

2025-2030
Strategic Directions

Showing the world what we're made of



Genome
Canada



Genomic science is a leading cause of hope.

The journey from hope to impact goes through research.

So what's ahead for Canada's genomic research ecosystem?

Solving pressing, persistent challenges to deliver even greater impacts.

**Canada's
genomics
community
*was built
for this***



Letter from the CEO and Board Chair

For a quarter-century, Genome Canada has stood at the forefront of a biological revolution that has transformed our understanding of life itself. As we mark our 25th anniversary, we reflect with pride on how genomics has delivered on its extraordinary promise, revolutionizing biotechnology and creating impacts that touch the lives of all Canadians.

From our founding, Genome Canada embraced a bold mandate: to build a strong foundation for Canadian genomics, nurture a thriving ecosystem, support world-class talent and fund groundbreaking projects with tangible benefits for our nation.

We're proud of what we've accomplished. Canadian genomics researchers now rank among the best globally, our companies stand as recognized innovators, and we're seeing meaningful impacts across the country—from breakthrough health-care advancements, to agricultural innovation, to sustainable management of our natural resources.

But as much as we've achieved, we're now at a critical inflection point.

Canada finds itself in an unprecedented geopolitical environment. Our nation's peace, security and economic well-being can no longer be taken for granted. Global conflicts, shifting trade relationships and technological competition between major powers have created a world order that demands greater self-reliance and strategic focus.

In this challenging context, genomics has emerged as a cornerstone technology with immense potential to strengthen Canadian sovereignty and resilience. We've gone

from billion-dollar genomes to hundred-dollar genomes, enabling unprecedented insights into biological systems. Advances in data management, bioinformatics, artificial intelligence and quantum computing are unlocking the power of genomic data. And with breakthroughs in CRISPR and other biotechnologies, we're opening vast new opportunities in biomanufacturing, disease management and natural resource development.

Together, these changes are fueling a biorevolution that promises to reshape our economy and society. Canada is uniquely positioned to lead in this revolution, thanks to our abundant natural resources, world-class talent and the solid foundation we've built in genomics research and biotechnology innovation.

Genome Canada is ready to meet this moment with urgency and purpose. As we mark our 25th anniversary, we're renewing our mandate to align with the evolution of genomic science and the strategic imperatives facing our nation. Our mission-driven, challenge-based approach has proven effective, including through our rapid mobilization of the Canadian COVID-19 Genomics Network (CanCOGeN) to tackle the pandemic. This work shows how Canadian science can deliver when national priorities demand swift, coordinated action.

Our new Strategic Directions outline how we will drive transformative change over the next five years, and beyond, with focused initiatives across health, food and agriculture, natural resources, and commercialization and adoption.

The imperatives behind our strategy are clear:

- + **Strengthening national sovereignty by building critical domestic capabilities to protect against pandemics, secure essential supply chains and respond to environmental risks**
- + **Enhancing economic security by commercializing and implementing cutting-edge genomics technologies that increase productivity and create high-value Canadian jobs**
- + **Safeguarding environmental sustainability by addressing climate change while ethically deriving value from our natural resources**
- + **Ensuring inclusivity in genomics, so all Canadians are represented in our health data and benefit from economic and social gains—from coast to coast to coast**

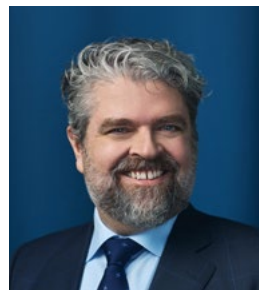
While the challenges we face are substantial, we approach them with determined optimism. By focusing Canadian genomics on these core priorities, we can convert immediate challenges into sustainable advantages for our country.

Genome Canada is proud to lead, but we don't do it alone. Our success depends on understanding and reflecting the ambitions of our partners across industry, government and academia, who all bring critical perspectives, expertise and resources that

drive innovation. We are especially proud of our close partnership with six regional Genome Centres, each deeply embedded in their local ecosystems, with strong networks across geographies and areas of expertise.

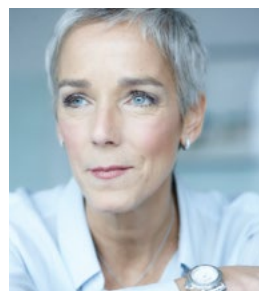
We are honoured to support the federal government's Canadian Genomics Strategy, announced in February 2025, as a key strategic delivery partner. With our renewed mandate as an ecosystem leader for this critical platform technology, we are uniquely positioned to help translate national priorities into coordinated action across the country.

