



ALBERTA COLLEGES ECONOMIC RECOVERY TASK FORCE

Final Recommendations



ABOUT THE ALBERTA COLLEGES ECONOMIC RECOVERY TASK FORCE

The Alberta Colleges Economic Recovery Task Force was launched to assist the work of local, provincial and federal governments, and industry as they tackle the economic challenges faced due to the global COVID-19 pandemic. Work is underway to identify how Alberta's colleges are currently supporting local, provincial and national economic recovery and future growth goals. The Task Force examines how to support and develop this work to assist economic resiliency and recovery and address the immediate and short-term needs as it looks to future opportunities for Alberta's colleges to support long-term economic growth.

The Task Force focuses on three main themes:

- Economic resiliency to address immediate needs.
- Economic recovery to play a key role in restarting the economy.
- Economic competitiveness to focus on long-term opportunities for Alberta's colleges to build Canada's economic strength.

MEMBERS:

- **Dr. Robert Murray**, Economic Recovery Task Force Chair, and President and CEO at Grande Prairie Regional College
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- **Justin Riemer**, Assistant Deputy Minister at the Ministry of Western Economic Diversification, Government of Canada
- **Joan Hertz**, Board Chair at ATB Financial
- **Bill Werry**, Executive Director at the Council of Post-Secondary Presidents of Alberta, serves as an observer to the Task Force.
- **Peter Leclaire**, Assistant Deputy Minister, Advanced Learning and Community Partnerships Division, Government of Alberta, serves as an observer to the Task Force.

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INTRODUCTION

Alberta's colleges are at the forefront of the province's ongoing economic recovery and overall economic competitiveness as the world continues to navigate the COVID-19 pandemic. At their core, Alberta's colleges are ideally positioned to align the interests and solutions of post-secondary institutions, all orders of government, and industry, given the significant amount of connectivity colleges already have with the economic development and industry ecosystems of their regions and across the province.

Alberta's colleges actively serve the needs and interests of industry partners - they do it through applied research activities, including technology development, validation and demonstration; and they do it to support local economic development, innovation and providing experiential learning opportunities for their students. Colleges' applied research activities are truly industry-driven and can lead sector level responses to global opportunities- colleges can respond more rapidly and flexibly to what industry needs. Colleges are inherently solutions-focused, and they help industry address their particular market needs by providing open innovation spaces to commercialize research and development technologies, products and processes that are unencumbered by intellectual property concerns.

In its initial recommendations, the Alberta Colleges Economic Recovery Task Force focused primarily on immediate areas of action for the colleges and orders of government and presented a series of actions on four key themes: workforce data, micro-credentialing, work-integrated learning, and innovation.¹ This final report seeks to build on those initial recommendations by focusing on four additional themes of vital importance to Alberta's economic recovery that are ideally leveraged by Alberta's colleges: Indigenous Peoples' participation in post-secondary education and the workforce, student participation and integration into the workforce, talent and skills development, and industry connectivity and industry-driven solutions.

To develop these final recommendations, the Task Force conducted a series of roundtables and stakeholder consultation sessions with industry, government, economic development, Indigenous peoples, and students. All of Alberta's colleges bring unique strengths and opportunities to the discussions on economic development and industry connectivity. This report attempts to capture those existing strengths, identify the areas where there is room for improvement, and to implement a sectoral approach to these issues to expedite the province's economic recovery. It is important to note that some of Alberta's colleges are already actively engaging in the types of activities recommended in this report as part of their business practices. These recommendations are focused on raising Alberta's colleges to best-practice standards for the long-term strength of the system and how Alberta's colleges can lead in support of Alberta's economic prosperity.

¹ See the Task Force's initial recommendations as Appendix I to this report.

I. Participation of Indigenous Peoples in Post-secondary Education and the Workforce

Background:

In the 2016 Census, Indigenous Albertans represented 6.5% of the population. They are younger (average age 29.8 vs 37.), twice as likely to be single parents (7.9% vs 4%), twice as likely to have no high school completion (40.3% vs 19.6%) and half as likely to have a certificate or diploma (16.8% vs 35%). Fewer Indigenous people participate in the labour pool (65% vs 71.8%), and they are nearly twice as likely to be unemployed (9% vs 16%). From 2006 to 2016, the number of First Nations, Métis and Inuit youth aged 15 to 34 increased by 39%, compared to just over 6% for non-Indigenous youth.

Indigenous youth are the fastest-growing demographic in our country, but among the least represented in our post-secondary institutions and workforce. According to the Apply Alberta 2019 Applicant Study, which tracks credit training, only 3% of students who apply are Indigenous. The highest participation rate of Indigenous students by sector is in the Community Colleges at 10% of the student populations. This participation can be partly explained by the fact that 86% of Indigenous people live within 50 km of a college in Canada. Some post-secondary institutions provide customized training in-community; however, much of this is not for-credit and, therefore, not counted in any formal statistics.

