

Greater Montréal: A Thriving Cybersecurity Hub



The world's best economic promotion agency at your service





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Top Reasons to Invest in Cybersecurity in Greater Montréal



Top reasons to invest in cybersecurity in Greater Montréal



Canada's university capital



World-class researchers in cybersecurity, including cyber resilience, cyber-physical systems, and privacy



A strong and collaborative ecosystem and a business environment offering **major opportunities in cybersecurity**



1st in Canada for university research funding with \$1.34+ billion yearly



21,000+ workers with skills in cybersecurity and **600+ researchers and doctoral students** in fields related to artificial intelligence



A trustworthy country and major government support through investments and a national strategy



1st in Canada for cybersecurity study programs, courses, research chairs and university labs



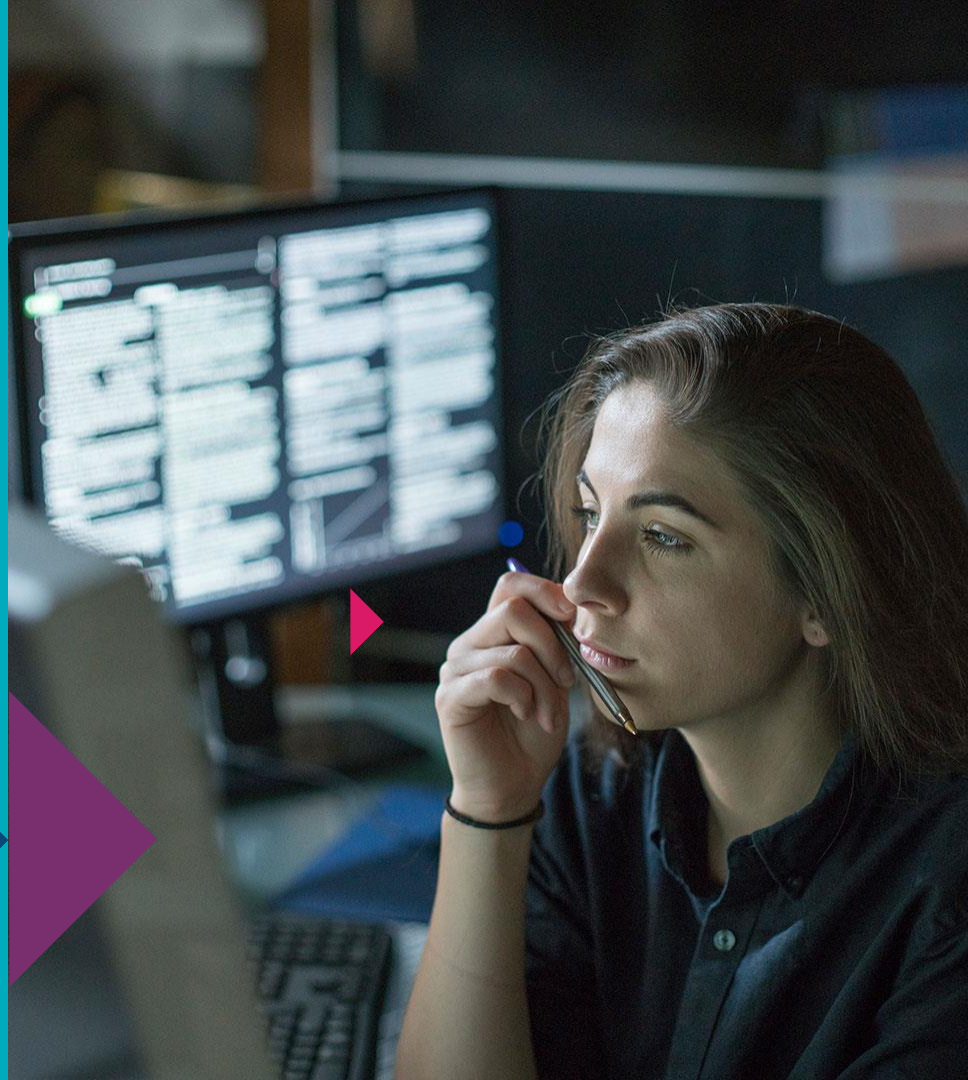
Nearly 18,000 university students enrolled in IT related programs as well as **1,800 students in criminology** and **4,000 in law**



34% cost advantage compared to the average of seven North American cybersecurity hubs

02

A Trustworthy Country and Major Government Support



Canada, a stable and thriving country

Canada has the soundest banking system among G7 countries and ranks 2nd in the world

World Economic Forum, 2019

Canada is the best country in the G20 for doing business over 2020-2024

Economist Intelligence Unit (EIU), 2019

Canada is the easiest place to start a business in the G20

World Bank, Doing Business, 2020

Most educated workforce in the OECD, with more than half of its population aged 25 to 64 having a tertiary level education