Together, we can mobilize Canadian genomics as a strategic asset that secures our economic independence and technological sovereignty —turning the biorevolution into a catalyst for Canadian resilience and prosperity.



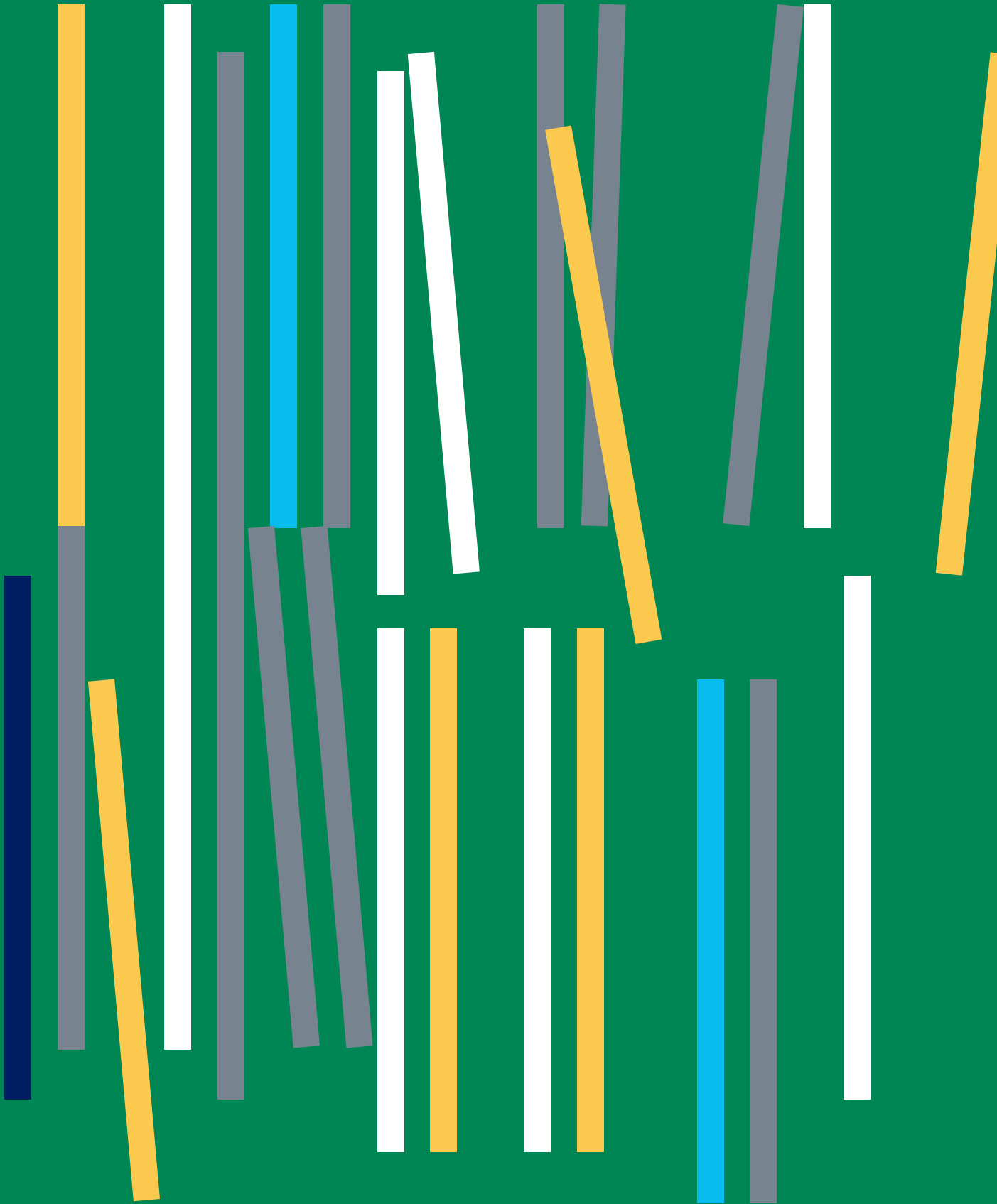
A handwritten signature in green ink, appearing to read 'Rob Annan'.

Rob Annan, PhD
President and CEO



A handwritten signature in green ink, appearing to read 'Elizabeth Douville'.


Elizabeth Douville, PhD, ICD.D
Board chair






Strategic Directions

 **The world is
full of challenges.**

  **Canada's
genomics community
is ready to turn them
into opportunities.**





Genome Canada has embraced a **mission-driven, challenge-based approach** to research funding that ignites innovation and drives real-world impact.

