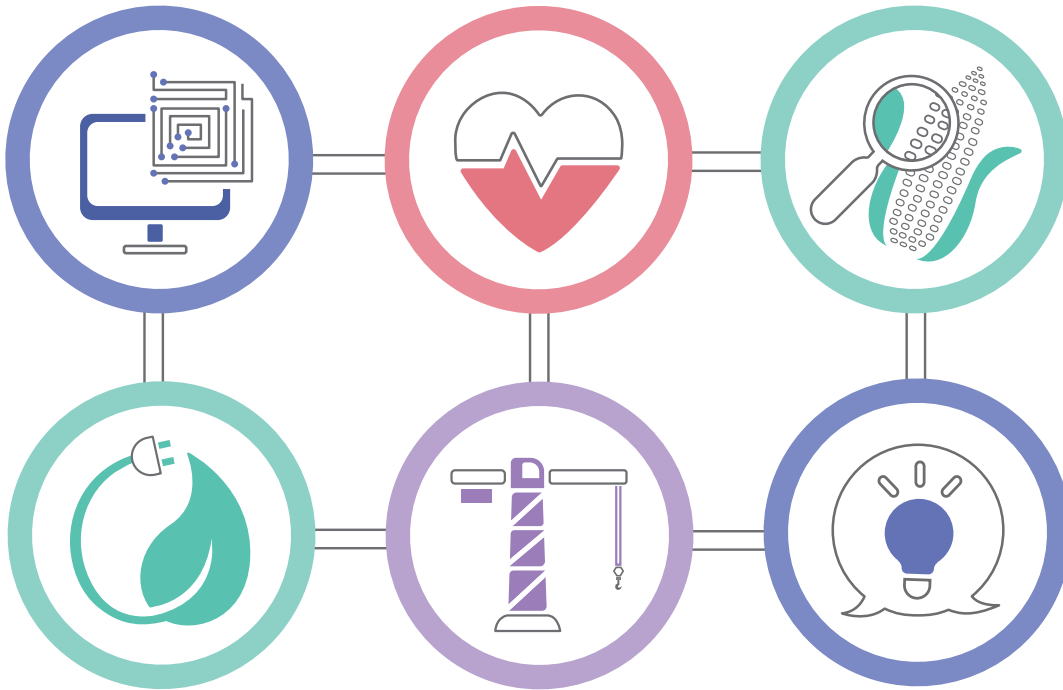




Colleges and Institutes Canada
Collèges et instituts Canada



Inclusive Innovation at Colleges and Institutes :
Highlights from the 2015-2016
CICan Applied Research Survey



Colleges and Institutes Canada
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Colleges and Institutes Canada is the national and international voice of Canada's publicly supported colleges, institutes and polytechnics. We work with industry and social sectors to train 1.5 million learners of all ages and backgrounds at campuses serving over 3,000 urban, rural and remote communities in Canada. The Association operates in 29 countries via 13 offices around the world.

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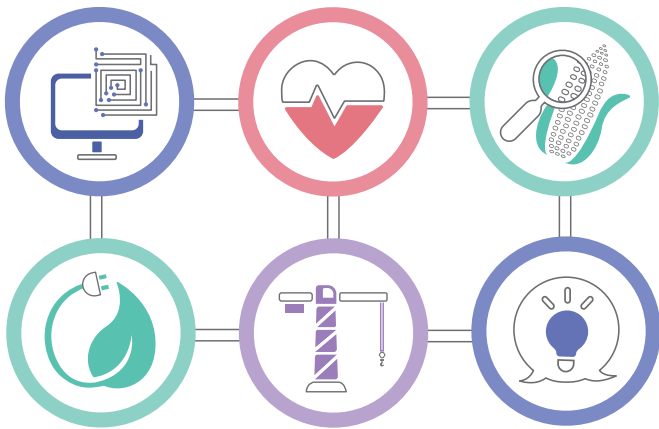
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Algonquin College, Ottawa
Co-op placement March - May 2017

We would like to thank Erin for the creative design of this report.