OECD, Education at a Glance, 2019

No.1 in the Americas to attract and retain highly educated workers

OECD, Indicators of Talent Attractiveness 2019

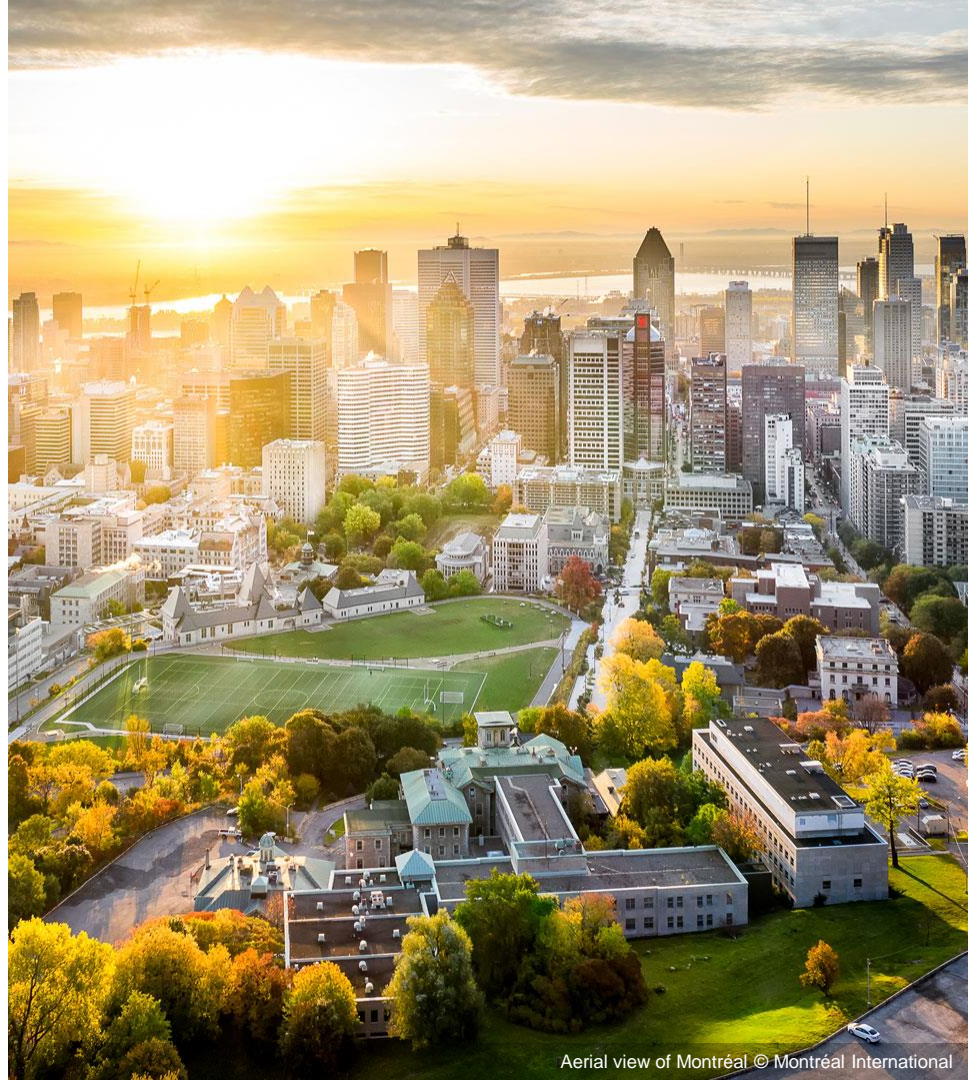
No.1 country in the world and No.1 in quality of life and social purpose

US News & World Report, Best Countries Rankings 2021

One of the leading countries in cybersecurity

- **4th destination worldwide for foreign investment** projects in cybersecurity between 2015 and 2019
- **6th in the world for cybersecurity venture capitals deals** in 2019
- **Among the top 10** most committed countries in cybersecurity (*2018 Global Cybersecurity Index*)
- **A signatory of the Paris Call for Trust and Security in Cyberspace**, pledging to do more to fight criminal activity on the internet, including interference in elections and hate speech*
- **National Cybersecurity Strategy:**
 - Secure and resilient Canadian systems
 - Innovative and adaptive cyber ecosystem
 - Effective leadership, governance and collaboration

*On November 12, 2018 at the UNESCO Internet Governance Forum (IGF)
Source: PWC, MoneyTree Canada Report, 2020 ; Invest in Canada, Technology, 2021; 2018 Global Cybersecurity Index; 2018 Federal Budget.





Aerial view of Montréal © Montréal International

Major public investments in cybersecurity

\$500M

Over the next five years to fight cybercrime and create the **Canadian Centre for Cybersecurity**, followed by \$110M annually (2018)

\$145M

Over the next five years to strengthen cybersecurity in **Canada's critical infrastructure** (2019)

\$80M

Over four years to support **Canadian cybersecurity networks** (2019)

\$50M

To the City of Montréal, winner of the **Smart Cities Challenge 2019**, for its proposal to improve mobility

\$17M

Over the next three years to support **innovation in cybersecurity** (2019)

03

A World-Class Cybersecurity Hub and a Highly Qualified Talent Pool



World-class researchers who make Montréal shine



Mourad Debbabi

Full Professor at the **Concordia Institute for Information Systems Engineering**. He holds the NSERC/Hydro-Québec Thales Senior Industrial Research Chair in Smart Grid Security and the Concordia Research Chair Tier I in Information Systems Security



José Fernandez

Full Professor in the **Department of Computer Engineering and Software Engineering** at École Polytechnique de Montréal. He is a member of IVADO & GRIM