By tackling targeted, high-priority challenges, we focus the power of genomics where it matters most—from improving health, to protecting the environment, to growing our economy. This approach breaks down silos, encouraging collaboration across disciplines and sectors. It is not just about generating new knowledge, but also translating it into solutions that address Canada’s most pressing needs today and long term. With a clear mission in sight, we ensure every dollar invested brings us closer to tangible, measurable benefits for Canadians and the world.

Precision health

Our big, audacious challenge:

What if the doctor could really see you? Not just the *physical you*, but the *genetic you*.



We will:

-
- + Transform health care delivery through genomics data and technology**

 - + Enable personalized treatments and targeted therapies**

 - + Build Canada's AI-enabled genomic health data infrastructure**

 - + Support equitable access to genomic health care**

We will drive the sequencing of 100K genomes.

And we will partner with leading AI companies and institutions to develop world-leading tools to understand what that data is telling us.

We will support research to illuminate genetic variability.

Genetic variation causes cancer, rare disease and hereditary illness. Understanding genetic variation brings clarity.

We will prioritize inclusive health to ensure the benefits of innovation are distributed equitably.

We will fund distinctions-based approaches that reflect Indigenous perspectives and populations.

We will continue to embed GE³LS* research in all of our initiatives to uncover inequities and identify areas that will lead to transformative impacts.

**Genomics and its environmental, economic, ethical, legal and social aspects.*



We will establish trusted, sustainable processes for data stewardship.

■ We will foster trust in precision health approaches with Canadians—including marginalized groups and Indigenous communities—through appropriate privacy and governance.

■ ■ We will work with policymakers and institutions to ensure policies and regulations balance privacy, ethics and innovation.



Agriculture and food

Our big, audacious challenge:

**Can genomics build
more resilient agriculture
and food systems in
the face of economic
and environmental
stressors?**



We will:

-
- + Improve Canada's agricultural competitiveness through genomics-enabled innovation**

 - + Lead in developing next-generation crops and livestock**

 - + Support sustainability and environmental resilience in our food systems**

 - + Strengthen national food security and sovereignty**

We will break new ground.

We will fund research that enables precision in crop selection, better climate preparedness, greater yields, less disease and less resource intense food production.



We will empower those who nourish us.

 We will support a portfolio of applied research projects designed to find ways to empower farmers and fishers to improve the food supply and their productivity through genomics.

We will sow what we know.

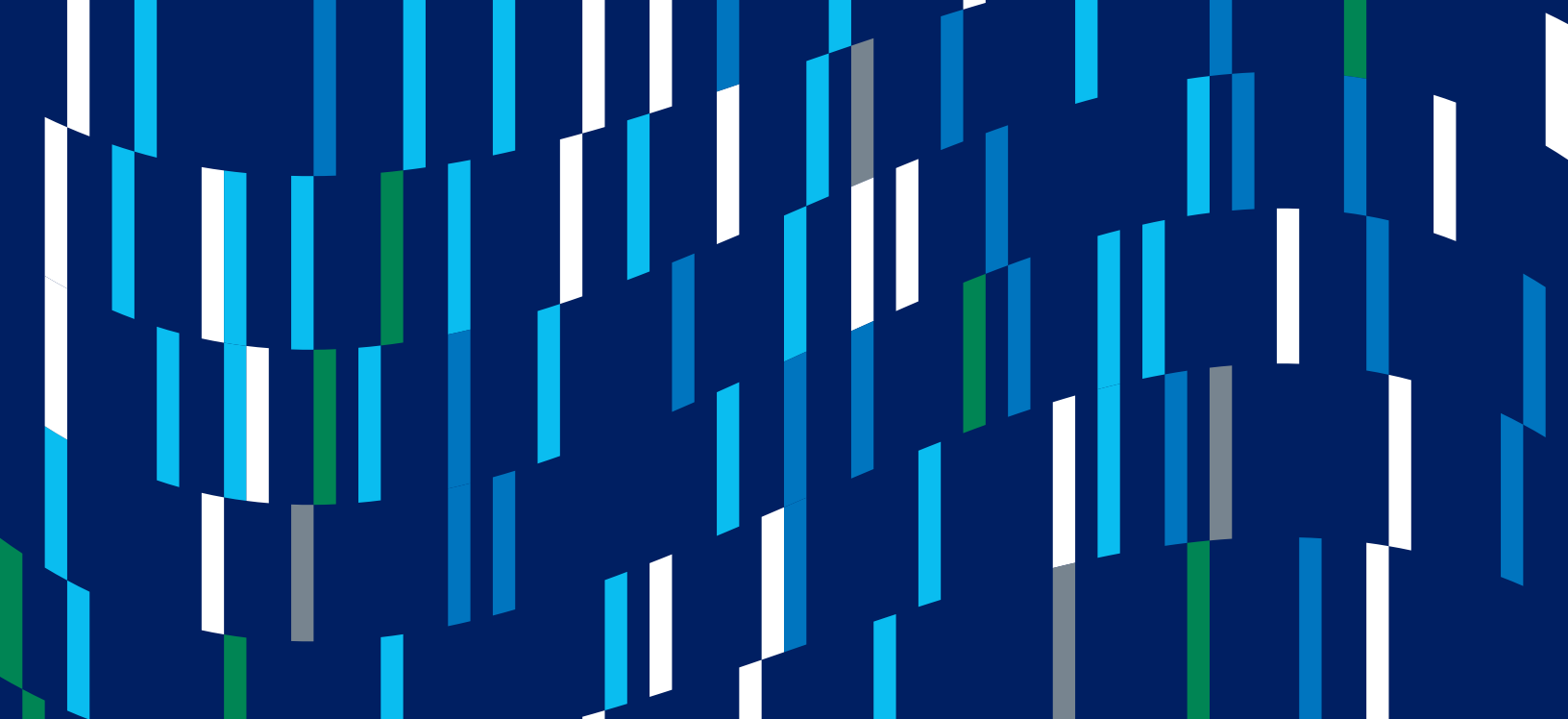
  We will connect and empower agricultural genomics projects through centres for data coordination and knowledge mobilization.