Introduction



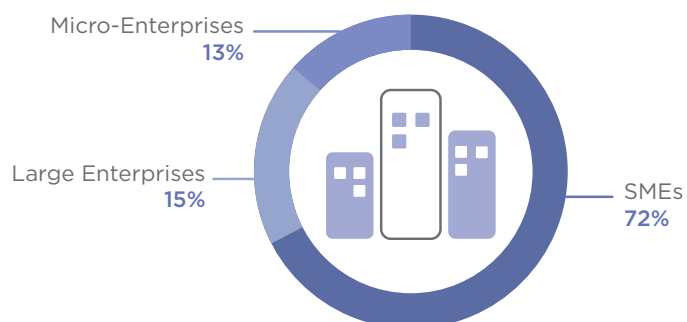
Canada's colleges and institutes, together with their public and private sector partners, foster innovation in all sectors of the economy: from building and construction technology to healthcare and agri-food. Over the past five years, they have significantly increased their institutional and human capacity and now offer environments in which entrepreneurial solutions to real-world problems are developed and implemented.

The following is a summary of the 2015-2016 Survey of Applied Research Activity based on 119 responses.

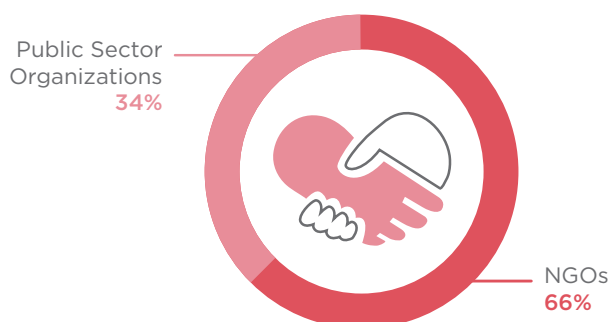
Partnerships

- Since 2010-2011 the number of partnerships with SMEs¹ has increased by **23%** and the number of partnerships with large enterprises² has increased by **51%**
- The largest growth since 2010-2011 has occurred in partnerships with micro-enterprises³ (increase of **560%**) and the non-profit sector (increase of **76%**)

Over 6,300 Private Sector Partnerships



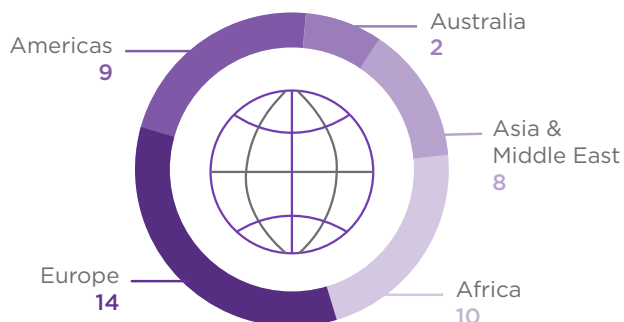
Over 500 Non-Profit Sector Partnerships



Over 125 PSE Sector Partnerships



Over 40 International Partnerships

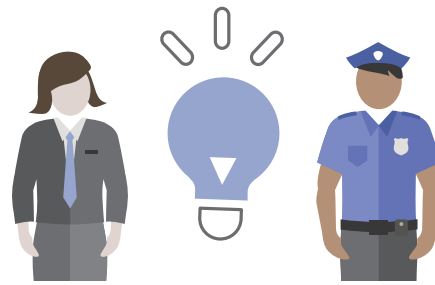


¹Defined as 5 to 500 employees
²Defined as over 500 employees
³Defined as 1 to 4 employees

