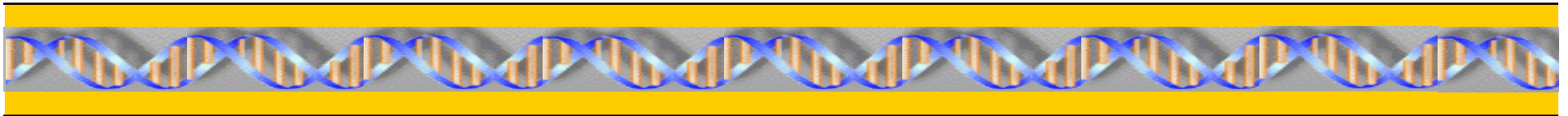


International Genomics Consortia



EuroBioForum

(19 September 2008)

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Ontario**Genomics**Institute

OGI Five Year Plan: Ontario & Genomics



- **What is Genomics?**
- **What are Genome Canada & OGI?**
- **International Consortium Initiatives**

What is Genomics?

A new, outcome-oriented research paradigm

investment

outcomes

impact & benefits

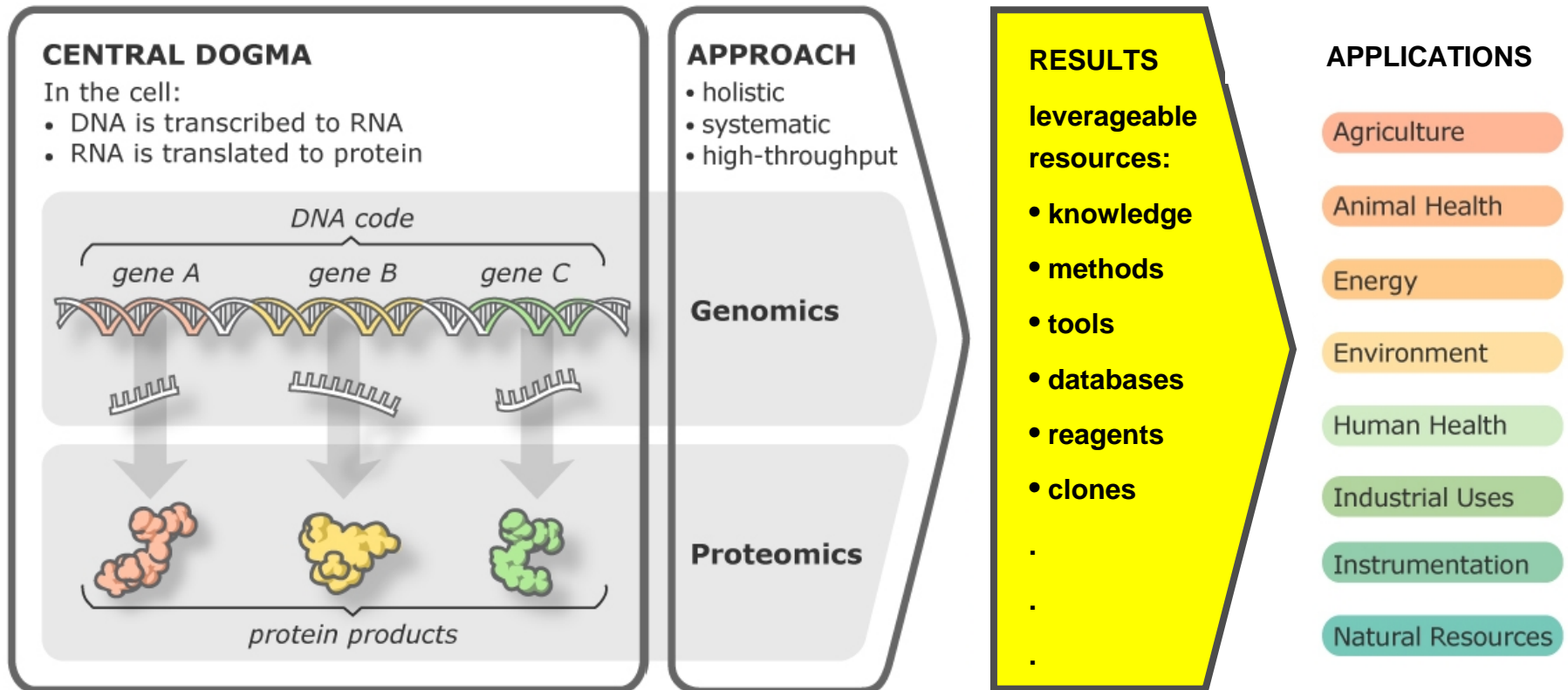


Illustration by AXS Studio Inc.