Bioeconomy and natural resources

Our big, audacious challenge:

Can genomics fuel Canadian productivity and economic growth while safeguarding the biodiversity and health of our forests, prairies, lakes and oceans?



We will:

-
- + Revolutionize Canada's resource sectors by enhancing productivity while reducing environmental impacts**
-
- + Preserve and document Canada's biodiversity as both an environmental responsibility and economic opportunity**
-
- + Develop sustainable bio-based alternatives that transform traditional industries and create new value chains**
-
- + Balance resource extraction with environmental stewardship through genomics-enabled solutions**

We will deliver actionable science for ecosystem conservation and natural resources management.

When Canada trades its wood products, we help the world build. When we trade our energy, we help the world move. When we trade what we grow, we help feed the world. When we trade our minerals, we help the world create.

When we show what genomics can do to support our bioeconomy, we help Canada grow.

■ We will learn from
Indigenous intelligence.

■ ■ We will collaborate
with Indigenous communities
to co-create genomic solutions
leveraging the **knowledge**
of Indigenous environmental
stewards.



Commercialization and adoption

Our big, audacious challenge:

**Can genomics transform
Canadian industry across
key economic sectors,
placing home grown
companies among the
world's most innovative
and productive?**



We will:

-
- + Accelerate translation of genomics into market-ready commercial products across the Canadian economy**

 - + Inform national policy on biotechnology advancement and governance**

 - + Drive evolution from applied research to challenge-driven research to generate social and economic benefits**

 - + Integrate GE³LS research to address ethical, economic, environmental, legal and social considerations that facilitate responsible commercialization**

We will support regional economic development.

Regional Genome Centres have deep connections with companies, research institutions and communities in their regions. They know what these firms need to grow. We will support their efforts to make these companies more innovative, providing economic benefits to regions across Canada.

Genomics is driving a biorevolution that is transforming traditional sectors—from agriculture, to energy, to manufacturing, to transportation.

We will bring the biorevolution home, supporting sustainable inputs, home-grown supply chains and new production methods.

Canada has everything it needs to capitalize on this opportunity: land, water, energy, talent and drive.

We can help.

■ We will fill gaps.

■ ■ Gaps in
technology access.

■ ■ ■ Gaps between
discovery and commercialization.
We work with companies and
help fill the gap between potential
and reality. Gaps in know-how.



Genome Canada's genome

**Genome Canada
translates genomics-
driven biotechnology
breakthroughs
into transformative
health, economic
and environmental
solutions for
Canadians.**



Our vision:
**Canada as a
global leader in
biotechnology
innovation and
adoption.**



Genome Canada's genome

TO ACHIEVE OUR VISION FOR CANADA, WE:

■ **Lead** large-scale, mission-driven genomics initiatives that translate research into real-world impact.

■ **Build** Canada's genomics capacity through strategic investments in research, technology and talent.

