

Why Artificial Intelligence Giants are Heading North to Montréal







Content



01

Top Reasons to Invest in AI in Greater Montréal

05

An Exceptional Quality of Life

02

A World-Class Artificial Intelligence Hub

06

Montréal International's Personalized, Free and Confidential Services)3

A Deep and Growing Pool of Highly Qualified Talent

)4

Attractive Operating Costs and Incentives

O1
Top Reasons to Invest in Al in Greater Montréal





Top reasons to invest in AI in Greater Montréal



Top 3 best places to invest in Al in North America



Canada's University
Capital and \$1+ billion
funding dedicated to
university research yearly



More than \$3 billion in Al investments announced in Greater Montréal since 2016



World leaders, including Google, Microsoft and Facebook, opened AI research labs in Montréal in the last few years



600+ researchers MSc, PhD, post-doc and applied AI students at Mila, the world's largest academic research lab in deep learning and reinforcement learning



Home of **Scale AI**, Canada's AI supply chain supercluster and the International Centre of Expertise for the Advancement of Artificial Intelligence (**ICEMAI**)



Cutting-edge expertise developed by world-renowned researchers such as Yoshua Bengio, Joëlle Pineau, Doina Precup, Hugo Larochelle and Irina Rish



More than **13,000 university students** enrolled in artificial intelligence and data-related programs



Numerous possibilities for collaboration between researchers and the industry with **Prompt, Scale AI, Mitacs**

02 A World-Class Artificial Intelligence Hub





Mila, a thriving AI hub in the Mile-Ex neighborhood

- With 600+ researchers, Mila is the world's largest academic research lab specialized in deep learning and reinforcement learning
- A collaborative ecosystem of AI researchers, startups and major companies
- Examples of strategic global partners within Mila:





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



More than 1,300 scientists (professors, professionals and students) with complementary areas of expertise

for publications

worldwide

Over **200** collaborative research projects

Research centres

















University departments









Academic partners













International partners











Montréal's leading Al researchers

- Winner of the Turing Award 2018: "Nobel Prize of computing"
- Winner of the Killam Prize in Natural Sciences in 2019
- Fellow of the Royal Society
- The most cited computer scientist per day (Sept. 2018)
- Full Professor, Department of Computer Science and Operations Research, Université de Montréal
- Founder and Scientific Director of Mila
- Scientific Director of IVADO
- CIFAR Fellow and Program Director, Learning in Machines and Brains
- Worked at the CIFAR research institute alongside Yann LeCun (now at Facebook) and Geoffrey Hinton (now at Google)







World-renowned researchers who make Montréal shine



Joëlle Pineau

Associate Professor with the School of Computer Science at McGill University and CIFAR Senior Fellow, Program in Learning in Machines and Brains. She is also the Head of the Facebook Al Research lab. as well as a member of Mila





Aaron Courville

Associate Professor in the **Department of Computer Science and Operations Research** (DIRO) at the University de Montréal, and CIFAR Fellow, Program in Learning in Machines and Brains. He is also a member of Mila





Doina Precup

Associate Professor with the School of Computer Science at McGill University and CIFAR Senior Fellow, Program in Learning in Machines and Brains. She is also the Head of the DeepMind Lab in Montréal, as well as a member of Mila W McGill



Simon Lacoste Julien

Associate Professor in the **Department of Computer Science and Operations Research** (DIRO) at the University de Montréal and CIFAR Fellow, Program in Learning in Machines and Brains. He is also Director at Samsung SAIT AI Lab and a member of Mila



Gregory Dudek

Chaired professor of computer science at McGill University and Director of McGill School of Computer Science. He is also the Head of the Samsung Al Center, as well as a member of Mila





Andrea Lodi

Full Professor at École Polytechnique de Montréal and the Canada Excellence Research Chair in Data Science for Real-Time Decision-Making, as well as a member of Mila





Major public investments to support Al development and adoption

\$93.5M	from the First Research Excellence Fund (2016)
\$100M	over the next 5 years for the creation of a Québec Al cluster (2017)
\$44M	for the Pan-Canadian Artificial Intelligence Strategy (2017)
\$313M	for Scale Al Supercluster (2018) and for the development of Al talents (2019)
\$329M	over the next 5 years to accelerate the adoption of Al in Québec (2019)
\$15M	for the International Centre of Expertise in Montréal for the Advancement of Artificial Intelligence (ICEMAI) (2019)