Applied Research Capacity

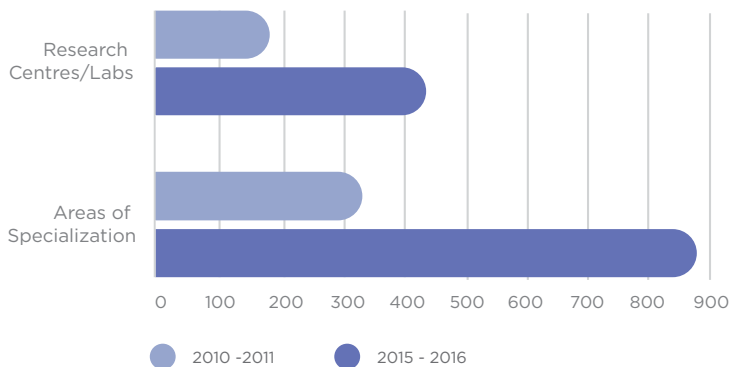
Examples of Areas of Research and Development in Social Innovation

- Communications and Media
- Design, Visual and Performing Arts
- Disadvantaged Populations (e.g. Indigenous peoples, immigrants, persons with disabilities)
- Education and Scholarship of Teaching and Learning
- Environmental Awareness and Planning
- Industrial Relations
- Justice
- Management, Business and Financial Services
- Public Safety
- Social Services



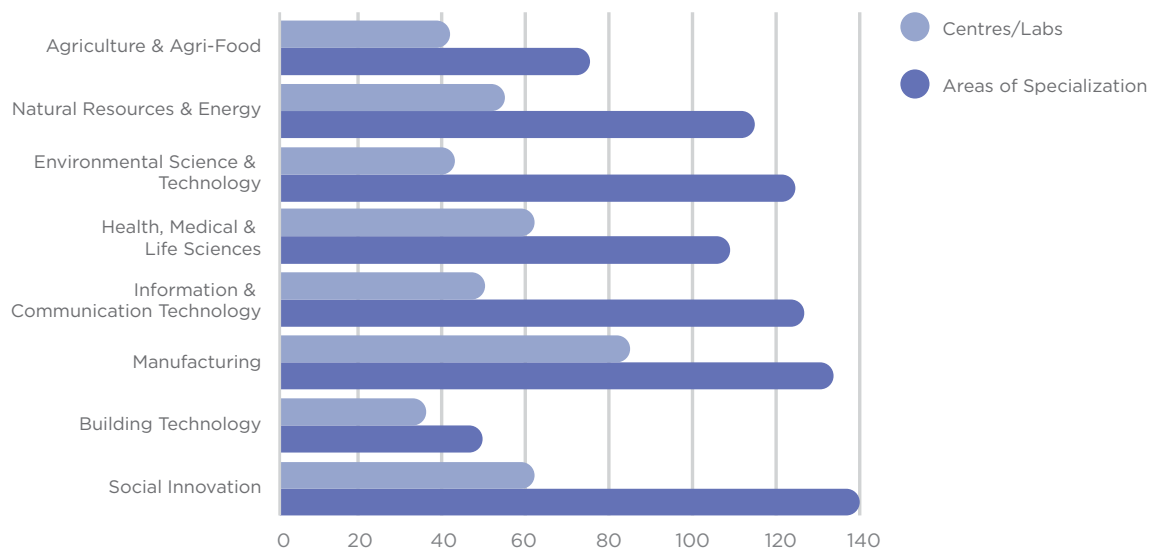
- Over **90%** of respondent institutions have a dedicated applied research office
- Over **400** specialized centres and labs
- Almost **900** projects or areas of specialization

Growth in Number of Research Centres/Labs and Areas of Specialization



The number of colleges and institutes eligible for funding from the federal granting agencies has increased since 2010-2011: from **84 to 107** for the Natural Sciences and Engineering Research Council of Canada (NSERC), from **38 to 93** for the Social Sciences and Humanities Research Council (SSHRC) and from **none to 4** for the Canadian Institutes of Health Research (CIHR).