Nora Boulahia Cuppens

Full Professor in the **Department of Computer Engineering and Software Engineering** at École Polytechnique de Montréal



Benoît Dupont

Full Professor of Criminology at the **Université de Montréal** and the Scientific Director of the Smart Cybersecurity Network (SERENE-RISC). He holds the Canada Research Chair in Cybersecurity and the Research Chair for the Prevention of Cybercrime



Gabriela Nicolescu

Full Professor in the Department of Computer Engineering and Software Engineering at École Polytechnique de Montréal. She is also the head of the Heterogeneous Embedded Systems Lab



Frédéric Cuppens

Full Professor in the **Department of Computer Engineering and Software Engineering** at École Polytechnique de Montréal



10+ research chairs & university labs in cybersecurity

1st
in Canada



- Canada Research Chair in Cybersecurity
- Canada Research Chair in Quantum Information Processing
- Canada Research Chair in Number Theory
- Research Chair in Cybercrime Prevention



- Canada Research Chair in Data Mining for Cybersecurity



- Gina Cody Research Chair in Cybersecurity and Internet of Things
- NSERC / Hydro-Québec-Thales Senior Industrial Research Chair on Smart Grid Security and Cyberphysic Attacks and Chairholder
- Concordia University Research Chair Tier I in Information Systems Security
- Madiba Security Research Group



- Mobile Computing and Networking Research Laboratory (LARIM)
- Mobile robotics and autonomous systems laboratory
- Heterogenous Embedded Systems Lab
- Design and Realization of Complex Applications Laboratory (CRAC)



- Canada Research Chair in Privacy-Preserving and Ethical Analysis of Big Data



- ETS Research Chair on Physical Layer Security in Wireless Networks
- Computer System Architecture Research Laboratory (LASI)

A unique centre of excellence: IVADO (Institute for Data Valorisation)



More than **1,400** scientists
(professors, professionals and
students) with complementary areas of
expertise

Close to **150**
members and partners

Over **270**
collaborative
research projects

Research centres



Mila



DATA SCIENCE
FOR REAL-TIME
DECISION-MAKING



techlab



CIRRELT



GERAD



CENTRE
DE RECHERCHES
MATHÉMATIQUES



Network partners



Academic partners



International partners



40+

research chairs
& labs

1st in Canada for the number of undergraduate and graduate programs in cybersecurity

Undergraduate



Department of Computer and Software Engineering

- Bachelor's degree in cybersecurity: 3 certificates and 3 microprograms in cyber investigation, online fraud and IT network computer security



Information Technologies

- Certificate in Information and Systems Security Analysis

Graduate



School of Engineering & Computer Science

- Information Systems Security (MASc)
- Master of Engineering (MEng)
- Information & Systems Engineering (PhD)



Management School

- 1 microprogram, 1 superior study diploma, 1 master in governance, audit and security of IT

IT Training Centre

- 2 microprograms in information security (prevention & reaction)

A new generation ready to take over

University programs related to IT	Students enrolled 2019-2020	University graduates 2019
Computer Sciences	10,181	2,061
Electric and Electronic Engineering	3,613	842
Computer Engineering and Computer Science	2,328	464
Mathematics	1,416	313
Probabilities and Statistics	203	51
Applied Mathematics	168	33
TOTAL	17,909	3,763
University programs related to criminology and law	Students enrolled 2019-2020	University graduates 2019
Criminology	1,829	889
Law	4,282	1,403
TOTAL	6,111	2,292

In Greater Montréal, nearly **18,000 students** were enrolled in a university program related to IT in 2019-2020, as well as 1,800 students in criminology and 4,000 in law

The universities located in Greater Montréal:



1st in Canada for the number of college and continuing education programs in cybersecurity

14 colleges and continuing education programs in Greater Montréal, such as:



LaSalle College
Montréal



COLLÈGE
ROSEMONT



CollègeAhuntsic

COLLÈGE
LIONEL
GRULX



There are 21,000+ workers with cybersecurity skills in Montréal

Some of the 58 key skills taken into account to define cybersecurity talents*

+3,000 cybersecurity experts in Greater Montréal hold a security certification



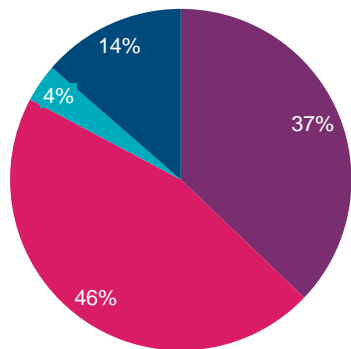
Most popular security certifications:



Number of Montréal LinkedIn profiles** that list the skills above: **21,439**

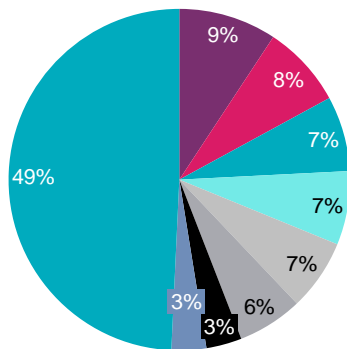
86% of workers in cybersecurity have a university degree, and 50% hold a Master's degree or PhD