Montréal selected for Canadian Al cluster headquarters

SCALE AI

Canada's AI supply chain supercluster, dedicated to building the next-generation supply chain and boosting industry performance by leveraging AI technologies



Québec's Al organization fostering the development of Québec's Al ecosystem and mobilizing stakeholders in the field around common projects





OBVIA, fostering responsible Al and digital technology

- The International Observatory on the Societal Impacts of Al and Digital Technology (OBVIA) helps maximize the positive effects of Al and digital technology on society and minimize its negative impacts
- Founding institutions: 18 universities and colleges in Québec, such as:

















- Over 100 partners in Québec, across Canada and internationally
- Financing innovative research projects through grants
- Over 220 researchers working across disciplines



13

The International Centre of Expertise for the Advancement of Artificial Intelligence (ICEMAI) launched in Montréal

- Spearheaded by Montréal International as part of the Global Partnership on Artificial Intelligence (GPAI)
- It is one of the two centres of expertise along with the centre in Paris who will work closely with the GPAI Secretariat, housed at the OECD
- ICEMAI will support two of the four themes the GPAI will be working on: responsible use of AI and data governance
- It will also analyze measures to strengthen our national capacity to commercialize and adopt Alrelated technologies

- \$15M investment by the Government of Québec and the Government of Canada
- A collaboration of industry, the scientific community and civil society:

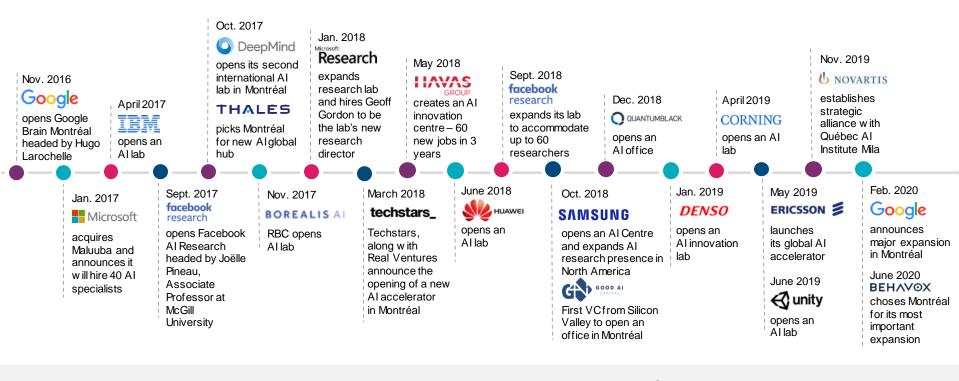




Government of Canada's Advisory Council on Artificial Intelligence

In addition to local and international experts

A few of the world leaders developing their AI expertise in Montréal



Other foreign companies flourishing in Greater Montréal











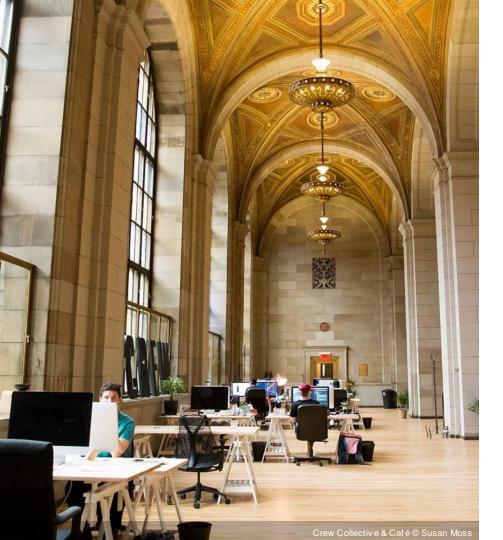












A booming startup ecosystem

- One of the top startup ecosystems in the world
- US\$1.7 B+ in VC investments since 2018 in Montréal
- 30+ incubators/accelerators
- 45+ coworking spaces
- Lucrative funding for Montréal's Al companies:

raised US\$151M - September 2019 - Series B

raised US\$100M - October 2018 - Series D

acquired for US\$79M - July 2019 - by Aspen

stradigia raised US\$40.3 - November 2019 - Series A

dialogue raised US\$32M - July 2020 - Series B

Source: "Global Ecosystem Report", 2018; "Montréal Startup Ecosystem Report", Credo, 2016; "Midterm Report" – Smart City, February 2017; Canadian Report "Money Tree", Pw C Canada | CB Insights, 2019.