Challenges for Indigenous learners to attend post-secondary include lower socioeconomic status, lower mobility, many are raising families, and they are often the first generation in their family to attend post-secondary education. Added to this are the impacts of historical trauma, including addictions, mental health challenges, lower self-esteem and other family dynamics. Students who have the academic readiness for post-secondary, often withdraw due to these challenges and the distance from their support network that comes with relocating for post-secondary. Finally, racism is prevalent in many communities and on the job, which also impacts success rates.

There are several Indigenous organizations across Alberta working to support training, education and employment for Indigenous peoples and communities. By working with Indigenous organizations and leaders, Alberta's colleges can make a profound impact on Indigenous youth and support a strong economic future for Alberta.

Alberta's colleges recognize the necessity to link Indigenous learners to the workforce and the essential role Indigenous Peoples will play in the immediate and ongoing economic recovery. Colleges also recognize that this effort must be accompanied by meaningful action on cultural awareness for college employees and students. Colleges can enhance services available to Indigenous learners, including cultural ceremony and practice, support for mental healing, and engagement of Elders.

Recommendations:

1. That Alberta's colleges work with Indigenous leaders, the Government of Canada, and the new Alberta Indigenous Opportunities Corporation to design a student funding model that increases participation and success.
2. That Alberta's colleges design programs allowing for additional academic readiness by providing supports including language, culture and spiritual content that enables students to increase their confidence and self-advocacy skills.
3. That Alberta's colleges advocate with community leaders and infrastructure funders to ensure sufficient broadband is available throughout Indigenous lands to reverse the digital divide.

Tribal Chiefs Employment & Training Services works with post-secondary institutions, industry and First Nations to deliver tailored programming and help with job placement.

CANDO is a national Indigenous organization involved in community development and capacity building.

II. Student Participation and Integration into the Workforce

Background:

Work-Integrated Learning (WIL) is an important tool to help facilitate student and graduate integration into the workforce. The Task Force's initial recommendations focused on working with industry and the Government of Alberta to develop WIL programming focused on upskilling, reskilling and addressing employment needs. Reinforced in the Task Force's roundtable discussions were the challenges post-secondary institutions and industry faced in creating meaningful learning experience for students. There is also the emerging realization that students graduating during the COVID-19 pandemic or in the post-pandemic world will face additional barriers, including finding employment.

Post-secondary institutions have set curriculum that either integrates WIL into a course or program at a certain point in a semester or have it as an optional component towards the end of a program. An additional challenge is that, in many cases, colleges are educating for specific jobs instead of integrating students into the workforce to obtain essential/core competencies (e.g. digital literacy, critical thinking) like those identified in Humans Wanted, published by RBC in 2018.

Recommendations:

4. That Alberta's colleges partner with industry to create a database of WIL opportunities identified by essential/core skills rather than by occupation or sector. This partnership should provide more opportunities for students from various program areas and create opportunities for multi-disciplinary teams within workplaces. The result could be increased creativity and innovation in a wide range of businesses and industries. Part of this initiative should also be to create a system to measure core skills to help the shift from credential-focused recruitment to skills-based recruitment. This database could ultimately become a tool for Alberta's entire post-secondary education system to ensure system-wide access to such opportunities.
5. That Alberta's colleges 'Flip the classroom' on WIL and approach reskilling and upskilling from a Learning Integrated Work (LIW) perspective. Employers could work directly with a college to provide access to learning for their employees while keeping them employed. For example, learning experiences could be developed that complement or enhance the competencies an employee already has through their work experience. The importance of digital literacy in every industry is often highlighted, yet there is little opportunity for older employees to benefit from tailored learning experiences. This initiative would enhance and develop soft skills relevant to multiple sectors.
6. That the Government of Canada and the Government of Alberta incent employers to participate in WIL opportunities through grants, voucher programs, and/or preferred partner status. This incentive should ensure a level of consistency around employers' requirements to provide relevant, engaging work along with the right conditions to provide the most meaningful WIL opportunities possible.
7. That Alberta's colleges collaborate with the Alberta Students' Executive Council (ASEC) to advocate for an Alberta Graduate Retention Incentive to focus on the workforce of the future by retaining student talent and skilled workers in Alberta's economy.

III. Talent and Skills

Background:

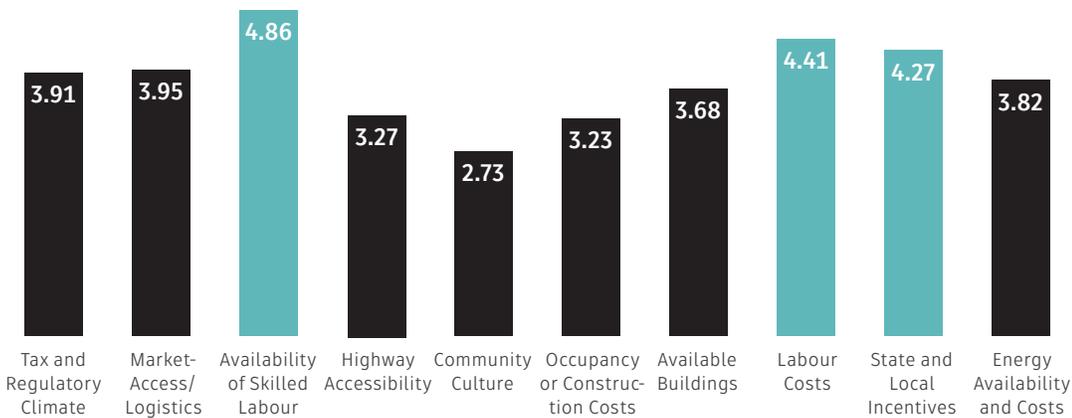
In a dynamic global economy where the application of innovation, creativity and ideas drives competitiveness, having a skilled talent pipeline is more important than ever. Alberta's future economic prosperity depends on intellectual capital, but we are struggling to keep pace with the needs of employers amidst extraordinary disruption and digital acceleration.

A report on talent-driven economic development, conducted by the Metropolitan Policy Program at Brookings Institution, found that "economies grow when they develop and deploy their people in ways that maximize their productive potential." This study has been reinforced by feedback from investors and intermediaries.

A survey of international site selectors asked, "which factors tend to come up most frequently during projects" and "what economic development practice or service would enhance the appeal of a potential expansion or relocation." Talent was the top answer to both questions.

Table 1²

Which factors tend to come up most frequently during projects?

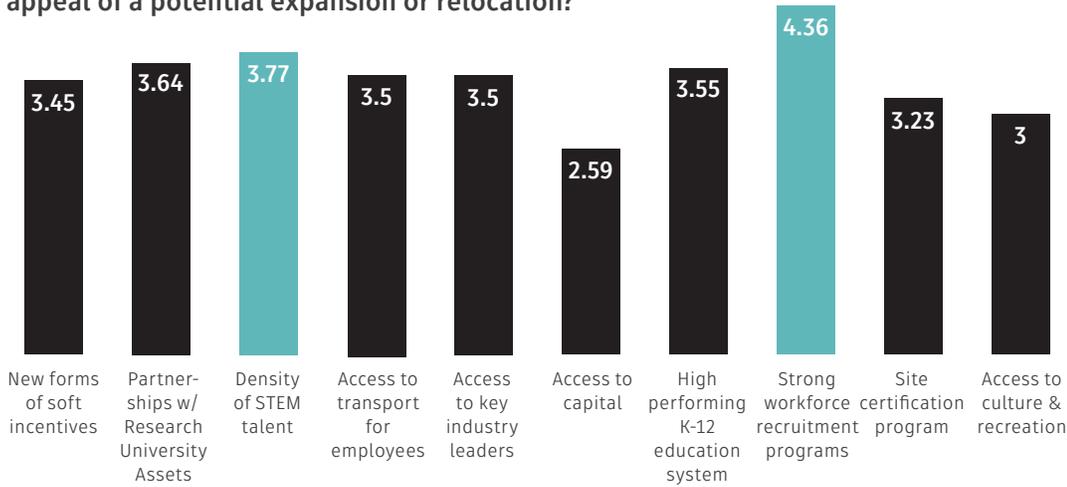


² Conway Inc., "International Site Selector Survey conducted for Edmonton Global," March, 2019.



Table 2

What economic development practice or service would enhance the appeal of a potential expansion or relocation?



<p>ADVANCED MANUFACTURING</p> <ul style="list-style-type: none"> • Skill base vital • Access to large and growing markets • Operating costs • Infrastructure • High quality communications 	<p>HIGH-TECH/ICT</p> <ul style="list-style-type: none"> • Skills availability • Rapid market access • Innovation clustering • Low operating costs • Access to tech/R&D • High quality facilities 	<p>MANUFACTURING</p> <ul style="list-style-type: none"> • Labour, supply chain and market access • Low operating cost • High quality infrastructure and logistics • Educated and skilled workforce • Grants and incentives 	<p>PROCESSING INDUSTRIES</p> <ul style="list-style-type: none"> • Access to large growth markets • Access to natural resources, inputs • Quality infrastructure and logistics • Low operating costs • Appropriate labour force • Access to value and supply chains • Pro-business regulations • Water and power
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To fully activate Alberta’s Economic Recovery Plan to enable a thriving economy now and ensure our province has the right skills, knowledge and talent to attract high value, high impact investments to drive our future prosperity, Alberta needs a talent strategy. That strategy must incorporate the expertise post-secondary institutions bring to talent conversations.

Recommendation: Launch a Provincial Talent Strategy that focuses on development, retention and attraction for global competitiveness.

- That Alberta’s colleges work with the Ministries of Jobs, Economy and Innovation; Labour and Immigration; Advanced Education; and Education to commission a Talent for the Future Task Force that would develop a provincial talent strategy.

The Talent for the Future Task Force will:

- Include representatives from government, post-secondary, economic development and industry who are visionary and innovative thinkers, able to bring an industry- and province-wide perspective to the table;
- Appoint an independent Chair to lead the group and who will be accountable to the Minister(s); and,
- Complete the development of a talent strategy within six months of being established.