Highest level of education among Montréal's cybersecurity workers (100% = 21,439)



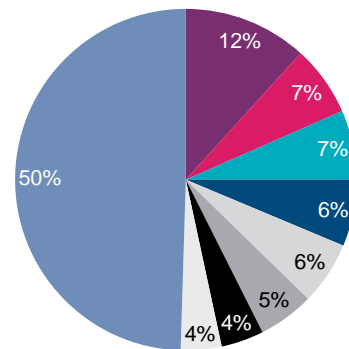
- Bachelor's degree
- Master's degree
- PhD
- Other

Main fields of study of Montréal's cybersecurity workers



- Computer and Information Sciences and Support Services
- Computer Science
- Computer Systems Networking and Telecommunications
- Information Technology
- Business Administration and Management, General
- Computational Science
- Electrical and Electronics Engineering
- Information Science/Studies
- Other

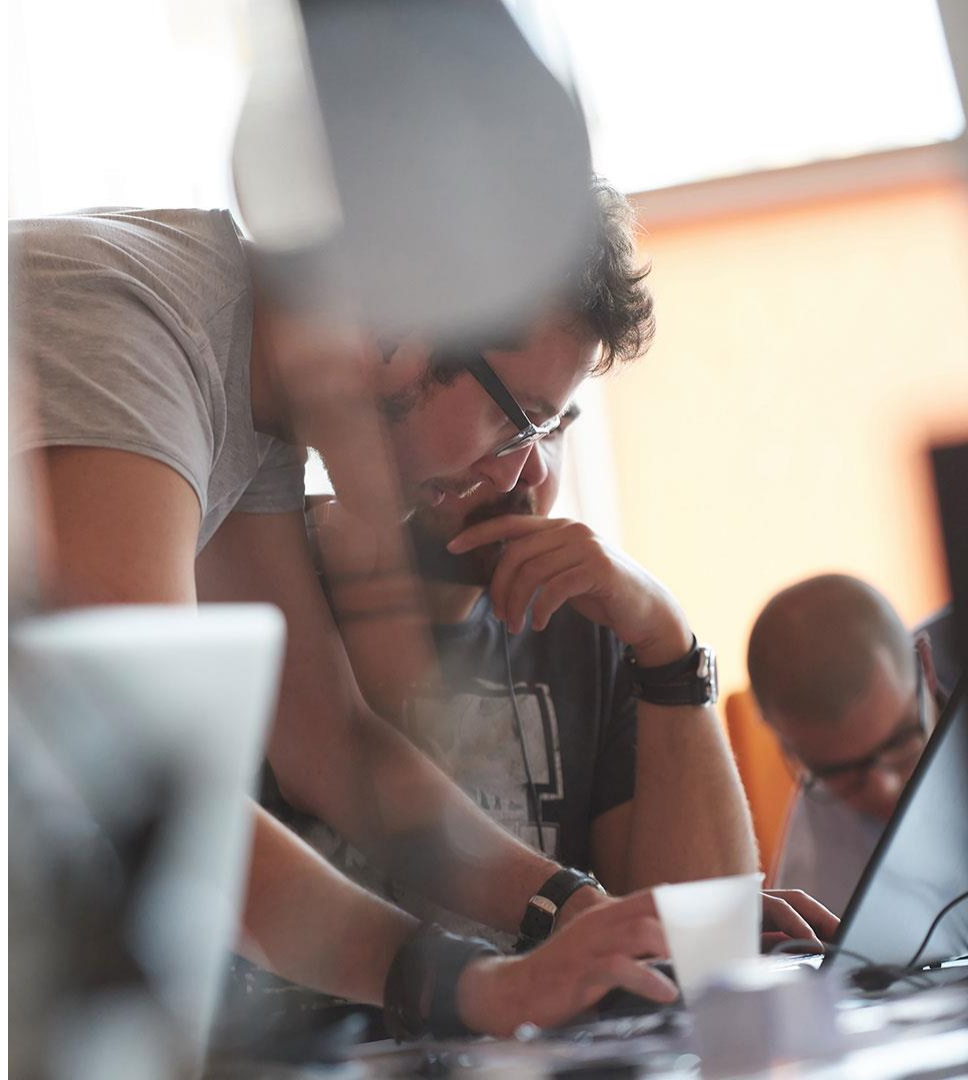
Main universities where Montréal's cybersecurity workers earned their degrees



- Concordia University
- McGill University
- Université du Québec à Montréal
- Université de Montréal
- Polytechnique Montréal
- HEC Montréal
- Université de Sherbrooke
- École de technologie supérieure
- Other

A highly qualified workforce in complimentary sectors

Professions related to cybersecurity in Greater Montréal	Number of experts
0213 - Computer and Information Systems Managers	8,000
2133 - Electrical and Electronics Engineers	3,800
2171 - Information Systems Analysts and Consultants	46,500
2172 - Database Analysts and Data Administrators	9,900
2173 - Software Engineers and Designers	4,400
2147 - Computer Engineers (except Software Engineers and Designers)	6,500
2281 - Computer Network Technicians	9,800
4112 - Lawyers	18,300
Total	107,200