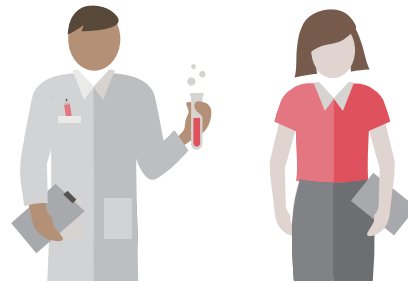
Applied Research Specializations



Professional and Student Capacity

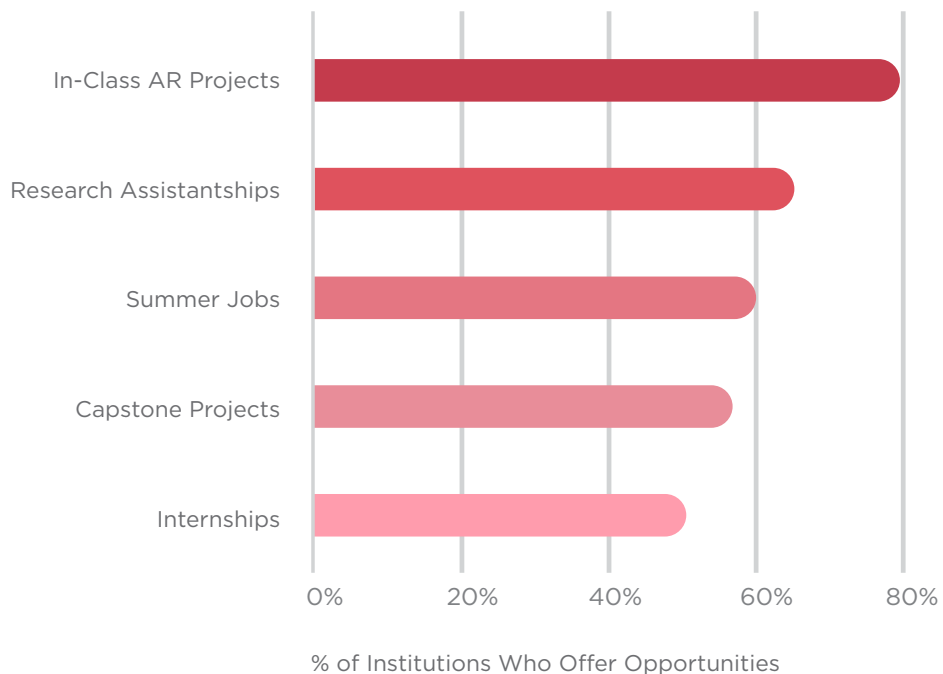
How do Colleges and Institutes Support Faculty in Applied Research?

- Assistance with proposal development and writing
- Point of contact for funders and partners
- Identification of potential partnerships
- Awareness building activities
- Networking and contact identification



- Almost **3,000** faculty and staff engaged in applied research (up from **1,600** in 2010-2011)
- Over **25,000** students engaged in applied research (an increase of more than **80%** since 2010-2011)

Student Participation in Applied Research (AR)

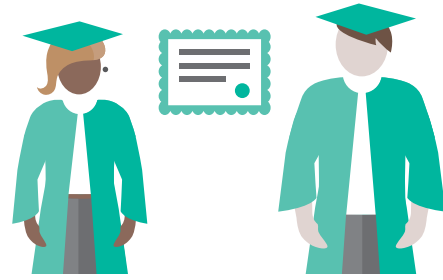


Entrepreneurial Capacity

Did you know?

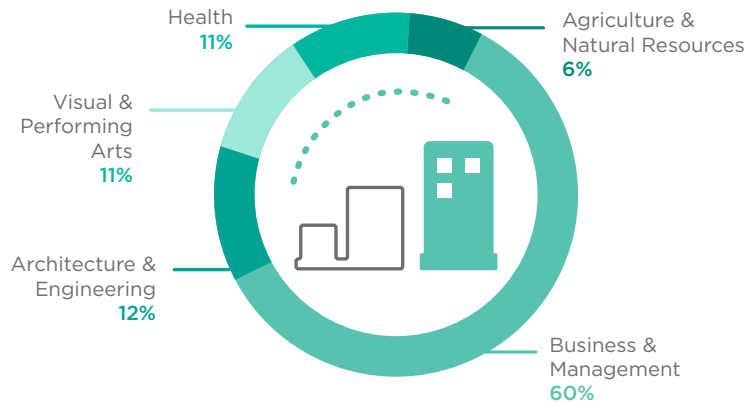
Colleges and Institutes have:

- Applied research chairs in new venture and entrepreneurship
- New venture support specialists
- Diploma programs in entrepreneurship
- Hackathons/idea jams

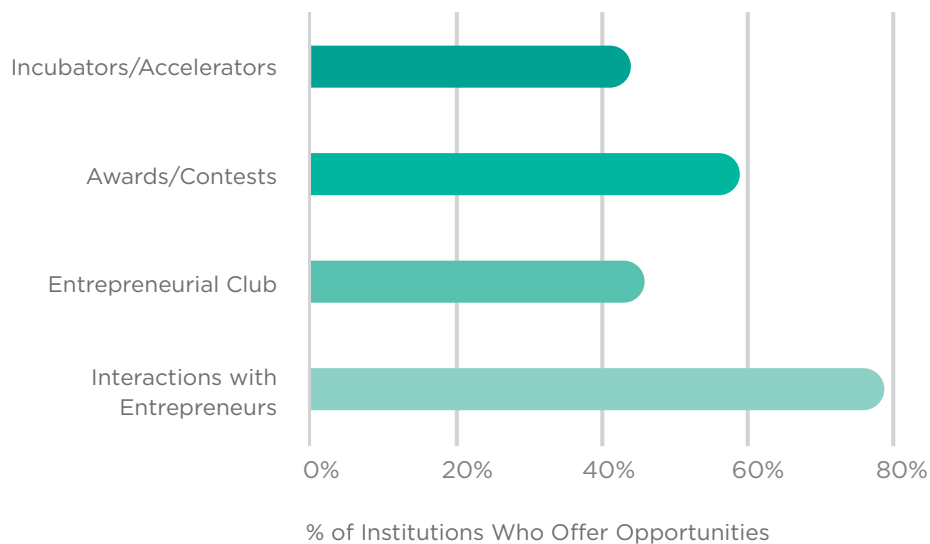


- **13,500** student entrepreneurs received support from their institutions

Programs that Integrate Entrepreneurship



Student Entrepreneurship Support



Research Results

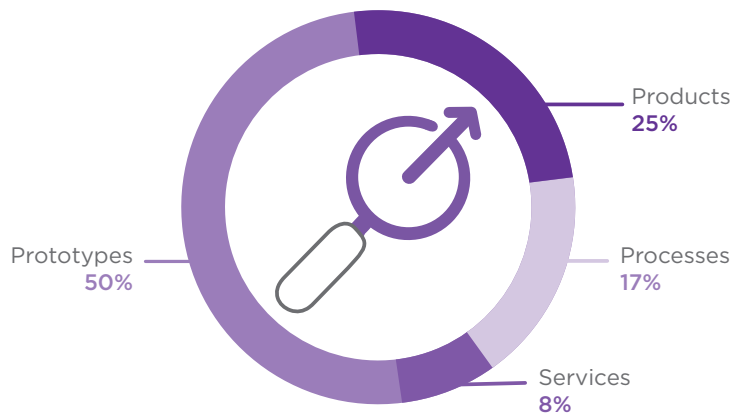
Examples of new technologies emerging from partnerships with industry:

- Hydroacoustics and their application to fisheries
- Aquaponics and precision agriculture
- Wearable, interactive, mobile technologies in the health sector
- Energy harvesting devices
- Gamification
- New technology for water quality monitoring
- E-learning innovations



- **900** new products, processes, services and prototypes developed
- In less than a year **65%** of products, **75%** of processes, **65%** of services and **75%** prototypes developed