The Talent Strategy will:

- Use labour market information, including lagging and leading indicators;
- Consider the investment and sector strategies of the Government of Alberta;
- Make recommendations for a system-wide coordinated response to addressing gaps;
- Support increased educational attainment for Indigenous Peoples and indigenization within programming;
- Include innovative solutions to increase diversity in Alberta's workforce of underrepresented and underemployed demographics (such as newcomers, LGBTQ, women, and those displaced by the economic downturn);
- Analyze gaps in hard and soft skills that are present now and expected in the future and include opportunities for soft skills training; and,
- Address talent development, retention and attraction.

“There is a gap around experiential ability – graduates are not job-ready.”

Business Roundtable

Skills for the Future

Thirty-four percent of Canadian employers believe graduating students in Canada are “job-ready.” In Alberta, that number is closer to 90%, but there is more work to do.

Hiring and onboarding new employees is costly for employers. It costs an employer – on average - \$3,000³ to onboard a new employee. There is also a productivity cost – it takes five⁴ months for a new employee to reach full productivity. If those new employees do not have all of the skills and competencies needed, it prolongs the onboarding and training process and increases costs.

There is a need for skills that are translatable to the workforce, for a school-to-work transition with the least amount of onboarding possible for the employer – beyond company- or industry-specific onboarding. The Alberta Chambers of Commerce recently surveyed⁵ its members, and the results confirmed that employers in Alberta are struggling to find the skilled employees they need.

³ <https://www.linkedin.com/pulse/costs-3000-onboard-new-employees-here-why-worth-brian-de-haaff/>

⁴ <https://www.investopedia.com/financial-edge/0711/the-cost-of-hiring-a-new-employee.aspx>

⁵ ACC AB Perspectives Survey: Skills, Training, Labour Market Policy (April 2020)

Increasing diversity in our workforce drives economic growth and improves our society.

- Indigenous Peoples are the fastest-growing source of young workers that could boost our economy and improve the quality and size of our talent pool, but are underrepresented in the economy due to gaps in skills and educational attainment. Raising post-secondary rates and engaging more Indigenous Peoples in the economy could unlock an estimated \$7 billion in GDP (nationally).
- McKinsey's Delivering Through Diversity report found corporations that embrace gender diversity on their executive teams, for example, were more competitive and 21% more likely to experience above-average profitability. They also had a 27% likelihood of outperforming their peers on longer-term value creation.



Over half of businesses show it is difficult to hire people with either the entry-level or mid-level skills they need to manage their business. The following-listed skills shortages are expected:

- problem-solving skills
- service orientation, team, and interpersonal skills
- a commitment to quality
- basic numeracy and literacy, business acumen, and science and math skills; and,
- digital literacy.

Among all businesses, four-in-ten (44%) anticipate that skills shortages will have a significant or moderate impact on their ability to thrive over the next year. The businesses that have found it challenging to hire people with the skills they require have undertaken training (51%), or would consider training (36%). Moreover, when it comes to working with post-secondary institutions, one-in-five are either currently working with (18%), or have worked with (19%) post-secondary institutions. A further one-third (34%) would consider doing this.

Recommendation: Develop competencies-based training to fill immediate skills gaps in the workforce and produce job-ready graduates for the future.

9. That Alberta's colleges work with Alberta's Chambers of Commerce to identify "job-ready" competencies and current skills gaps, and create short burst training programs to bridge the gaps.

The competencies-based programs should bring business and industry experts into the classroom to enhance experiential learning.

That Alberta's colleges should work with businesses to provide opportunities for instructor secondment and short-term sabbaticals where instructors can be seconded to local businesses for a period of 6-12 months. This would help local businesses fill temporary labour shortages and enable instructors to update their knowledge for a better classroom experience.

The Future of Work

The Talent-Driven Economic Development: A New Vision and Agenda for Regional and State Economies Report by the Metropolitan Policy Program at Brookings Institution concluded that talent development pathways are unclear and unequal, limiting the supply of prepared workers in three ways:

1. It favours a narrow “four-year degree for all” pathway to good jobs;
2. Alternative pathways beyond traditional higher education are difficult for individuals to navigate; and,
3. The entire talent development system suffers from racial and economic inequities that restrict the nation’s productive potential.

The future is cross-functional.

It used to be that we all worked within our industry and profession silos. Engineers engineered, Marketers marketed, Designers designed, and Sales sold. The people in each of these sections of expertise only communicated when the process dictated. It also used to be that individuals were trained in one profession, received their designation, obtained a job and stayed there (or at least in that career) until they retired.

This is no longer the world we live in. Gone are the days where someone is in the same job or profession for 30 years. The median time spent in a job now is 3-5 years. We are encouraged to work cross-functionally. Increasingly, employers are looking for employees with cross-functional and cross-sectoral skills: a software developer who can produce business solutions, a designer who can analyze market intelligence for the product they design, or a technician who can work with infrastructure and software.

