



GenomeCanada

CANADA'S GENOMICS ECOSYSTEM LEADER

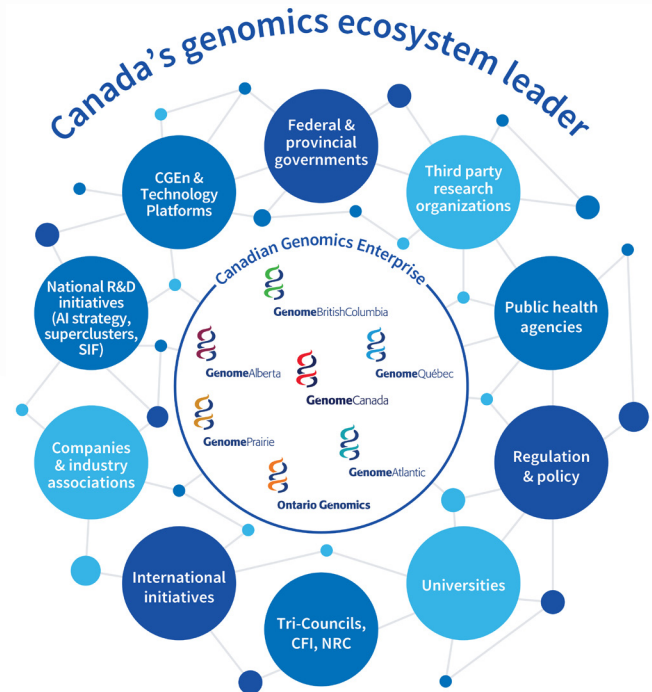
Genome Canada is a national, federally funded non-profit organization saving lives, strengthening communities and fueling economic growth through research and innovation in genomics and associated biosciences. With a 21-year track record of impact across sectors, we drive real world impact in **health, climate action** and **food security**.

Genome Canada leads **genomics research and innovation initiatives focused on key challenges for Canada** and invests in **other cutting-edge research** focused on areas of strategic importance for Canada. Our challenge-driven initiatives and investments:

- Deliver tangible impacts for Canadians.
- Complement federal science, technology and innovation efforts.
- Leverage regional strengths to address national priorities.

Aligning regional and national priorities

The **Canadian Genomics Enterprise**—a pan-Canadian network comprising Genome Canada and six independent regional Genome Centres—leverages federal investment through Genome Canada and regional investment from provincial governments, industry, universities and non-profits through the Genome Centres to deliver cross-sectoral research and innovation partnerships. This model enables strong engagement with communities across the country to ensure our impact through genomics is shared by all Canadians.



Genomics 101

Genomics is the science of deciphering and understanding the entire genetic information of an organism.

That includes humans and other animals, plants and microorganism such as bacteria, viruses and fungi.

Understanding biological systems is central to addressing today's grand challenges, such as climate change, increasing food and energy demand, antimicrobial resistance and infectious disease.

60%

McKinsey Global Institute estimates that up to 60% of physical inputs to the global economy could soon be produced biologically, worth US\$2–4T in direct economic impact by 2040.

Over the last two decades, we have:

Supported **\$4B** in total investment including **\$1.7B** federal dollars and **\$2.3B** in co-funding

Funded **455** projects and contributed to the launch of **84** start-up companies

Supported **5K** trainees in their academic journey

Made Genome Canada **2ND** only to the U.S. in genomics patents

Delivering solutions for Canada



SUPPORTING CANADA'S COVID-19 RESPONSE

Genomics has become one of the most powerful tools to fight COVID-19 and track the emergence of new variants of concern. Launched in April 2020, the federally funded, Genome Canada-led Canadian COVID-19 Genomics Network (CanCOGeN) rapidly scaled up genomic sequencing of SARS-CoV-2 samples and the genomes of people who contracted COVID-19 to track the spread and evolution of the virus and inform decision-making by public health authorities and healthcare workers.

genomecanada.ca/covid



STRENGTHENING CROP RESILIENCE AND FOOD SECURITY

COVID-19 exposed the vulnerabilities in food supply chains, including the importing of fresh fruits and vegetables to provide Canadians with nutritious and diverse food. Genome Canada research investments are driving development of new commercial varieties of vegetables with improved disease resistance for Canada's greenhouse vegetable industry, which generates \$1B in annual sales. Recent project results estimate a 25-30% improvement in disease resistance.

genomecanada.ca/greenhouse



ENABLING OIL SPILL CLEAN UP

With increased shipping and cruise ship activity, the risk of accidental releases of diesel or bunker fuel, or other transportation-related contaminants, has grown. Genome Canada-funded research is harnessing microbial genomics to generate credible, science-based evidence on the how to harness biological processes for remediation after oil spills in the Arctic Ocean.

genomecanada.ca/remediation



IMPROVING HEALTH OUTCOMES FOR INDIGENOUS COMMUNITIES

The Genome Canada-funded Silent Genomes initiative is a game-changing partnership with First Nations, Inuit and Métis peoples aimed at improving health outcomes for Indigenous children by enabling access to cutting-edge diagnosis and treatment of genetic disease.

genomecanada.ca/silentgenomes

For more information contact Pari Johnston, Vice President, Policy and Public Affairs pjohnston@genomecanada.ca.

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