04

A Critical Mass of Cybersecurity Players



Sample of leading companies active in cybersecurity in Montréal

Sample of Montréal-based companies developing internal expertise in cybersecurity

	 VIDÉOTRON	 TELUS the future is friendly™	 ROGERS™	 SNC • LAVALIN	
		 AIR CANADA			
	 BANQUE NATIONALE	 SOCIÉTÉ GÉNÉRALE	 BNP PARIBAS	Morgan Stanley	
	 UBISOFT	 pwc		 CDPQ	 shopify
	THALES	 ERICSSON		 Manuvie	

Cybersecurity, built on a strong IT industry

- **160,000+ IT workers** and **7,000+ companies** in Greater Montréal
- **Lowest operating costs in North America** for software development, ahead of Toronto, Boston, New York and San Francisco
- **Broadly diversified industry:**



Top 5

video game development hubs in the world



1st

city in Canada and a world leader in digital creativity



Top 5

highest tech jobs concentrations among the largest metropolitan areas in Canada & the U.S.

Sample of major tech companies located in Greater Montréal



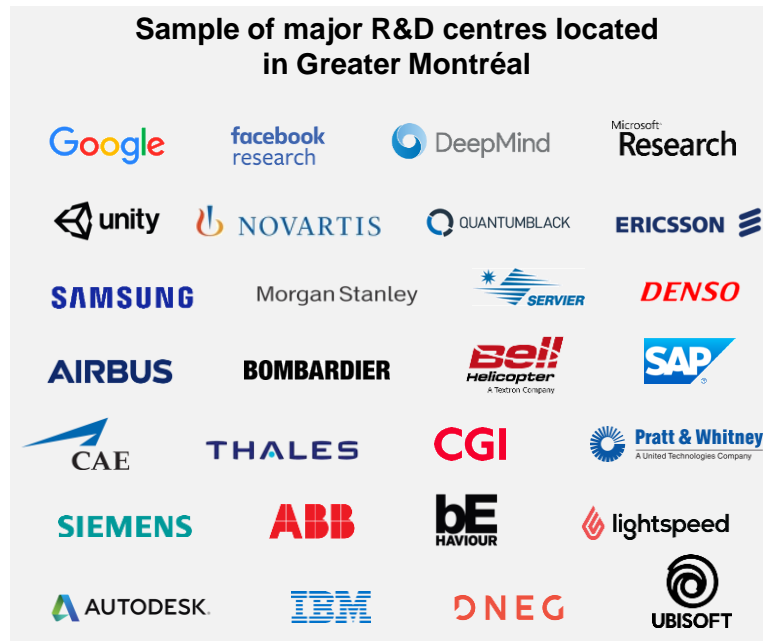
Montréal is a global R&D hub

- **R&D is the leading inward FDI business activity** in the region between 2015 and 2020* (30%+ of total FDI)
- Numerous **R&D centres and innovation labs** of major companies are active in cybersecurity, AI, software development, aerospace, life sciences, video games, etc.
- Québec is also **1st in Canada for R&D investments in % of GDP**: \$9.7B in R&D spending**
- Tailor-made R&D tax credits, among the most generous in Canada and the U.S.

Note: * From May 2015 to April 2020.

** including \$5.7B spent by companies and \$3.6B by universities.

Source: Tier 2 Cities of the Future 2020/21 Winners, based on Fdi Markets, 2021; InfoSource , 2019; Statistics Canada, Table 27 10 0359 01, 2016, and Table 27 10 0273 01, 2017.



Synergies between cybersecurity and AI

Montréal is a hub for AI-powered cybersecurity tools and for cybersecurity to secure AI

- **\$3+ billion in AI investments** announced in Greater Montréal since 2016
- The Canadian government chose Montréal as the headquarters for **SCALE AI**, Canada's AI supply chain supercluster
- Home to major AI players and a thriving community:



"With its high concentration of companies and researchers in AI, Montreal is the place to set up a world-class center that combines cybersecurity and artificial intelligence, thanks to the presence of several universities, start-ups and a skilled workforce."

- CyberEco



A playground of critical infrastructures

Government

Canada 

Québec 

Montréal 



Financial Services



Health

Centre intégré
de santé
et de services sociaux
Québec 



Centre hospitalier
de l'Université de Montréal

Centre universitaire
de santé McGill  McGill University
Health Centre

Urgences-santé
Québec 

Transport



Public Safety



Energy



Telecom





A booming startup ecosystem

- Canada is the most attractive country in the world for entrepreneurs according to the OECD
- **More than US\$2.7 B in VC** in Montréal between 2018 and 2020
- **Six of Canada's ten most active VCs** in 2020 are based in Greater Montréal
- **30+ incubators/accelerators**
- **45+ coworking spaces**



Source: OECD Indicators of Talent Attractiveness, 2019; "Global Ecosystem Report" 2018; Credo, "Montréal Startup Ecosystem Report", 2016; "Midterm Report" – Smart City, February 2017; Canadian Venture Capital & Private Equity Association, 2018, 2019 and Q3, 2020.

A collaborative ecosystem, with cluster organizations and research centers



A global hub of cybersecurity research and expertise. Created by Desjardins, National Bank, Deloitte and RHEA Group, CyberEco works across sectors to educate about cyber threats and advance cybersecurity solutions.



