

# McGill University, IBM develop Quebec's most powerful and energy-efficient supercomputer cluster

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McGill University today announced an \$8.3-million CDN contract with IBM in Canada to acquire a supercomputer cluster able to support the data-intensive research activities of the CLUMEQ High Performance Computing Consortium, making it the most powerful supercomputer in Quebec and the second-most energy-efficient data centre in Canada.

The first phase of this McGill project, funded by the Canadian Foundation for [Innovation](#) (CFI), aims at building Canada's capacity to undertake world-class research and technology development to strengthen its position in today's knowledge economy. According to a recent report issued by the Organization for Economic Co-operation and Development, the province of Quebec is a hotbed of research and development, making the city of Montreal an ideal location for the project

Gaining an efficient, relevant understanding of mountains of data will be one of the biggest challenges for organizations in the 21st Century. McGill's CLUMEQ will provide high-performance computing (HPC) capabilities to fully support the research activities of the Quebec and Canadian university communities in several data-intensive sectors. McGill's focus includes high-energy physics, nanotechnologies, computational fluid dynamics, climate research, brain imaging, biology and life sciences. The cluster will leverage the processing power necessary to facilitate the efficient capture, storage, search, sharing,

analysis, and visualization of vast amounts of industry data. CLUMEQ will also support the Atlas research project linked to the European Organization for Nuclear Research (CERN) project.

“With these impressive, multidisciplinary computing capacities, the new theories tested by the McGill CLUMEQ consortium will have a major impact on many areas of scientific expertise, from research into the Big Bang to advances in nano-scale materials, as well as industries in key fields such as neuroscience, biopharma, aerospace, and finance,” said McGill’s Principal and Vice-Chancellor Heather Munroe-Blum. “We appreciate the strong support we have received from the federal and provincial governments, and from our [IBM](#) partner, which helps us to foster innovation and discovery within our university communities and to conduct transformational research for the continued advancement of society.”

Founded in 2001, CLUMEQ is a [supercomputer](#) consortium network created with McGill University, Université Laval and the Université du Québec network, which includes the École de technologie supérieure (ÉTS), where the supercomputer is housed. McGill’s CLUMEQ is part of the National Platform infrastructure meant to support researchers all over the country,.

“McGill’s CLUMEQ is poised to be a game-changer to help accelerate Canadian research innovation,” said Denis Desbiens, IBM Quebec Vice-President at IBM Canada. “With IBM’s expertise, the consortium – part of Calcul Québec - is now one of the seven components of the national HPC platform set up by Compute Canada to serve Canadian researchers. “Cutting-edge research in a variety of disciplines is what McGill CLUMEQ will bring.”

On the forefront of innovation, IBM already has an impressive track record when it comes to high performance technology. In February of

2011, IBM's Watson computing system competed and won on the popular game show Jeopardy! against two of the most well-known and successful champions. Watson's performance on the show captured the imagination of millions of viewers, highlighting the power of computing to benefit humanity in areas such as healthcare.

“McGill’s research position on the world stage has reached new frontiers when it comes to demonstrating the powerful impact that industry can bring when joining forces with universities and governments. This puts Canada and particularly Quebec on the map of scientific capability in terms of critical synergies in support of research and innovation,” Desbiens said.

IBM, which celebrates its centennial this year, began co-operating on McGill’s supercomputer initiative in 2005. It has provided McGill researchers continuous support on this initiative.

"We are very happy to collaborate with IBM and McGill. When it comes to applied teaching and research in engineering and technology transfer, ÉTS is a beacon model in Canada. This announcement further reinforces the critical synergies between research, innovation and industry. By working in partnership, ÉTS and McGill have a positive impact on the entire innovation chain, from both idea to innovation and from fundamental research to application", said Yves Beauchamp, Chief Executive Officer of ÉTS.

The new supercomputer, based on IBM's iDataPlex solution, has received contributions from both levels of governments in addition to IBM's participation as part of its industrial regional benefits (IRB) program.

Provided by McGill University

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