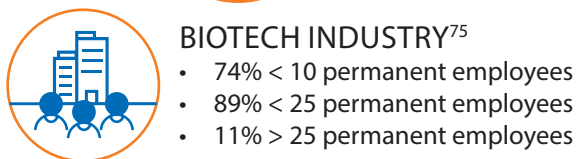


Québec

Vital elements



- Contract Research Organizations⁷⁶
- 65% < permanent employees
 - 80% < 50 permanent employees
 - 19% > 50 permanent employees

- Level of Education
- 10% DES/DEP
 - 1% ACS
 - 24% DCS
 - 18% Bachelor's degree
 - 18% Master's degree
 - 29% Doctorate

- Level of Education
- 9% high school
 - 46% college
 - 45% university



⁷¹ Ministère de l'Économie, de la Science et de l'Innovation, 2017

⁷² Montréal InVivo, 2014 as cited by Montréal International, 2016

⁷³ Montréal InVivo, February 2017

⁷⁴ Ministère de l'Économie, de la Science et de l'Innovation, 2017

⁷⁵ "Biotechs in Québec, Several profiles, a single objective : improving quality of life, one innovation at a time" BIOQuébec and Pharmabio Développement, 2016

⁷⁶ "CONTRACTUAL RESEARCH ORGANIZATIONS IN Québec, A powerhouse of

socio-economic development for the province BIOQuébec", 2016

⁷⁷ Ministère de l'Économie, de la Science et de l'Innovation, 2017

⁷⁸ Ministère de l'Éducation, du Loisir et du Sport du Québec, Year 2013–2014, cited by Montréal International, 2016

⁷⁹ Pharmabio Développement, 2016

⁸⁰ Ministère de l'Économie, de la Science et de l'Innovation, 2018

⁸¹ Montréal InVivo, February 2017

Overview

From basic research to commercialization, all the links in the innovation chain in life sciences and health technologies are found in Québec, which boasts world-class innovation infrastructures and renowned specialists. Québec is particularly recognized in the following areas of excellence: oncology, cardiovascular and metabolic diseases, neurosciences and mental health, infectious diseases, aging, cell therapy and regenerative medicine, genomics and precision medicine, health technologies applicable to health, big data and artificial intelligence

Québec also stands out in terms of biotechnology in animal health, marine and forest in addition to having a strong agribusiness pole, thus making it a province offering diversified and comprehensive expertise.

Sectors and Subsectors

Bio-health

- Medical devices
- Biopharmaceuticals
- Natural-compound bioactives
- Bio-molecule

Agri-biotech

- Agri-fibre composites
- Animal genetics
- Plant genetics
- Livestock vaccines
- Animal nutritional supplements
- Functional foods

Why Québec

- Presence of all links in the innovation chain
- Concentration of operations within strong and well-developed geographic locations near the United States
- Highly Qualified Personnel
- 1st in Canada for innovation (patents, public research funds and total R & D expenditures as a percentage of GDP)
- 1st in North America for its low operating costs among the cities in its category
- 10,000 graduates annually in health industry-related programs
- 54% of the population is bilingual (English and French), compared with less than 8% in large urban centres
- 3 mega-university hospitals with state-of-the-art infrastructures and research centres⁸²
- \$3.5 million value added by biotech

Current initiatives and highlights

Three major initiatives stem from the Québec government's 2017–2027 Québec Life Sciences Strategy:

STARTUP—AmorChem II, whose initial capitalization is \$44 million, focuses on investing in promising life sciences projects from Québec universities and research centres. Its innovative business model involves investing in and supporting academic projects to transform them into attractive biotech companies that can be interesting for financial or pharmaceutical partners.

GROWTH—The goal of the BioMed Propulsion program is to financially support Québec companies with strong growth potential in the life sciences sector, in order to get

them to commercialize the results of their research. An investment of \$100 million from the Government of Québec.

CLINICAL RESEARCH—Québec's expertise and resources are joining forces with CATALIS Clinical Research Québec to promote excellence in clinical research in the province and to facilitate cooperation between the various life sciences players in order to accelerate the development of innovative treatments. Five areas are being focused on: medical leadership, operational excellence, networking and coordination, patient engagement and the promotion of innovation.

⁸² *Montréal International, 2016*



Innovation and growth

Personalized medicine, which refers to a system focused on the prediction, prevention and precision of care adapted to the needs of individuals, requires a large body of data, particularly from genomics, a field of expertise in which Québec researchers and companies are particularly active.

The integration of personalized medicine into the healthcare system will be facilitated through concrete applications based on artificial intelligence (AI), a strategic area for Québec that will democratize access to precision medicine through detection processes, diagnoses and treatments using the data collected to date.

Growth companies

Prometic™

A Québec-based international company, **ProMetic (PLI)** has just received an orphan drug designation from the US Food and Drug Administration (FDA), which opens a brand new and important market for its Ryplazim™ plaminogen.



This company, an offshoot of the Faculty of Veterinary Medicine of the Université de Montréal, has developed certification expertise facilitating the international marketing of its vaccine against diarrhoea in swine, Coliprotec®.



This multinational is building a plant near Québec City that will allow it to produce its Intrarosa drug, discovered and developed in Québec and recently approved by the FDA. This project will create almost one 1,000 jobs.

Looking ahead

“ There will be many technical and undergraduate jobs created to support the growth of our industry. To publicize these career opportunities will be a determining factor of success.”

– Anie Perrault, General Manager, BIOQuébec

About BIOQuébec

BIOQuébec is committed to supporting Québec's biotechnology and life sciences industry to position Québec, on an international scale, as an undeniable key player in the biotechnology and life sciences field.

List of services

BIOQuébec supports members on three levels: management and operations, networking and business

development, as well as for the business context and government policies that result from the following services:





- Discounts and privileges through agreements with our partners;
- Membership Directory, Networking Events, Personalized Contact-Making;
- Information, sectoral watch and representations to socio-economic leaders.



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