■ **Connect** industry, academia and government in powerful cross-sector alliances—aligning federal, provincial and private-sector investments to amplify Canada's genomics impact nationally and globally.





OUR VALUES

Impact

We drive transformative outcomes through genomics, tackling global challenges with bold vision and determination.

Agility

We are flexible and responsive, evolving our approach to maximize impact and reflect progress.

Inclusiveness

We actively integrate diverse perspectives and experiences, recognizing that excellence requires representation from all communities.

Community-building

We work in close partnership with six regional Genome Centres and stakeholders across sectors to build robust research and innovation ecosystems.

Integrity

We champion scientific excellence and breakthrough innovation, making decisions based on rigorous evidence while upholding the highest ethical standards.



Ask why? and why not?

We are driven to be an organization that runs on hard questions. An organization determined to provide Canada and the world with better answers.

We are driven to collaborate, notably with six strong regional Genome Centres. Their relationships with regional research and innovation partners and provincial governments are vital to ensuring federal and provincial strategies are aligned and optimized.

Deploy data-driven insights

Data is frozen knowledge. To yield insights it must be curated for understanding and application. We are driven to develop safe, large-scale, ready-to-use Canadian data assets and to ensure data flows freely and responsibly between universities, industries, policymakers, health-care systems and sectoral experts.

Address historical inequities in genomic research

By upholding Indigenous rights to self-determination in both genomics research and its implementation.

By ensuring that marginalized, under-represented groups are represented in groundbreaking work.

By being truly inclusive when considering the types of projects we fund, the types of researchers we fund, the types of questions we're asking, and the outcomes and impacts we're driving for.



Enrich understanding and trust in genomics

Governments immersed in the critical issues of our times need world-class counsel. We will advise.

Health-care systems need thought leadership. We'll share our thinking.

Industries need to understand what a resource genomics can be. We will illuminate the possibilities.

We all need to understand the societal implications of genomics research. We will embed a GE³LS* component in all the research we fund.

Develop the next generation of thinkers whose ideas cause eyebrows to shoot up

Canada's genomic R&D infrastructure is open, resilient, brilliant, veracious and bravely speculative.

Our intention is to grow a diverse talent pool to support a thriving community of science and truth.

**Genomics and its environmental, economic, ethical, legal and social aspects.*



Measuring our impact

GLOBAL LEADERSHIP

- + International ranking in biotechnology innovation

- + Share of global genomics patents and IP

- + Success in attracting and retaining world-class talent

- + Contributions to global science and knowledge sharing

ECONOMIC TRANSFORMATION

- + Growth in Canadian biotechnology company valuations

- + Increased productivity in genomics-enabled sectors

- + Private investment leveraged in genomics innovation

IMPROVED QUALITY OF LIFE FOR CANADIANS

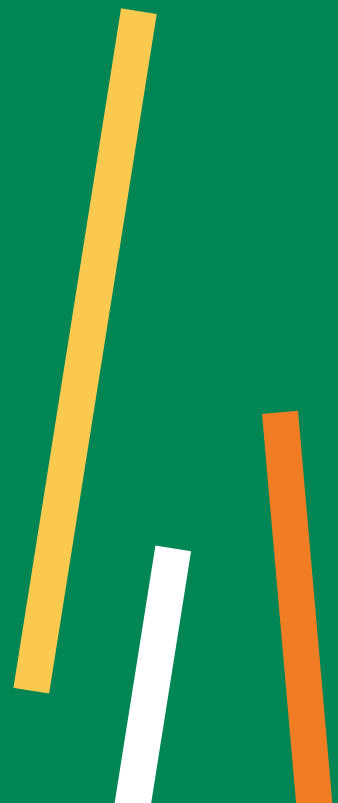
+ Reduction in diagnostic wait times through genomic medicine

+ Adoption of climate-resilient crops by Canadian farmers

+ Environmental improvements through genomic solutions

+ Indigenous engagement and partnership strength

+ Diversity and inclusion in genomics research, data and applications






After nearly 25 years, we're just getting started. And the path ahead will be full of surprises.

**Times will change.
Technologies will change.**

Genomic breakthroughs will redraw the boundaries of what we do.

What will we do when we have even more powerful tools for finding answers?

 *Tackle tougher questions.*



Genome Canada's main office is located on the unceded traditional land of the **Anishinabe Algonquin Nation**.

Canada

Genome Canada gratefully acknowledges the support of the Government of Canada, and specifically Innovation, Science and Economic Development Canada (ISED), the lead investor in our challenge-driven genomics initiatives.