Looking at cross-functional and cross-sectoral skills development and training programs and challenging our assumptions and approaches to skill-building could give Alberta’s workforce a unique, strategic, and competitive advantage for attracting talent, investment and entrepreneurs.

Recommendation:

10. That Alberta’s colleges work with industry across sectors to identify future trends. Alberta’s colleges collaborate to offer cross-functional certifications that meet the needs of identified “future of work” trends, based on each institution’s area of excellence (For example, healthcare delivery and business, marketing and software design). That Alberta’s colleges look at opportunities for new programming such as 5G installation and maintenance.



IV. Connecting with Industry and Industry-Driven Solutions

Background:

Alberta's post-secondary institutions have a long history of collaboration with industry across sectors to create a strong research and innovation system in the province. These relationships and partnerships produce ground-breaking discoveries, drive economic growth, and create a more skilled workforce. This is particularly true in Alberta's college sector, where college-industry partnerships have been the cornerstone of applied research, innovation and commercialization activities for decades. Industry knows that Alberta's colleges and the strong history of partnership between individual colleges and their industry partners have helped industry solve their market needs and provided college faculty, staff and students with a broad range of research and learning opportunities. An inventory of the partnerships between Alberta's colleges and industry sees a variety of vibrant and strong relationships covering a broad array of activities such as academic programming, WIL placements, project-based learning opportunities, and/or applied research.

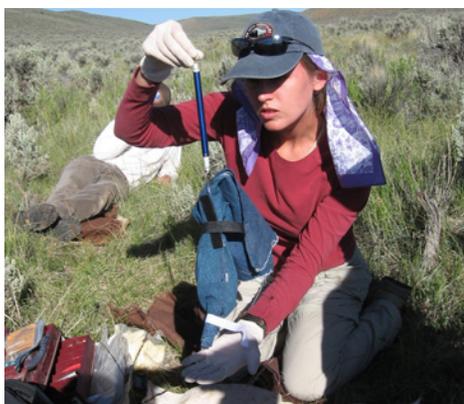
As the province looks toward economic recovery from the COVID-19 pandemic and the oil and gas downturn, industry and colleges must work more closely to co-create solutions at a system and sector level. Colleges in the province need to explore innovative ways to improve connectivity with industry partners and drive innovation and competitiveness. Despite decades of success connecting to industry as individual colleges, the ambition must now be to further develop those relationships through integrated services at a systemic level and serve our partners more comprehensively. This means continuing to build and enhance relationships that connect to training, applied research, business intelligence, promotion, and workforce recruitment requirements of industry, thereby building resilient, and long-standing partnerships based on mutual value.

In essence: Colleges need to continue making it easier for industry to access their expertise and supports, with the strong support and endorsement from government to build on existing successes.

Recommendations:

11. That Alberta's colleges create a provincial web portal and database that includes an outline of each institution's capacity and areas of specialization to work with industry, with resources and services it offers.
 - a. Use this information to create an Artificial Intelligence-driven, interactive matchmaking tool that pairs industry projects with the best-suited college. The tool would identify the most appropriate contact point within each institution. This matchmaking service would also link industry and students with relevant WIL opportunities identified in the database.
 - b. Economic development organizations and chambers of commerce should feed into the database, identifying new high-potential industry partners.
12. That Alberta's colleges create an industry solutions lab:
 - a. Individual colleges or a collective of colleges work with an industry partner to identify an issue, opportunity, or gap in the company's operations or current technology and issue the challenge to create a solution to students and faculty. Teams can work closely with the industry partner on the solution or pitch them to the company in a final event.

- b. Hold sector-specific reverse trade shows, where industry technicians and practitioners present an issue, challenge or gap to an audience of students, faculty and administrators, and solicit ideas for internal college-made solutions.
13. That Alberta's colleges develop a college system-wide business development strategy to foster a coordinated approach from institutions toward industry engagement in a manner that is both cohesive and business-focused. This would involve creating a common performance measurement framework focused on outcomes to evaluate the success of industry-college collaboration and ensure accountability towards those measures. Institutions should work with industry and their workforce advisory councils to establish system-wide standard metrics and set outcomes-based targets for joint partnerships and projects.
14. That Alberta's colleges form a province-wide virtual research and innovation hub to leverage the collaboration and expertise of Alberta colleges. To enhance data sharing and management of the hub, each college could become a 5G node. The data captured and generated by the hub can be a valuable commercial asset for innovators, tech entrepreneurs and companies, potential investors, and learners.
15. That Alberta's colleges advocate for financial incentives, such as a tax credit to off-set student wages, to encourage employers to hire students. For example, Ontario has a [Co-operative Education Tax Credit](#), available to employers who hire students enrolled in co-operative education programs at an Ontario university or college.
16. That Alberta's Colleges explore and devote resources toward tools that help integrate student learning and industry needs. For example, Lethbridge College and Lakeland College are piloting [Riipen](#), a new tool to help educators embed industry projects and live case studies directly into the curriculum.
17. That the Government of Alberta works with Alberta's colleges to enhance provincial and institutional collaboration on applied research activities. The vast majority of applied research activities are currently funded by the Government of Canada and/or industry. Enhancing the province's involvement in those activities will further develop our research and innovation ecosystems, directly link to outcomes of Alberta's industries, and support the implementation of the province's sector strategies.
18. That Alberta's colleges develop a system-wide structure that would enable venture capital companies to access start-ups and SMEs to mentor and accelerate their development and investment readiness. This structure would draw start-ups and SMEs into the colleges' applied research ecosystems from global venture capital networks for their technologies to be developed, validated and scaled.