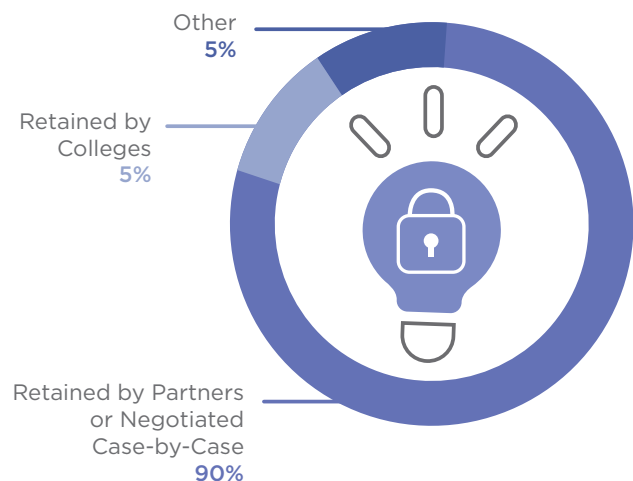
Distribution of Total



Intellectual Property

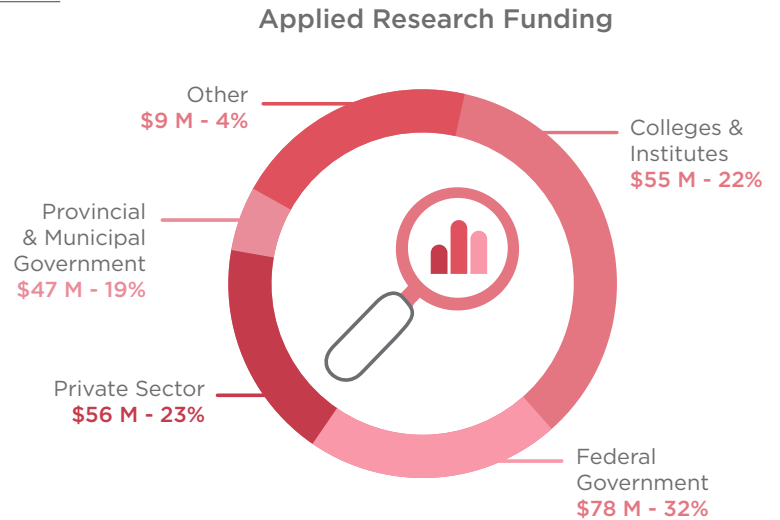
- Industry partners typically reserve **exclusive commercialization rights**, and in the case where the college retains IP, it is most often made available to the partners at no cost

