary-public-policy-will-allow-visitors-to-apply-for-a-work-permit-without-having-to-leave-canada.html>

<sup>235</sup> Stakeholder Interview, Global Skills Hub, Toronto.

<sup>236</sup> Stakeholder Interview, Global Skills Hub, Toronto.

<sup>237</sup> *Flexibility in post-graduation work permit rules to help international students and Canadian post-secondary institutions*, Government of Canada, May 14, 2020, <https://www.canada.ca/en/immigration-refugees-citizenship/news/notices/pgwpp-rules-covid19.html>

<sup>238</sup> *Flexibility in post-graduation work permit rules to help international students and Canadian post-secondary institutions*, Government of Canada, May 14, 2020, <https://www.canada.ca/en/immigration-refugees-citizenship/news/notices/pgwpp-rules-covid19.html>

## **V. Conclusions and Recommendations**

Ontario's ability to attract newcomers arriving to Canada through each of the immigration streams remains unquestionable. This includes economic migrants looking to further pursue their career as the province's tech sector continues to grow and demand more high-skilled labour. The provincial capacity for talent attraction has also forced Ontario to focus efforts on meaningful labour market integration of individuals that come into Canada without a predetermined employer. This has led to the creation and expansion of organizations whose purpose is exclusively to facilitate this process. In the wake of COVID-19, Ontario will face difficulties recruiting abroad and may have to look inwards to access tech talent pools in the meantime. This includes the attraction and retention of international students in STEM fields that are already in Canada.

As Ontario moves forward, there are some considerations to be made. The province will need to continue working with the federal government to establish a strategy that allows Ontario to recruit tech talent to meet local industry demands for sustainable growth within a timely and straightforward manner. This should include a comprehensive settlement and retention strategy based on the evidence obtained from approaches already taken in Ontario (e.g. the bridge training program), as well as other provinces (e.g. the Atlantic Immigration Program). All of this will require continued consultation and coordination with stakeholders across the tech sector, employment development agencies, immigrant-serving organizations and local partnerships, and all levels of government. A comprehensive immigration strategy will be key to Ontario's economy in the short and long term, particularly in response to the impacts of the COVID-19 pandemic. Key recommendations from the findings of this report include:

### **1. Update the Canadian immigration system delivery model and alleviate restrictions**

In response to the concerns expressed by STEM industry stakeholders, the federal government should further streamline and condense information on the extensive amount of economic immigration avenues currently available. User friendly software updates with concise descriptions and differentiation across programs in plain language and video format would mediate common misconceptions that contribute to the endurance of skills shortages and grant employers expanded access to diverse talent pools. Investing in a simplified delivery framework would also enable high-skilled migrants to effectively navigate the system independently which would reduce barriers for international recruitment caused by inability to determine eligibility. Quotas for the OINP need to be proportionally increased to reflect provincial trends of attraction and meet industry demands for innovation and growth. In addition, better program integration between

IRCC, ESDC, and CBSA is necessary in rationalizing the immigration process and making it more consistent.

## **2. Support and standardize effective labour market integration frameworks**

To better ensure successful labour market integration for high-skilled immigrants entering provincial STEM sectors, government and industry stakeholders should be invested in supporting and standardizing pre-arrival and employment bridging programs. These initiatives already exist with tremendous success rates when utilized, however, operate without the guaranteed funding necessary to increase capacity and encourage inter-provincial scalability. As mentioned by ACCES, a formal investment of approximately \$7000 per person to insulate a reliable labour market integration pipeline and long-term retention of high-skilled global talent will be key to competitive economic development and pandemic recovery. Not only would this make effective on-boarding tools and strategies more accessible to employers but scaling this model could transform the currently restrictive framework for credential recognition. STEM industry stakeholders would be able to leverage academic affiliation or similar equivalency programs to better value and utilize non-Canadian skills and qualifications. As a result, specialized talent pools would be readily available to employers while migrants could better secure employment in their fields of expertise. This process would also require a better consultation strategy for direct translation of industry demands to government divisions that oversee the immigration system. Being able to efficiently adjust policy and programming to better serve and reflect the interests of the businesses that fuel the Canadian economy is paramount to its ability to remain globally competitive. Reinforcing a strong and deliberate industry-government pipeline will also be of high advantage when determining best-practices for sector specific post-COVID recovery frameworks.

## **3. Expand settlement, recruitment, and retention supports for international students**

International students are vital to the sustenance of education centres and communities for which local economies depend on. Employers already consider students to be valuable talent pools as they invest in practical skills-development and hire from co-op programs whereby international students also become desirable candidates. As such, pathways for international students to settle in Ontario must continue to be explored as it has been done in the wake of COVID-19 with changes to the PGWP requirements. This should include the prioritization of pathways for international students to secure immigration status and access to settlement and employment programs and services currently unavailable to them. Some of these include networking workshops and comprehensive employment preparation offered by immigrant-serving organizations to complement their existing experience in Canada. Moreover, employers who wish to hire and support a student looking to immigrate to Canada will need better guidance and facilitative measures to

do so. Focusing on international students who are already in Canada is also a feasible option as COVID-19 continues to affect border closures and the high demand for skilled-labour in the tech sector remains consistent.

#### ***4. Enhance inclusive workplace models***

If employers wish to access talent pools abroad and among newly landed migrants, it will be necessary for them to assess their work environments and evaluate their current and potential level of inclusivity. By connecting with employment development agencies and migrant-serving organizations, benchmarks can be established for adjustments and improvements where needed. As noted in the previous sections, there are already tools in place for this purpose, such as TRIEC's Inclusion Measurement Blueprint. In the short-term, this will attract the necessary skills to continue developing and upscaling, while in the long-run ensuring retention as newcomers find a home where they pursue their career. This is of particular importance as COVID-19 continues to impact the economy and employers are forced to develop their businesses to meet new market demands. Furthermore, business strategies that meaningfully value inclusivity will be even more significant with the rise of movements such as Black Lives Matter making a focus on this approach vital in adapting to the world's evolving context in terms of community-based justice and equitable accommodation in all facets of society.

Ontario has a vested interest in utilizing the tools developed for this purpose and with further investment more employers, specifically SMEs, can take full advantage of what they have to offer. Moreover, enhancing workplace inclusiveness can meaningfully absorb some of the burden placed exclusively on high-skilled migrants to succeed and allow them to find fulfillment and community within the STEM industry.