APPENDIX I

**Alberta Colleges Economic
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ALBERTA COLLEGES ECONOMIC RECOVERY TASK FORCE

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INTRODUCTION

As the global economy changes, so too must our provincial strategy and approach. The Government of Alberta has released an Economic Recovery Plan to build, diversify and create jobs. The plan identifies Alberta's education system as "essential to building a prosperous Alberta." The Government of Alberta's plan is also complemented by a series of reports and recommendations made by the province's Economic Recovery Council, multiple Chamber of Commerce and economic development roundtables, and reports such as the Business Council of Alberta's "Skilled by Design: A Blueprint for Alberta's Future Workforce."

Alberta's colleges are integral to growing new technology and innovation in key areas of the economy and ensuring Albertans have the skills and training required to meet labour market demands of a changing and increasingly digital economy. The Alberta Colleges Economic Recovery Task Force has developed a series of recommendations based on its initial findings that can be actioned in both the short and medium term to leverage the speed and agility of Alberta's colleges to help operationalize the province's Economic Recovery Plan, and expedite Alberta's path to economic recovery.

I. WORKFORCE DATA

Identify skills gaps in Alberta's existing and prospective workforce.

Workforce data exists in many platforms at the federal, provincial and municipal levels, however coordinated analysis is needed when it comes to connecting this information with assessing reskilling/upskilling/skills shifts. We know what sectors are growing in need and we know how many people are unemployed (even underemployed), but there is very incidental data about sectors shrinking and taking their employees with them.

In all of the studies sponsored by Alberta Labour during the past year, there are references to business and sector needs, but there are few references to oversaturated or shrinking sectors.

Additionally, most (if not all) labour studies are conducted on the basis of professions or sectors, as opposed to skills that cross all sectors and professions, to get an aggregate look at whether our overall workforce has an ability to compete in today's economy. Furthermore, NAICS codes (on which Statistics Canada bases its labour analyses) are only reviewed every five years. They were last reviewed and revised in 2017 and will not be reviewed again until in 2022.

Recommendations:

1. That the Government of Alberta initiate an Alberta Skills Assessment led by a steering committee with representation from Alberta's CCCs, business and industry associations and economic development organizations. The Alberta Skills Assessment should seek to identify necessary skills for a globally competitive workforce as well as skills gaps in Alberta's existing workforce and prospective workforce (students). The results of the Alberta Skills Assessment will form the basis of a provincial re-employment and reskilling strategy.



- *The Steering Committee should include a workforce organization/professional association, faculty, and student representation to ensure that all perspectives are considered, and to ensure the recommendations put forward are meaningful and relevant.*
2. That the Government of Alberta direct Alberta Labour and Economic Development Trade and Tourism to conduct an analysis on existing labour data, including the newly released Conference Board of Canada studies and the steering committee information collected in recommendation 1 above, to synthesize the top sector needs as well as cross-sector skill requirements for all jobs of the future.
 - *The research should also include the identification of opportunities for employment of underrepresented groups that face disadvantages, such as Indigenous people, women, immigrants, persons with disabilities, and youth, as this will help develop targeted interventions.*
 - *Skill sets should also assess lifelong learning, entrepreneurial skills, personal adaptive capacity, problem solving, and resiliency/change management skills that will help people navigate different career paths.*
 3. That the Government of Alberta adapt the province's annual corporate filings system to encourage companies to report on critical labour market information, such as skills gaps and future skills requirements. This would make data timelier and more relevant while also reducing the need for more costly independent surveys.

II. MICRO-CREDENTIALING

Create programming to address existing skills gaps.

In a 2013 study of Canada's Digital Economy, 51% of firms said they did not adopt technology due to a lack of required skills and competencies among their staff. A later 2019 study echoed the same concerns, noting that businesses lacked capacity in "business process management," to ensure effective application of technology.

In 2017, more than half of all Canadian SMEs surveyed did not have the knowledge or the workforce to make a functional website for selling products or services. A roundtable of Alberta SMEs found similar concerns about knowledge, with most companies reporting a desire to digitize their business (through additional computer usage, including inventory, warehouse, or supply chain) but expressing concern that they "lacked the skills and education" to do so.