\$250M dedicated to AI (2019)

Top Al accelerators and incubators to help develop tomorrow's breakthroughs

techstars_ Montreal Al Accelerator

This program focuses on advancing the development and application of Al across industries and markets



Recognized as one the world's top incubator programs by UBI Global's Top 20 University Business Incubators for 2019–20. The program for AI startups is run in partnership with Thales



A partnership with HEC Montréal, this program focuses on Al and data science to capitalize on Montréal's expertise in the sector



This program provides structured and unstructured mentoring and coaching by proven entrepreneurs over a four-month residency program for two cohorts of 8 to 10 companies per year



This program is for early or idea stage Alenabled startups



This program specializes in the consumer electronics technology market, with a special interest in companies leveraging Al



Recognized as one the world's top incubator programs by UBI Global's Top 20 University Business Incubators for 2019–20. It offers programs for startups at every juncture of their growth

Sample of leading local companies active in AI in Montréal

ELEMENT ^{AI}	wrneh	DELVE LABS	аuтоmат	Dialog Insight	stradigi 🛮
Dataperformers	쳐 hopper	Aerial WIFE MOTION ANALYTICS	m [©] ka	"keatext	KINOVa
acceo	INTEMA Technologies + Marketing	zapio	Bio MindR	<kaloôm></kaloôm>	MOOV AI
coveo	₿FAiMDATA	ARN Robotique	Silentale	nectar	Ç algolux
Semeon	mira metr i x	OSSIACO	(hey) day	C⊕RSTEM	PERF <mark>IQ</mark> T
IRYSteC™ Perception Is Reality	ITNX	♥ VENTION	fluent.ai		🧼 dialogue

Examples of Montréal companies using Al in various fields



IMAGIA: Al-driven personalized care



Diagnos: early detection of critical health issues through the use of Al



wrnchAI: digitizing human motion and behaviour from standard video



AFX Medical: Al-powered radiology tools intended to treat brain disease



Algolux: using machine learning to empower cameras to see more clearly



Myelin: Al synthesis of ASD scientific data



LANDR: machine learning audio production platform, offering audio creators a suite of tools to support the lifecycle of creation



Fluent.ai: personalized intent recognition that learns from speech, behavior and context, for command and control interfaces



Automat: helping companies use Al to talk to their customers, understand them and serve them better



envision.ai: applies the science of deep learning to the art of visual media



Via: helping energy companies across the globe realize the value of their data through Al and blockchain

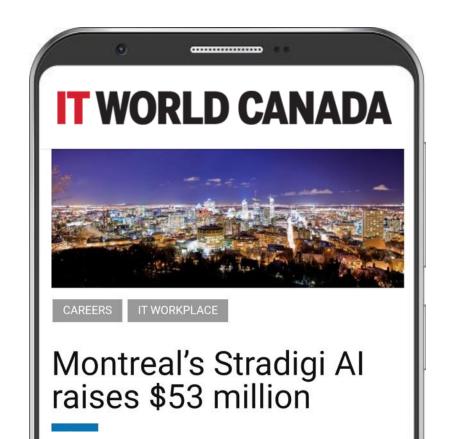


Moov.ai: deploys tailor-made Al and machine learning solutions bringing a concrete ROI to business challenges

Stradigi AI, a global leader in AI platform for businesses, based in Montréal



"Stradigi Al redefines how enterprises work by scaling Alpowered decision-making capabilities for any business user"



At the forefront of AI for good initiatives

For ethical & responsible Al



Since December, 2018 more than 1,900 signatures from citizens and 108 organizations

All illidadive of the Offiversite de Montreal

Research centres with Al for good initiatives



Fostering a dialogue on the socially responsible use of AI and the development of social and environmental applications.

