Greater Montréal: A Hotspot for Data Hosting and Processing
Content

01 Why Montréal Fits your Data Centre Needs p.4
02 Montréal’s Value Proposition p.18
03 Montréal International’s Personalized, Free and Confidential Services p.30
Greater Montréal: a hotspot for data hosting and processing

Greater Montréal is quickly emerging as one of North America’s key data centre and cloud computing hubs: It was recognized as the best data centre location of the year at the Datacloud Global Awards in Monaco.

A strong competitive edge

- **Affordable, renewable, reliable energy**: abundant supply, a rock-solid power grid and electricity rates as low as CA¢3.98/kWh.

- **Strategic location**: cooler northern climate, low natural hazard risk, direct connection to Europe via fibre-optic cable lines.

- **A favourable legal environment**, including softer legislation for personal data transfers between Canada and the E.U.

- **A modern, highly reliable telecommunications network** and a wide range of potential partners.

- **A country that is ranked as the safest location for data centres in America and sixth safest in the world** (Cushman & Wakefield Data Center Risk Index).

A vibrant ecosystem

- **Montréal ranked 2nd in North America, behind San Francisco**, for job growth in data processing and hosting and related services (82% between 2014 and 2016).

- **High-profile investment projects** involving:
  - Industry giants like Google Cloud and Amazon Web Services.
  - Global leaders like Microsoft, Ericsson, Vantage Data Centers, OVH and Cologix, and local players like Bell and Cogeco, who have a strong foothold in the region.

- **A strong IT environment, a thriving big data hub** and leading AI expertise:
  - **A talent pool** of 107,500 skilled IT workers and 5,240 companies.
  - The world’s largest group of elite deep learning researchers, and a unique data science institute—the Institute for Data Valorization (IVADO).
  - **Major public and private investments** enhancing the city’s global reputation for excellence.

Key benefits

- **Generous, targeted government incentives** that make for a compelling business case.

- **Competitive salaries and low employer payroll taxes**.

- **An innovation hub that fosters constant interactions** between its leading universities and research centres, innovative industrial clusters, and cultural and arts organizations.

- **A skilled bilingual workforce** and a stable job market.

- **Exceptional quality of life** in a human-scale city that’s a magnet for top-notch talent and a great place to live, work and create.
Why Montréal Fits your Data Centre needs
Québec generates 99.8% of its electricity through hydropower. That means stable rates, low carbon emissions and no pollution rights to trade.

- Independent, reinforced system
- 13 interconnections with neighbouring systems, securing supply through exchanges
- Compliance with North American Electric Reliability Council standards
- A loop system for major consumption centres
- Isolated, independent power transmission system

Source: Hydro-Québec, April 2016.
One of the lowest electricity rates in North America

With its rich supply of low-cost hydropower, Greater Montréal boasts one of the lowest data centre electricity rates in North America: CA¢3.98/kWh*

* Rate LG: large power with minimum billing demand of 5,000 kW, transmission and distribution included, for 120-kV supply with 95% load factor, and including the Economic Development Rate reduction (if eligible).

Source: Hydro-Québec, 2019.
Hydro Québec is rolling out a new strategy enabling it to increase potential capacity to support additional data centres and provide the best services to help projects come to life.

Source: Hydro-Québec, 2016.
The perfect climate for your operations

**Strategic location**
In addition to being *strategically located*, Greater Montréal enjoys a cooler climate—like the rest of Canada—making it the perfect choice for innovative data centres that use ambient cooling.

**Lower temperatures = cost savings**
The mean annual temperature for Montréal is 42.8°F (6.8°C), *minimizing* the need for cooling systems. With access to both ambient and water-cooled tower systems, *data centre companies can design smart, sustainable solutions enabling them to achieve significant cost savings.*

**Water access**
Many sites in the Greater Montréal area have *direct access to water mains* and some even have provisions for water storage that would *allow your company to innovate around rainwater and grey water recycling designs.*
A safe environment

Low natural hazard risk

According to Public Safety Canada, the province of Québec has experienced about 120 hazardous events in the past 50 years, 50 of which directly affected the Greater Montréal area.

The most common disasters are floods. That said, most Greater Montréal sites are over 100 feet above the maximum flood elevation, with stable soil and no environmental issues.

The metropolitan area is also located far from the ocean which limits the risks of hurricanes and major floods.

Québec is part of the stable interior of the North American Plate; major earthquakes are therefore unlikely.

Source: Natural Resources Canada.
Privacy concerns and protection

Privacy

Canada’s strict privacy laws are recognized by the E.U. as providing “adequate protection” of personal information. As a result, personal data can flow between E.U. member states and Canada without the need for a safe harbour agreement.