Canada's authority on cybersecurity and the single unified source of expert advice, guidance, services and support on cybersecurity for government, critical infrastructure owners and operations, the private sector and the Canadian public.



An integrated cybersecurity network that supports collaboration between universities, industry, government and non-profit organizations to link research, policy and practice.



An applied research and expertise centre in IT, dedicated to making organizations more effective and competitive through innovation and the transfer of leading-edge knowledge, while contributing to scientific advancement.



A national cybersecurity cluster and non-profit, In-Sec-M aims to increase the cohesion and competitiveness of the Canadian cybersecurity industry.



Affiliated with Concordia University, Galilei is the first venture studio of its kind in Canada, co-creating breakthrough ventures with forward-thinking corporations, academic talent and entrepreneurs.



Prompt stimulates university-industry R&D partnerships that increase the competitiveness of the ICT industry.



An information security association for Greater Montréal, with the mandate to raise awareness of information security in the public and private sectors.

Home to innovative industry gatherings

Networking events and major cybersecurity shows:



GOSEC
Cybersecurity
conference



NorthSec
Applied Security Event 2019



Coopérathon
The largest open
innovation challenge
in the world!



Hackatons
Upcoming community events
in cybersecurity in Montréal



Cyber Security
Training in Montréal
By Mangates



RSI Colloque
Annual gathering of IT experts
on cybersecurity

"We chose Montréal as the global headquarters for our cybersecurity R&D and operations centers because it offers us a unique opportunity to easily recruit and attract the best minds in the field, from anywhere in the world. In addition to its steady stream of new cybersecurity specialists, its vibrant local cybersecurity ecosystem, and AI talent pool, Montréal's unmatched diversity allows us to develop solutions that address the global cybersecurity challenges of today and tomorrow."

– Fadi Albatal, Chief Strategy Officer, Hitachi Systems Security

HITACHI
Inspire the Next

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"Montréal possesses all of the elements necessary for the success of a cybersecurity organization. The presence of six universities contributes to a strong spirit of innovation within the city and guarantees a steady stream of talented graduates from a multitude of cybersecurity-related programs.

Moreover, in Montréal, we find an active cybersecurity ecosystem, supported by both a talented pool of students and by a variety of organizations—startups and established companies—all working together to organize and support a wide range of activities, from monthly technical workshops to major international conferences."

– Alexis Dorais-Joncas, Director, ESET Montréal



"Québec's technology ecosystem and its members are ahead of the curve, particularly in regard to AI and data applications. This is a real opportunity to find the highly qualified resources we need to meet our goals and a chance to shine with our local, national, and international projects."

– Yoann Rouleau, Executive International Director, Klanik

"In our view, Montréal is the central development hub for our Canadian and North American expansion. We are already working with clients south of the border, and our employees based in Canada will be supporting projects in Asia and Europe."

– Mathias Blanc, Head of Canadian Business Development, Klanik



"Greater Montréal's reputation, in terms of creativity and innovation, is well-established on the global scene. These unique qualities, in addition to the high concentration of renowned post-secondary institutions, make Montréal the ideal destination for the development of cutting-edge solutions in the field of cybersecurity."

– Béatrice Couture et Sébastien Demers, Presidents, CyberEco



05

Attractive Operating Costs and Incentives



Advantageous salaries for employers

Median annual salaries* (US\$) for eight typical professions in cybersecurity

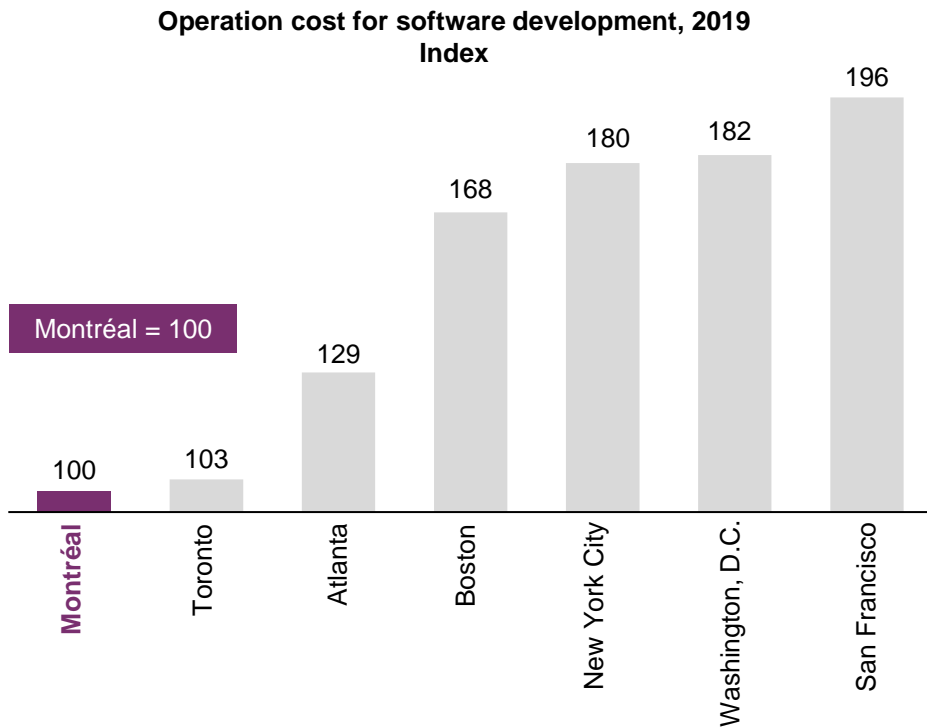
	Montréal	Toronto	Atlanta	Chicago	Dallas	Boston	Washington, DC	New York	San Francisco
Information Security Manager	\$95,807	\$101,816	\$130,170	\$133,643	\$136,454	\$145,210	\$147,169	\$162,493	\$159,112
Cyber Security Engineer	\$86,188	\$90,936	\$114,017	\$118,156	\$117,883	\$125,618	\$127,494	\$132,707	\$140,859
Architect IT Solutions	\$83,753	\$88,435	\$107,985	\$112,272	\$111,653	\$119,388	\$121,021	\$125,619	\$133,734
Cyber Security Specialist	\$77,298	\$81,810	\$99,088	\$103,556	\$102,438	\$110,149	\$111,409	\$115,150	\$123,163
JavaScript Developer	\$73,126	\$77,524	\$93,957	\$98,497	\$97,098	\$104,794	\$105,842	\$109,109	\$117,036
Network Engineer	\$70,684	\$75,012	\$92,034	\$96,594	\$95,091	\$102,783	\$103,755	\$106,848	\$114,737
Information Systems Auditor	\$64,114	\$68,234	\$80,447	\$85,016	\$82,905	\$90,619	\$91,183	\$93,254	\$100,848
Criminalist	\$53,933	\$58,186	\$63,682	\$67,976	\$63,317	\$71,561	\$75,287	\$72,976	\$78,410