The State of Ohio is giving businesses \$1.75 million to reskill former manufacturing workers; it is structured through the state's TechCred program that will reimburse up to \$2,000 per employee, and up to \$30,000 per employer, which can be current or new employees. The funding will be disbursed for any recognized technology-focused credential, including those from Google Cloud, AWS, Oracle, Microsoft Azure and more. Amazon has launched its Upskilling 2025 strategy that will see a \$700 million program to move current Amazon employees into higher-paying roles within Amazon, usually from warehouse/fulfillment centre jobs into software jobs.



Recommendations:

4. That Alberta's CCCs take the learnings from the Alberta Skills Assessment and work with the Government of Alberta to develop micro-credentialing programming to address Alberta's most immediate skills needs and shortages. The Government of Alberta should directly fund industry to contract with CCCs that have strengths in the subject for the development and implementation of new micro-credentials which are directly linked to in-demand skills. Once developed these courses could then be offered at all the CCCs across Alberta.
 - *The relevance of the micro-credentials programs should be evaluated periodically for updates and adjustments reflective of the constantly changing skills need in the labour market. This evaluation process should be done in collaboration with industry partners.*
5. That the Government of Alberta invest top-up funds to the Canada Alberta Job Grant to offer reskilling and upskilling to existing employees (and owner/operators) at no cost to the business.
6. That the Government of Alberta offer financial support to unemployed Albertans who wish to pursue micro-credentialing or work-integrated learning programs for the purposes of re-employment. Specifically, the Government of Alberta should introduce a program that pairs well with the federal [Canadian Training Benefit](#), thus increasing the tax credits available to learners and providing them the time off work to complete that training.

III. WORK-INTEGRATED LEARNING

Design work-integrated learning programs focused on supporting in-field employment in areas of need.

Currently, most work-integrated learning (WIL) programs are designed with the primary goal of attracting students or offering “non-classroom advantages” (as opposed to meeting market or employment needs), resulting in higher in-field employment rates.

Students have identified one of the biggest challenges to WIL as the “WIL Employment Cliff” – students can secure employment for a brief, fixed term under the auspices of training and experience, but struggle to secure ongoing employment on a permanent basis.

One of the biggest challenges to WIL from a college perspective can be having the companies and industry available to hire students in the various fields linked to WIL programming. However, in a post-pandemic world with virtual working arrangements a possibility, this may present an opportunity for colleges and students from all areas of the province to expand WIL opportunities.



Recommendations:

7. That Alberta's CCCs work with industry and the Government of Alberta to develop work-integrated learning programming focused on upskilling, reskilling and addressing employment gaps.
 - Develop a provincial portal that would centralize WIL resources for students, post-secondary institutions, and industry. This would include:
 - i. A database of available job placements in key sectors to match program participants to WIL opportunities. This would provide a centralized registration platform for employers looking to hire students, and could be used by colleges to target work placements for students.
 - ii. An inventory of available skills development programs in Alberta to improve awareness of tools, grants and other resources available to both jobseekers and employers.
 - iii. As a pilot, issue an innovation challenge to develop an electronic platform to facilitate these connections between Alberta's community colleges and the technology and computer programming sector. SME innovators would compete in a hackathon to develop a database that bridges post-secondary institutions and industry partners in WIL opportunities. This would require strong post-secondary collaboration and willingness to share access to the database. Federal and/or provincial governments could provide incentives to encourage company participation.
 - iv. Future iterations of the portal could build in standardized candidate profiles, assess prior learning, identify skills gaps and suggest upskilling pathways for students.
 - *The provincial portal project should consider utilizing existing online platforms, such as <https://alis.alberta.ca/> which is a comprehensive website with information about education and training, occupational profiles, tools and resources, as well as job postings. A section on WIL can be created on the ALIS website.*
 - Increase resources and emphasis at colleges to work with SMEs to grow local business awareness of benefits and demand for student co-op placements.
 - i. Develop promotional material to help educate employers on the benefits of WIL and incentivize greater private sector participation.
 - Provide multi-year funding to develop and grow college WIL co-op placement programs. To encourage student uptake, reduce any fees required for students to participate in co-op placements.
 - Adopt a provincial goal of universal experiential learning that would require a minimum level of WIL for post-secondary students. Work with post-secondary institutions and industry to gradually implement this goal.



Sectoral Recommendations – Technology and Computer Programming:

8. Convene stakeholders in the technology sector to determine what occupations, competencies and skill sets are critical to the industry in the short and medium term. Evaluate these needs against existing college programs to determine where additional programming is needed. Establish working groups with representatives from industry and post-secondary to design the needed upskilling programs.
9. Provide incentives for job placements between artificial intelligence (AI)/machine learning organizations/students and Alberta firms with AI needs. Devote greater resources to matchmaking between AI institutions and firms (for example, businesses may know they need an AI solution, but are not certain how to articulate or hire student placements for it).
10. Create a focus group of digital and AI companies to provide input into developing related college-level programming. Seek collaboration between colleges on developing a standardized curriculum for this sector.
 - *A mechanism to periodically evaluate the effectiveness of the curriculum, and update as needed, should be established given that the technology sector is constantly evolving.*