Montréal's Al4Good lab aims to get more women working in Artificial Intelligence and other events



Directing AI towards the common good through humanistic and multidisciplinary studies and research



Opened an office dedicated to AI for good



\$100,000 RAISED FOR UNITED WAY CENTRAIDE BY OSMO FOUNDATION, GOOGLE BRAIN'S HUGO LAROCHELLE, AND THE TECHAIDE AI CONFERENCE

Many organizations support the development of the AI ecosystem



An applied research and expertise centre in IT, dedicated to making organizations more effective and competitive through the development of innovative technology and the transfer of leading-edge knowledge



The statistical office of UNESCO and the UN depository for cross-nationally comparable statistics on education, science and technology, culture, and communication



A joint initiative of 12 colleges and 7 universities in Montréal, PIA was established to address gaps in education stemming from developments in the field of AI



The first institute of distributed Al in Montréal, created by ÉTS and Ultra Electronics to adapt Al techniques for use in systems functioning in extreme conditions



An umbrella organization of Québec universities using advanced research computing to support the research community and business sector



A centre for innovation and applied research, JACOBB aims to accelerate the application of Al into the economic fabric of Québec



Helping Québec companies increase their competitive advantage through R&D financing and partnerships with the institutional research community



Connecting researchers with the industry, Mitacs works closely with Mila's team, partner companies, and match the innovation projects to the most qualified research interns in the field

Al stands on a strong information technologies ecosystem

- 179,000+ IT workers and 5,000+ companies in Greater Montréal
- A GDP of +\$11 B
- 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

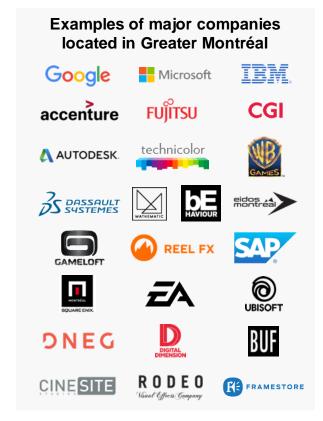
world



in Canada and a world leader in VFX & animation



Top 5
highest tech jobs
concentrations
among the largest
metropolitan areas
in Canada & the



U.S.

O3
A Deep and Growing Pool of Highly Qualified Talent





The best student city in the Americas and Canada's university capital

- Canada's university capital: 11 university institutions and 60 colleges
- 320,000 post-secondary students, including more than 200,000 university students and 36,000 international university students
- More than \$1 billion in funding yearly dedicated to university research
- Best student city in the Americas:



Best student city in the Americas 2019 QS Best Student Cities Rankings

1	Montréal
2	Toronto
3	Boston
4	Vancouver
5	New York



A new generation ready to take over

More than 13,000 university students are enrolled in artificial intelligence and data-related programs in Greater Montréal:

Al-related University programs	Students enrolled 2018-2019	University graduates 2018
Computer Sciences	9,381	1,719
Computer Engineering and Computer Science	2,193	460
Mathematics	1,427	286
Applied Mathematics	132	31
Probabilities and Statistics	195	42
Total	13,329	2,538



A labor pool of Al and tech-related specialists

Al-related jobs	Employees in 2019
Information Systems Analysts and Consultants	32,100
Computer Programmers	33,300
Computer and Information Systems Managers	10,000
Computer Engineers	5,900
Software Engineers and Designers	4,100
Database Analysts and Data Administrators	6,400
Mathematicians	3,200
Total	95,000

95,000 Al and tech related specialists employed in Greater Montréal

Montréal's workforce of + 2 million is among North America's most dynamic and offers a high degree of stability with turnover rates well below North American averages. **The turnover rate for the IT industry is** 11%

^{*} Overall w orkforce risk includes relocation and expatriation; mergers, acquisitions and partnerships; absenteeism; employee health and well-being programs; internal relationships; employment in general; globalization; cultural differences; and talent sources.

Source: National Occupation Classification (NOC) 2019, Statistics Canada 2018; Diagnostic sectorial 2018, Technocompétences.