Note: Base salaries, 5 years of experience (NAICS 519190).

Currency exchange based on the monthly average of May 2021: US\$1.00 = CA\$1.2126.

Source: Economic Research Institute Inc., June 2021.

Most competitive operating costs



- **Greater Montréal** has the **most competitive operating costs** for the software development sector, compared to seven North American cybersecurity hubs
- **34% cost advantage** compared to the study average
- When factoring in the **E-Business and Scientific Research and Experimental Development tax credits**, that cost advantage is even greater

Tailor-made incentives

TAX CREDITS

Tax Credit for E-Business Development

Refundable tax credit equal to 30% (24% refundable and 6% non-refundable) of eligible salaries, **up to \$25,000 per employee, per year**

Québec's tax credit for Scientific Research and Experimental Development (SR&ED)

14% tax credit on salaries and subcontractor fees paid in Québec. It is fully refundable, whether or not the business makes a profit

Canada's Scientific Research and Experimental Development (SR&ED) tax incentive

15% federal tax credit on eligible activities and expenditures

MAJOR AND INNOVATIVE PROJECTS

ESSOR Program

Support to major projects with refundable (interest-free & low interest loans) and non-refundable contributions. Investment projects with eligible expenditures of **\$250,000** or more to start a new business or expand (including modernizing) an existing business

Canada Economic Program (CED)

Refundable and non-refundable contributions of **up to 50%** of direct project costs up to \$2M

Tailor-made incentives

SECTOR-SPECIFIC PROGRAMS

Québec Cybersecurity Innovation Program (Prompt)

Up to 25% of the budget of the innovation projects may be funded through this program

Scale ai Funding Program

Funding offered to support strategic projects related to AI-powered supply chains. Financing of **up to 50%** of the project's expenditures

MITACS

Grant to mobilize the pairing of researchers and corporations. The grant provides **up to \$7,500** per project for a period of four to six months

NSERC

Alliance grants are designed to give innovative companies access to the knowledge available at Canadian universities. The grant provides **\$20,000 up to \$1M** for one to five years

TALENT DEVELOPMENT AND ATTRACTION

Financial Assistance for Job Creation and Training

25% of eligible costs for the implementation of a training program and **50% of costs** incurred for the creation of a human resources department with the creation of 50 jobs or more over two years

Tax Holiday for Foreign Researchers and Experts

Five-year Québec income tax exemption at the personal level:

100% of salary for the 1st and 2nd year; **75%** for the 3rd year; **50%** for the 4th year; **25%** for the 5th year

E-Business tax credit could cover up to 30% of eligible salaries

SCENARIO

Québec refundable tax credit for the development of E-Business:

- Covers up to **30%** of employee salaries, including **24% refundable**, up to **\$25,000** per employee, per year

ASSUMPTIONS¹

- Foreign-controlled company
- 20 employees eligible @ \$80,000/year
- 100% of their work is related to eligible activities under the E-Business



Note:

1. All values are in \$CA.

2. The unused portion of the non-refundable tax credit can be carried back three years or forward 20 years.

Source: Ministry of Finance of Québec, 2021; Montréal International's analysis, 2021.