Intellectual Property Rights

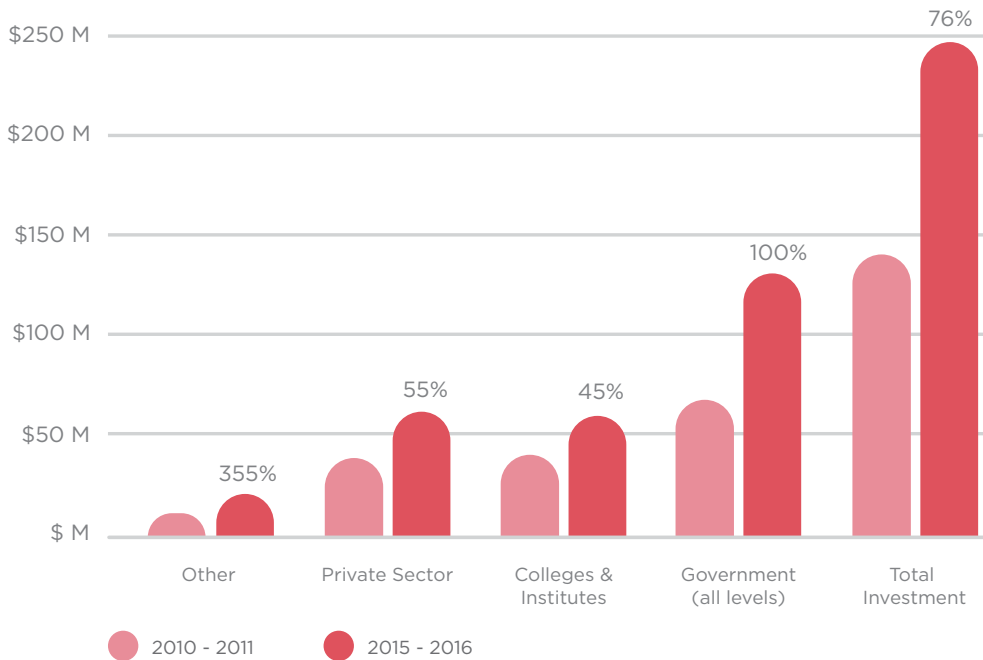


Applied Research Funding

- Colleges and institutes together with government⁴, the private sector and other sources⁵ invested a total of **\$246 million** in applied research⁶ in 2015-16, an increase of **76%** over 2010-11
- For every **\$1** of federal investment, an additional **\$0.87** is invested by private sector and not for profit



Applied Research Funding with % increase over 5 yrs



⁴ All three levels of government: federal, provincial, municipal

⁵ Includes: NGOs, community service organizations, foundations, international partnerships

⁶ Totals may not add up due to rounding

List of Participating Institutions

Northwest Territories

Aurora College

Nunavut

Nunavut Arctic College

Yukon

Yukon College

British Columbia

British Columbia Institute of Technology
Camosun College
Capilano University
College of New Caledonia
College of the Rockies
Douglas College
Justice Institute of British Columbia
Kwantlen Polytechnic University
Langara College
North Island College
Northwest Community College
Okanagan College
Selkirk College
University of the Fraser Valley

Alberta

Bow Valley College
Grande Prairie Regional College
Lakeland College
Lethbridge College
Medicine Hat College
NAIT
NorQuest College
Olds College
Portage College
Red Deer College
SAIT

Quebec

Cégep de Jonquière
Cégep de la Gaspésie et des Îles
Cégep de La Pocatière
Cégep de Sherbrooke
Cégep de Thetford
Cégep Garneau
Cégep régional de Lanaudière
Cégep Saint-Jean-sur-Richelieu
Collège Montmorency

Data Provided by Réseau Trans-tech for the 49 College Centres for the Transfer of Technology at the following cégeps:

Cégep de l'Abitibi-Témiscamingue
Cégep André-Laurendeau
Cégep de Baie-Comeau
Cégep Beauce-Appalaches
Cégep de Chicoutimi
Cégep de la Gaspésie et des Îles
Cégep John Abbott College
Cégep de Jonquière
Cégep de La Pocatière
Cégep de Lévis-Lauzon
Cégep Marie-Victorin
Cégep de Matane
Cégep régional de Lanaudière
Cégep de Rimouski
Cégep de Saint-Hyacinthe
Cégep de Saint-Jérôme
Cégep de Saint Laurent

Cégep de Sainte-Foy
Cégep de Sept-Îles
Cégep de Sherbrooke
Cégep de Sorel-Tracy
Cégep de Thetford
Cégep de Trois-Rivières
Cégep du Vieux Montréal
Cégep de Victoriaville
Collège Ahuntsic
Collège d'Alma
Cégep Édouard-Montpetit
Collège Lionel-Groulx
Collège de Maisonneuve
Collège Mérici
Collège de Rosemont
Collège Shawinigan
Dawson College

Saskatchewan

Parkland College
Saskatchewan Polytechnic

Manitoba

Assiniboine Community College
Red River College
University College of the North

Ontario

Algonquin College
Cambrian College
Canadore College
Centennial College
Collège Boréal
Conestoga College
Durham College
Fanshawe College
Fleming College
George Brown College
Georgian College
Humber College Institute of Technology and Advanced Learning
La Cité
Lambton College
Loyalist College
Mohawk College
Niagara College
Northern College
Sault College
Seneca College
Sheridan College Institute of Technology and Advanced Learning
St. Clair College
St. Lawrence College

New Brunswick

Collège communautaire du Nouveau-Brunswick
New Brunswick Community College

Nova Scotia

Nova Scotia Community College

Newfoundland and Labrador

College of the North Atlantic

Prince Edward Island

Holland College