- Canada has two federal privacy laws: the Personal Information Protection and Electronic Documents Act (PIPEDA), which applies to the private sector, and the Privacy Act, which applies to the public sector.

- Provincial laws that govern the use of personal information in Alberta, British Columbia and Québec are considered to be equivalent to PIPEDA by the federal government and take precedence in those provinces.

- IP protection

  Canada’s IP laws and legal landscape generate far less litigation than in the U.S. What’s more, the 2015 federal budget includes plans to modernize the IP regime.

Dedicated partners

Québec’s commercial and corporate laws are modern and flexible, and very similar to those of other states. The commercial law provisions of the Quebec Civil Code draw on the provisions of the Uniform Commercial Code (UCC), while provincial and federal corporate laws are derived from the general principles of U.S. corporate law.

Our team will be happy to put you in touch with the right law firm for your business.

Greater Montréal: Eastern Canada’s biggest internet hub and a gateway to Europe

Major telecommunications companies based in Greater Montréal, including international and North American service providers, offer IP transit and transport services in the region.

Many have a point of presence in Greater Montréal’s main telecom hub located at 1250 René-Lévesque West.

A developed ecosystem of service providers

Local providers also offer modern telecommunications services, including:
- MEF Certified Ethernet Services (EPL/EVPL)
- Ethernet over MPLS
- Private Networks (IP VPN, IP MPLS)
- Wavelength Services
- Dark Fibre (lease and IRU)

Montréal is also home to the Montréal Internet Exchange (QIX). Most national carriers and major content providers such as Google, Akamai and Microsoft peer at the exchange to enhance traffic flow and reduce end user costs.

Extremely easy to deploy optical fiber

Most of Montréal’s fibre-optic networks are installed in a conduit system owned and regulated by a single entity CSEM (Commission des Services Électriques de Montréal), a unique municipal body that oversees all operations and builds in city conduits. Such an arrangement greatly facilitates the different steps and reduces the risk of a network outage for all providers.

Other major providers
High-profile investments

<table>
<thead>
<tr>
<th>Company</th>
<th>Year</th>
<th>Country of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estruxture</td>
<td>2017</td>
<td>Canada</td>
</tr>
<tr>
<td>Google Cloud</td>
<td>2017</td>
<td>USA</td>
</tr>
<tr>
<td>Cologix</td>
<td>2017, 2014</td>
<td>Canada</td>
</tr>
<tr>
<td>Amazon Web Services (AWS)</td>
<td>2016</td>
<td>USA</td>
</tr>
<tr>
<td>I.C.E. Datacenters</td>
<td>2016</td>
<td>Canada</td>
</tr>
<tr>
<td>Vantage Data Centers</td>
<td>2016</td>
<td>Canada</td>
</tr>
<tr>
<td>Urbaco/DTZ</td>
<td>2015</td>
<td>Canada/USA</td>
</tr>
<tr>
<td>Cogeco</td>
<td>2015, 2012</td>
<td>Canada</td>
</tr>
<tr>
<td>Ovh.com (Data Centre)</td>
<td>2015 (R&amp;D centre), 2012 (Data centre)</td>
<td>France</td>
</tr>
<tr>
<td>Root Data Center</td>
<td>2014</td>
<td>Canada</td>
</tr>
<tr>
<td>Cologix</td>
<td>2013</td>
<td>USA</td>
</tr>
<tr>
<td>Canadian Colo</td>
<td>2013</td>
<td>Canada</td>
</tr>
<tr>
<td>Intronis</td>
<td>2013</td>
<td>USA</td>
</tr>
</tbody>
</table>

If data centres are Canada’s latest gold rush, then Montréal is the Klondike.

Brian Jackson, IT World Canada

We picked the area that we did because of the hydropower.

Teresa Carlson, Amazon Web Services

A vibrant business ecosystem

| 40 | Data centres throughout Québec, mostly in Greater Montréal |
| 95 | Service providers |
| 4  | Network fabric and innovative network operating system players |

[Logos of various companies related to data centres and services]
A fast-growing market

Demand in Greater Montréal is mostly driven by cloud providers and technology firms along with the gaming, insurance, finance, IT, and health care sectors.

Where leaders are already taking advantage of excess demand:

- Municipal, provincial and federal governments are pushing to outsource their IT workloads.
- Consumers and private organizations are increasingly turning to the cloud.
- Many equity research papers, like those published by JLL and Cloudscene, are forecasting high demand in Greater Montréal for the foreseeable future.