Combination of E-Business and SR&ED tax credits

Refundable tax credits for Scientific Research and Experimental Development (SR&ED) and E-Business¹:

- E-Business covers up to **30%**, including **24% refundable**, of employee salaries up to **\$25,000** per job per year
- SR&ED covers **15%** from the Government of Canada, and **14%, refundable**, from the Government of Québec

SCENARIO

Combination of the Québec refundable tax credit for the development of E-Business and the Canada Scientific Research and Experimental Development (SR&ED)

ASSUMPTIONS

- Foreign-controlled company
- 20 eligible employees @ \$80,000/year
- 100% of their work is related to eligible activities

	SR&ED	E-Business
	CANADA	QUÉBEC
Qualifying salaries and wages	\$1,600,000 (A)	\$1,600,000 (C)
Other eligible expenses @ 55% of A ²	\$880,000 (B)	-
Total qualifying expenditures	\$2,480,000 (A)+(B)	\$1,600,000 (C)
Federal credit @ 15% of total qualifying expenditures	\$372,000	-
Québec credit @ 30%³ of total qualifying expenditures	-	\$480,000
Total credit	\$852,000	

Other scenarios are possible to maximize the total credit amount depending on the R&D intensity

Note:

1. Company has to choose between the R-D or the E-Business tax credit for the Québec credits. Only the SR&ED applies in combination with the E-Business.

2. Up to 55% of qualifying salaries and wages, federal only: expenditures should be related to R&D activities.

3. If the company has no taxes to be paid, the Québec credit will be 24%.

Source: Ministry of Finance of Québec, 2021 - Compilation: Montréal International, 2021.

06

An Exceptional Quality of Life

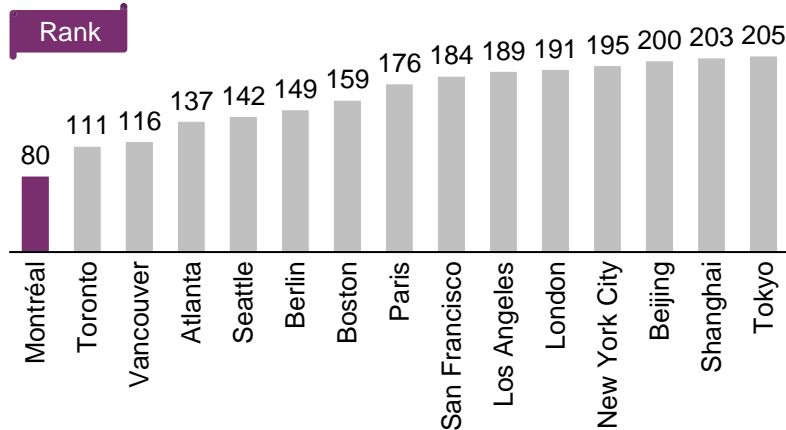




A low cost of living

Greater Montréal is **cheaper than almost all other large cities** in North America, Western Europe, China and Japan:

Mercer Cost of Living Index
World rank from least to most expensive*, 209 cities



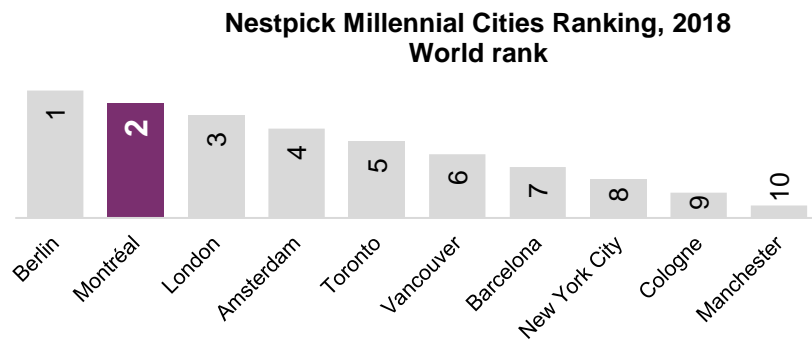
Greater Montréal offers a higher purchasing power thanks to:

- **Cheap housing**
- **Low medical insurance costs**
- **Generous family allowances**
- **Affordable child care**

* Montréal International's analysis.
Source: Mercer, "Cost of Living Survey," 2021.

An exceptional quality of life

- Montréal is the **2nd best city in the world** for millennials:



- Lowest homicide rate** among the 20 largest metropolitan areas in Canada and the U.S.
- Health care universals**
- Lowest education tuition fees** in North America
- Vibrant cultural metropolis** with 100+ festivals and 70 museums





Montréal's Olympic Stadium © Parc olympique

Globally recognized

Most reputable city in the Americas

Reputation Institute, 2018

Best city in Canada and 6th in the world

Time Out, 2019

Best student city in the Americas tied with Boston

QS Best Student Cities Rankings, 2022

Best city in the Americas for its quality of life

Knight Frank, City Wellbeing Index, 2020

Most affordable major city in Canada and the U.S.

UBS Prices and Earnings, 2018

Best Cycling City in North America

Coya, Global Bicycle Cities Index, 2019

Second most walkable city in Canada

Walk Score, 2020

UNESCO City of Design since 2006

Top host city in North America for international association events

Union of International Associations (UIA), 2020

07

Montréal International's Personalized, Free and Confidential Services



Montréal International, a single contact point for a series of personalized, free and confidential services



**Long-term
strategic support**



**Economic data
and communications
services**



**Government
relations facilitation**



**Incentive programs
assistance**



**Foreign workers
immigration
assistance**



**International
recruiting solutions**



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