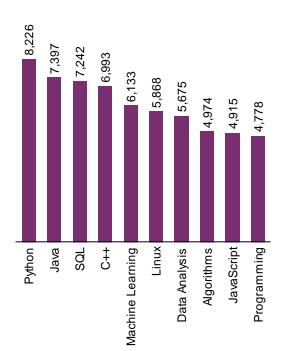
There are close to 19,500 workers with AI skills in Montréal, an increase of 22% over the past 12 months

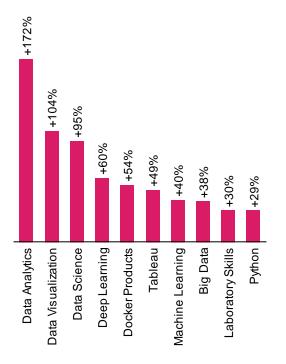
The 40 key skills taken into account to define Al workers*

Number of Al workers who have the skills below

Fastest-growing skills among AI workers over the past 12 months



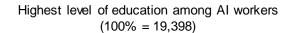


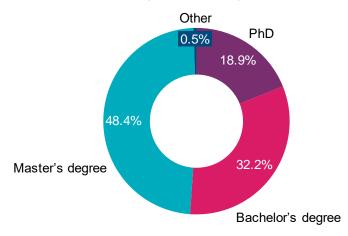


^{*}Key skills identified using LinkedIn's Talent Insights tool are not cumulative or exclusive.

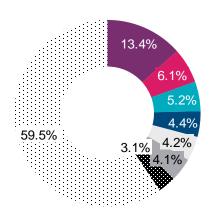
^{**}Excluding profiles for the follow ing titles: founder, co-founder, CEO and President. Source: LinkedIn, Talent Insights, February, 2020.

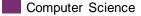
19% of Montréal's Al workers have a PhD and 48% have a master's degree





Fields of studies of AI workers





Electrical and Electronics Engineering

Information Sciences and Support Services

Computer Software Engineering

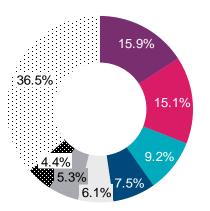
Computer Engineering

Mathematics

Physics

Others

Universities where AI workers earned their degrees



Concordia University

McGill University

Université de Montréal

Polytechnique Montréal

HEC Montréal

Université du Québec à Montréal

École de technologie supérieure

Others

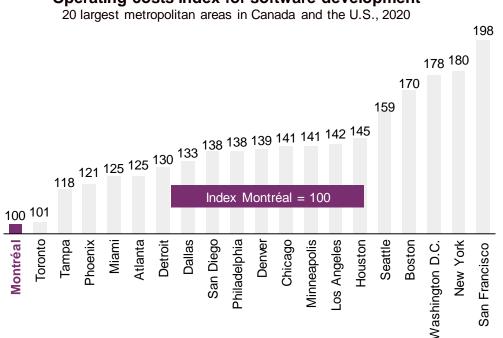
04 Attractive Operating Costs and Incentives





Operating a business costs less in Greater Montréal than in any other major metropolitan area in Canada and the U.S.

Operating costs index for software development





29% cost advantage

compared to the average 20 largest metropolitan areas in Canada and the U.S.

Advantageous AI and IT salaries for employers

Annual base salaries (US\$) for Al / IT professions

	Montréal	Toronto	Vancouver	New York	San Francisco
Data Scientist	\$98,410	\$98,770	\$102,128	\$165,857	\$198,508
Machine Learning Engineer	\$92,058	\$92,394	\$95,536	\$157,006	\$187,915
Software Engineer in Al	\$73,435	\$73,704	\$76,210	\$122,504	\$146,620
Computer Programmer	\$65,986	\$66,227	\$68,479	\$107,932	\$129,179
Software Developer	\$64,144	\$64,378	\$66,567	\$104,404	\$124,957