Source: “Data Center Outlook”, North America 2016, JLL.
A strong IT industry

- 107,500 qualified employees in IT, and 5,240 companies
- A GDP of $11.6 B
- Lowest operating costs in Canada and the U.S. for software development, ahead of Toronto, Boston, New York and San Francisco
- Broadly diversified industry:

Sample of major companies located in Greater Montréal

A world-class hub in Artificial Intelligence

- Nearly $2 billion in AI investments announced in Greater Montréal since 2016.
- The Canadian government chose Montréal as Headquarters for SCALE AI, Canada's AI supply chain super cluster.
- All major players and a thriving community aiming for a better world.

Sources: MILA; Montréal International Analysis.
02
Montréal’s Value Proposition
Running a data centre costs less in Greater Montréal

The most competitive operating costs of North America’s 20 largest metropolitan areas

1st rank

28% cost advantage

over the study average

+ Provincial (GST) and federal (QST) sales taxes are fully refundable

Total operating costs for data centres
20 largest metropolitan areas in Canada and the U.S., 2019

Montréal = 100

Note: The annual operating cost calculations are based on labor, property and utility costs in US$. Source: fDi Benchmark, 2019.
Attractive incentives: Major investment projects

The government of Québec has launched a major investment program to stimulate the economy and foster large-scale investment projects. Under the program, projects of $100 million or more may qualify for a 15-year exemption from corporate income and employer health tax under certain conditions.

- Applicants must operate in one of the following sectors (NAICS code):
  - Data processing and hosting
  - Manufacturing (31–33)
  - Wholesale trade (41)
  - Warehousing and storage, particularly value-added distribution centres (4931)
- The investment project must be worth at least $100 million and phased over 60 months or less
- The tax exemption may not exceed 15% of the total eligible investment costs calculated at the start of the exemption period
- The initial application must be submitted before project kick-off.
- The deadline for submitting applications is December 31, 2020

To apply under the major investment program, applicants must submit a business plan along with a clear description of the project, investment details and a project timeline.
Applicants must:

- Operate in one of the following sectors:
  - Manufacturing
  - Software publishing
  - Private research centres
  - Environmental services
  - Tourism (subject to certain restrictions)

- Submit a job-creating project with capital expenditures of $250,000 or more or a project with a cumulative increase in payroll of $2 million or more over the first three years following the project start date.

ESSOR Program applicants must submit a detailed three-year project description, including project financial data and an executive summary. They can expect to receive a letter of intent from the government of Québec within four to five weeks of submitting their applications.
Attractive incentives: Québec tax credit for scientific research and experimental development

The R&D tax credit is designed to boost research and development in Québec. The tax credit is refundable, meaning that companies can get a refund even if they have no tax liability. What’s more, it can be combined with the federal R&D tax credit.

The tax credit is 14% of R&D expenditures above the following exclusion thresholds:

- $50,000 for corporations with $50 million or less in assets
- $225,000 for corporations with assets totalling $75 million or more
- An amount that increases linearly from $50,000 to $225,000 for companies with assets between $50 million and $75 million

Expenditures eligible for the R&D tax credit:

- Wages of employees who have worked directly on the project
- 50% of payments to arm’s length contractors
- 80% of total eligible R&D expenditures incurred under research contracts with eligible universities or research centres
- Payments to research consortiums
- Expenditures incurred for pre-competitive private partnership research

Program benefits for Large canadian — or foreign — controlled corporations
## Advantageous salaries

### Data centre salaries average annual salary* (US$) for five typical professions

<table>
<thead>
<tr>
<th>Professional</th>
<th>Montréal</th>
<th>Vancouver</th>
<th>Toronto</th>
<th>Portland</th>
<th>Houston</th>
<th>Boston</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Centre Technician</td>
<td>$41,591</td>
<td>$44,855</td>
<td>$44,593</td>
<td>$53,232</td>
<td>$53,517</td>
<td>$56,731</td>
<td>$61,457</td>
</tr>
<tr>
<td>Data Centre Specialist</td>
<td>$45,365</td>
<td>$48,839</td>
<td>$48,633</td>
<td>$58,309</td>
<td>$59,715</td>
<td>$62,750</td>
<td>$67,821</td>
</tr>
<tr>
<td>Data Centre Security Specialist</td>
<td>$46,507</td>
<td>$50,104</td>
<td>$49,920</td>
<td>$57,703</td>
<td>$57,917</td>
<td>$65,137</td>
<td>$70,626</td>
</tr>
<tr>
<td>Data Centre Critical Facilities Engineer</td>
<td>$57,989</td>
<td>$62,110</td>
<td>$62,079</td>
<td>$77,807</td>
<td>$79,976</td>
<td>$87,183</td>
<td>$94,611</td>
</tr>
<tr>
<td>Data Centre Manager</td>
<td>$76,183</td>
<td>$80,336</td>
<td>$81,995</td>
<td>$101,920</td>
<td>$114,242</td>
<td>$120,444</td>
<td>$131,385</td>
</tr>
</tbody>
</table>