IV. INNOVATION

Alberta's innovation ecosystem has not yet fully tapped the potential of its colleges and this is largely due to a lack of understanding from both sides. Government, economic development and innovation entities are unclear on the role colleges could and should play in the innovation ecosystem. Colleges, who have not been brought into key conversations, have struggled to articulate their value and contribution to innovation in Alberta. Some of the ways colleges meaningfully contribute to innovation in Alberta include:

For Students:

- Enriching student learning through experiential and applied learning
- Exposing students to real world, hands-on problem solving and expanding their job applicable skills and education

For Industry & Entrepreneurs:

- Developing, validating and demonstrating new technology and practices for a company's commercial success
- Transitioning technology from one industry application to another (often at commercial scale)
- Engaging/leading multiple stakeholders in collaborative applied research initiatives for broader industry impacts



All:

- Partnering with businesses to grow employment opportunities for students while strengthening industry relationships and investments in colleges
- Complementing the leading “discovery research” focus of Alberta’s universities
- Generating environments that allow companies and students to explore challenges together through the application of technology and practice

Alberta’s colleges applied research significantly benefits students, contributes to economic productivity, and helps community organizations and business partners achieve their innovation potential and competitive advantage going forward.

Embed Alberta’s colleges in the fabric and culture of the innovation ecosystem.

Recommendations:

11. Create a provincial online Alberta Colleges Innovation Portal to house information for students, innovators, industry and government. This will include information on how colleges approach IP, partner with industry, support entrepreneurs and offer upskilling in areas of technology and digital tools. This portal will also link to other resources and partners within Alberta’s innovation ecosystem.
12. Establish the Alberta Applied Research and Innovation Network (AARIN): a collaborative and cross-disciplinary organization of Alberta colleges, government, innovation entities and industry groups. The AARIN will be linked with the regional innovation networks across the province and its purpose will be to support member institutions’ applied research and innovation initiatives that contribute to creating exceptional learning experiences for students, workplace skills development, economic growth and healthy communities. The AARIN will serve as a collective voice to raise awareness regionally, provincially and federally of the capacity of vibrant applied research cultures, the capacity within Alberta’s colleges, and to foster best practices in applied research and innovation by facilitating the sharing of resources between members.

Pivot programming to focus on skills for future jobs.

High-growth sectors are overwhelmingly technology focused and currently Alberta is not producing enough graduates in high-tech fields. Most of these positions require 4-year degrees (at minimum). However, innovation industries that are not simply “coding” could represent a meaningful opportunity for Alberta’s colleges (i.e. Energy transition/renewable energy; smart construction and green building; Industry 4.0). Programming or micro-credentialing to support participation in emerging and growing sectors (cloud computing, database analytics, SPS, etc.) would assist colleges and their students in meaningfully participating in the innovation economy (and ecosystem) and equip graduates with the skills they need to compete in a rapidly changing labour market.



Recommendation:

13. That Alberta's CCCs work with provincial, federal and regional innovation entities (such as Alberta Innovates, the Alberta Machine Intelligence Institute, ACAMP and NanoCanada) to incorporate advanced technology and digital tools (i.e. artificial intelligence, cloud computing, big data analytics, and machine learning) into existing programming, while emphasizing work-integrated and experiential learning through industry partnership.

Act as an incubator and accelerator for commercialization of made-in-Alberta technology, products and solutions.

Any idea needs resources to be brought to life and to market. Most innovation resources are concentrated in Alberta's major urban centres, but innovative Albertan entrepreneurs exist across the province in communities large and small. As such, Alberta's colleges could offer an opportunity for commercialization closer to home and linkage to industry. Colleges can also offer innovators and entrepreneurs more intellectual property freedom.

Recommendation:

14. That Alberta's CCCs work with Alberta Innovates and other innovation entities (including universities) to create Commercialization Hubs in Alberta's colleges that will support incubation and acceleration of innovations from ideation to commercialization for Alberta-based start-ups, innovators and entrepreneurs. The Hubs will act as a creative collision space for faculty, innovators and industry, be linked into Alberta's innovation network and programming, and provide innovators royalty-free commercial rights – thereby enabling commercialization of the resultant products, processes and services. The colleges will retain rights for further education and research purposes.

Support technology adoption and innovation within Alberta's SMEs to enhance productivity and global competitiveness.

In this new age of accelerating automation and digitization, it is particularly important to promote technology adoption and innovation in our small and medium-sized businesses, which are responsible for most of the job growth in Alberta. Most SMEs do not have the resources to undertake such research on their own, which is why partnerships between Alberta's colleges and SMEs are integral to enhancing Alberta's productivity and future global competitiveness.

Recommendation:

15. That the Government of Alberta and Alberta's CCCs work with industry to determine a model for utilizing colleges as innovation labs for undertaking applied research projects that refine and adapt products, services, technologies and processes, and provide partners with the talent and state-of-the-art facilities needed to drive both economic and social gain.