Low mandatory benefit costs for employers

Examples of mandatory benefit costs for employers, 2020

Total benefits in % of gross annual salary	13.84%	10.26%	9.26%
Total cost	\$56,921.00	\$110,260.08	\$136,575.53
Total benefit costs	\$6,921.00	\$10,260.53	\$11,599.08
Workforce Skills Development and Recognition Fund - Québec Training Law 1% (1% of their total payroll in training for employers with total annual payroll over \$2M)	\$500.00	\$1,000.00	\$1,250.00
Commission de la santé et sécurité du travail (Occupational health and safety board) (0.44% in service sector, max. sal. of \$78,500)**	\$220.00	\$345.40	\$345.40
Commission des normes du travail (Labour standards board) (0.07%, max. sal. of \$78,500)	\$35.00	\$54.95	\$54.95
Health Services Fund (max. 4.26% if global salary total is more than \$6M)	\$2,130.00	\$4,260.00	\$5,325.00
Employment Insurance (employee: 1.20%, employer: 1.68%, max. sal. of \$54,200)	\$840.00	\$910.56	\$910.56
Québec Parental Insurance Plan (employee: 0.494%, employer: 0.692%, max. sal. of \$78,500)	\$346.00	\$543.22	\$543.22
Québec Public Pension Plan (employee: 5.7%; employer: 5.7%, max. \$3,146.40)	\$2,850.00	\$3,146.40	\$3,146.40
Gross annual salary*	\$50,000	\$100,000	\$125,000

Note: *Paid vacation represents a minimum of 4% of salary and is included in gross salary. Some rates apply up to a maximum insurable revenue.

Source: Revenu Québec, 2020.

^{**}The rate for the service sector (65110 - Bureau de courtage; bureau de services professionnels; bureau offrant des services de soutien administratif is 0.44%. The average premium rate in 2020 is \$1.85 per \$100 of payroll.

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

Payroll 20 employees @ \$80,000/year =

\$1,600,000





Your tax credit will be a maximum of 30% = \$480,000

Your tax credit will be a maximum of 24%, as you are not eligible for the supplemental 6% non-refundable tax credit \$1,600,000 * 24% = \$384,000

Note:

- 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, 2019: Montréal International's analysis, 2019.

R&D tax credits: 15% non-refundable from the government of Canada and 14% refundable from Québec

SCENARIO		Canada (Federal)	Québec
Scientific Research and Experimental Development	Qualifying salaries and wages	\$1,500,000 (A)	\$1,500,000 (D)
(SR&ED) tax incentive program	Other eligible expenses @ 55% ²	\$825,000 (B)	-
	Subcontractor ³	\$160,000 (C)	\$100,000 (E)
ASSUMPTIONS ¹	Exclusion on the first \$225,000 of R&D expenditures ⁴	-	\$(225,000) (F)
■ Private, foreign-controlled company, more than	Deduction of the Québec R&D credit ⁵	\$(192,500) (G)	-
\$75M assets 15 eligible employees @ \$100,000/year	Total qualifying expenditures	\$2,292,500 (A) + (B) + (C) - (G)	\$1,375,000 (D) + (E) - (F)
■ 100% of their work is related to eligible activities	Refundable Québec credit @ 14%	-	\$192,500 (G)
	Non-refundable federal credit @ 15%	\$343,875 (H)	-
■ Subcontractor: \$200,000	Total tax credit	\$536,375 (G) + (H)

Note:

- 1. This model takes into consideration recent changes made to certain tax credits (2012, 2014 and 2015) and is thus valid as of fiscal 2019.
- 2. Up to 55% of qualifying salaries and wages, federal only: expenditures should be related to R&D activities.
- 3. Only 80% of the amount paid to a subcontractor is eligible for a federal tax credit and 50% for Québec tax credit.
- 4. Québec only: For SMEs (less than \$50M assets) there is an SR&ED tax credit exclusion on the first \$50K of R&D spending. For large companies (more than \$75M assets) and companies under foreign control, the exclusion applies on the first \$225K of R&D spending. This amount is deducted of the qualifying salaries and w ages.
- 5. For the purposes of calculating the combined rate of the credit, the tax credit from the government of Québec is applied against the federal tax credit. Source: Ministry of Finance of Québec. 2019: PWC. 2019: Compilation: Montréal International. 2019.

Combination of E-business and SR&ED tax credits

Refundable tax credits for Scientific Research and Experimental Development (SR&ED) and E-business (CDAE)1:

- 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	_	SR&ED	CDAE
Combination of the Québec refundable tax credit for the development of E-business (CDAE) and the		FEDERAL	QUÉBEC
federal Scientific Research and Experimental Development (SR&ED)	Qualifying salaries and wages	\$1,600,000 (A)	\$1,600,000 (C)
	Other eligible expenses @ 55% of A ³	\$880,000 (B)	-
	Total qualifying expenditures	\$2,480,000 (A)+(B)	\$1,600,000 (C)
ASSUMPTIONS ²	Federal credit @ 15% of total	***	
 Foreign-controlled private company 	qualifying expenditures	\$372,000	<u>-</u>
20 eligible employees @ \$80,000/year	Québec credit @ 30% of total qualifying expenditures	-	\$480,000
 100% of their work is related to eligible activities 	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 SR&ED or the E-business tax credit for the Québec credit.
- 2. This model takes into consideration recent changes made to certain tax credits (2012, 2014 and 2015) and is thus valid as of fiscal 2019.
- 3. Up to 55% of qualifying salaries and wages, federal only: expenditures should be related to R&D activities.
- 4. If the company has no taxes to be paid, the Québec credit will be 24%.

Source: Ministry of Finance of Québec, 2019 - Compilation: Montréal International, 2019.



Other major incentives

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 resource department

Tax holiday for foreign researchers and experts

- Five-year Québec income tax exemption
- 0% of provincial income tax on salary for the 1st and 2nd year
- 25% for the 3rd year
- **50%** for the 4th year
- **75**% for the 5th year

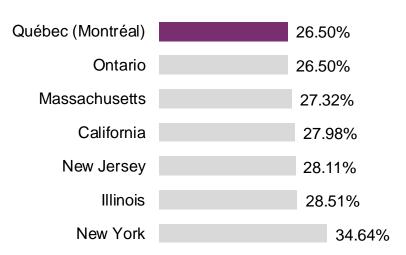
Internship units to drive collaboration and innovation between universities and companies

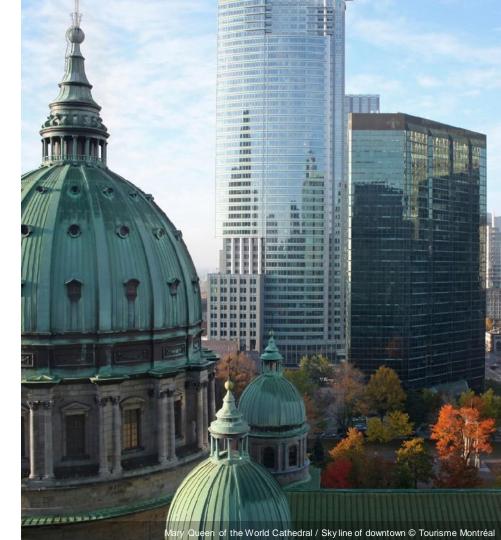
 500 internships created and \$2M invested in Québec to bolster Al research, talent development, and job creation

37

Québec offers corporations an attractive tax treatment

Comparison of corporate effective tax rate (%) Selected Canadian provinces and U.S. States, 2020





05
An Exceptional Quality of Life



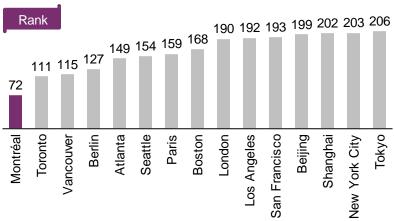




A low cost of living

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:

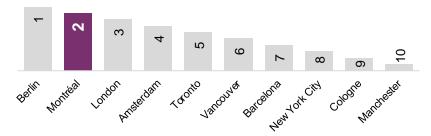
- Cheap housing
- Low medical insurance costs
- Generous family allowances
- Affordable child care

^{*} Montréal International's analysis. Source: Mercer, "Cost of Living Survey," 2020.

An exceptional quality of life

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

Nestpick Millennial Cities Ranking, 2018 World rank



- Lowest homicide rate among the 20 largest metropolitan areas in Canada and the U.S.
- Health care provided at no cost
- Lowest education tuition fees in North America
- Vibrant cultural metropolis with 100+ festivals and 70 museums





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

QS Best Student Cities Rankings, 2019

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

3rd friendliest city in the world Rough Guides, 2016

UNESCO City of Design since 2006

Top host city in North America for international association events
Union of International Associations (UIA), 2020

42

06

Montréal International's Personalized, Free and Confidential Services







Montréal International, a single point of access to a series of personalized, free and confidential services



Long-term strategic support



Economic data and communication services



Government relations facilitation



Incentive programs assistance



Foreign workers immigration assistance



International recruiting solutions



Contact us



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