* Salaries based on five years of experience, Computer Processing and Data Preparation and Processing (NAICS 518210).
Currency exchange based on the monthly average 2018-05-07 — 2018-06-04 : 1,00 $CND = 0,7762 US$.
Low mandatory employer payroll taxes

<table>
<thead>
<tr>
<th>Gross annual salary</th>
<th>$50,000</th>
<th>$100,000</th>
<th>$125,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Québec Pension Plan</td>
<td>$2,700.00</td>
<td>$2,991.45</td>
<td>$2,991.45</td>
</tr>
<tr>
<td>(employee: 5.4%; employer: 5.4%, max. $2,991.45)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Québec Parental Insurance Plan</td>
<td>$263.00</td>
<td>$402.39</td>
<td>$402.39</td>
</tr>
<tr>
<td>(employee: 0.526%; employer: 0.736%, max. sal. of $ 76,500.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Insurance</td>
<td>$875.00</td>
<td>$929.25</td>
<td>$929.25</td>
</tr>
<tr>
<td>(employee: 1.25%, employer: 1.75%, max. sal. of $ 53,100.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Services Fund</td>
<td>$625.00</td>
<td>$1,250.00</td>
<td>$1,562.5</td>
</tr>
<tr>
<td>(1.25% if global salary total less than $1M, max. 4.26%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commission des normes du travail (Labour standards board)</td>
<td>$35.00</td>
<td>$53.55</td>
<td>$53.55</td>
</tr>
<tr>
<td>(0.07%, max. sal. of $ 76,500.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commission de la santé et sécurité du travail</td>
<td>$235.00</td>
<td>$359.55</td>
<td>$359.55</td>
</tr>
<tr>
<td>(occupational health and safety board - 0.47% in service sector, max. sal. of $76,500.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$4,733.00</td>
<td>$5,986.19</td>
<td>$6,298.69</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$54,733.00</td>
<td>$105,986.19</td>
<td>$131,298.69</td>
</tr>
</tbody>
</table>

Notes: Low employer health care costs are one of Canada's biggest cost advantages. With a government-run health care system, employer-paid health care costs in many Canadian cities are half of what they are in the U.S.

Under the Act respecting labour standards, Notes: Vacation represent a minimum of 4% of salary pursuant to the Act respecting labour standards.

Some rates apply up to a maximum insurable revenue.

* The general rate for the service sector (65110 - Bureau de courtage ; bureau de services professionnels ; bureau offrant des services de soutien administratif) is 0.47% but the rate for an employer can vary depending on the sector.

Paid holidays (approx. 10 days or 4%) are included in gross salary.

Source: Revenu Québec, 2019.
A large pool of university students enrolled in IT programs

<table>
<thead>
<tr>
<th>IT Programs</th>
<th>University Students Enrolled in 2017-2018</th>
<th>University graduates, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Sciences</td>
<td>8,104</td>
<td>1,558</td>
</tr>
<tr>
<td>Electrical and Electronic Engineering</td>
<td>3,498</td>
<td>744</td>
</tr>
<tr>
<td>Computer Engineering and Computer Science</td>
<td>2,002</td>
<td>374</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1,438</td>
<td>262</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>190</td>
<td>35</td>
</tr>
<tr>
<td>Probabilities and Statistics</td>
<td>130</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,362</strong></td>
<td><strong>3,000</strong></td>
</tr>
</tbody>
</table>

Montréal ranked best student city

In the Americas according to the 2018 QS best student cities index

Ranked 1st
In the Americas

Ranked 4th
In the world
World-class universities and talent

Home to 11 universities and many colleges and vocational training centres, Montréal has earned a reputation as Canada's higher education hub and a breeding ground for highly skilled talent:

- Best student city in the Americas according to QS Best Student Cities 2018
- 201,000 university students, the largest number in Canada
- 35,500 international students
- Two universities—McGill University and Université de Montréal—ranked among the world's best according to the Times Higher Education World University Rankings 2018

The most bilingual and trilingual metropolitan area in Canada:

- 2.5 million residents speak English—that's more than in Vancouver
- 55% of the population is bilingual (English and French), compared to less than 8% in Toronto and Vancouver
Greater Montréal is cheaper than almost all other large cities in North America and Western Europe:

Greater Montréal offers a higher purchasing power thanks to:
- Cheap housing
- Generous family allowances
- Low private medical insurance costs
- Affordable child care

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

Greater Montréal offers a higher purchasing power thanks to:
- Cheap housing
- Generous family allowances
- Low private medical insurance costs
- Affordable child care

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 provided at no cost**
- **Lowest education tuition fees** in North America
- **Vibrant cultural metropolis** with +100 festivals and 70 museums

03
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 missions
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