What is Genomics? Investment, Outcomes & Benefits

– investment –

potential for strategic prioritization
each project administered as contract
drive toward desired outcomes
\$1M/yr - \$20M/yr for 2 – 4 years
multi-institutional collaboration
international collaboration & funding
academic & commercial partners
provincial \$\$ leveraged 3-5 fold

– outcomes –

open access, public resources
and ... publications
and ... intellectual property

– near-term impact & benefits –

sector-wide: commercial & academic
R&D acceleration across sector
international visibility & attraction

– long-term impact & benefits –

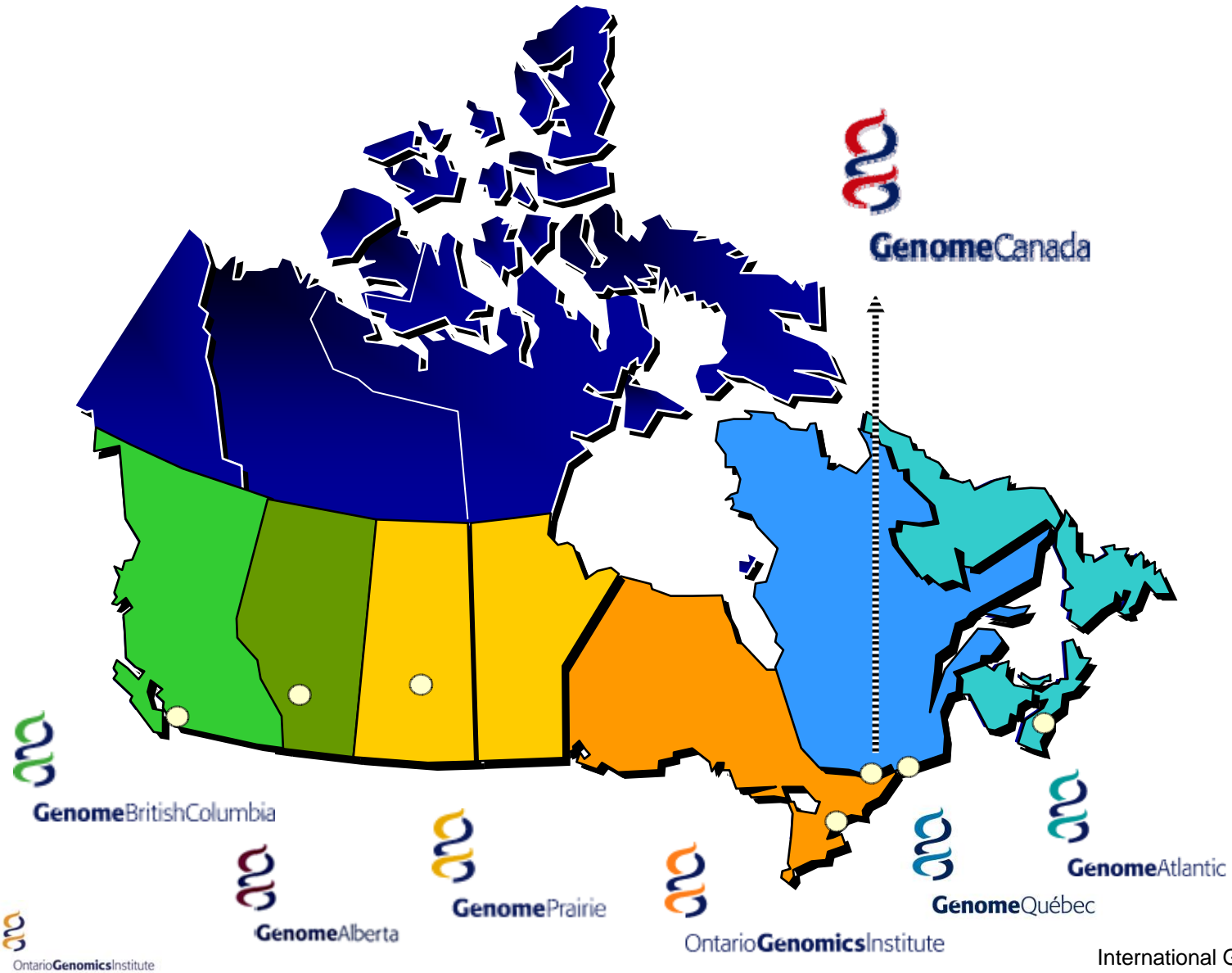
continuation of near-term impact
commercial product development

OGI Five Year Plan: Ontario & Genomics



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Genome Centres Across Canada



OGI's Mission Statement

Use world-class research to create strategic genomics resources ...

\$600M portfolio to date of > 35 projects led by Ontario scientists

\$3M - \$30M per project over 3 - 4 years, average \$12M

Requirement for co-funding invites participation from:

- **Industry (funds raised and spent in other institutions counts)**
- **International partners (funds raised and spent elsewhere counts)**

... and accelerate Ontario's development of a globally-competitive life sciences sector.

International Projects: Genome Canada Mechanisms for Support



Investigator Initiated

- initiated & led (or co-led) by a Canadian scientist in response to RFP
- option of including an international partner
- funded competitively based on international peer review

Put forward by International Community

- e.g., Bovine Genome Project, Human HapMap Consortium

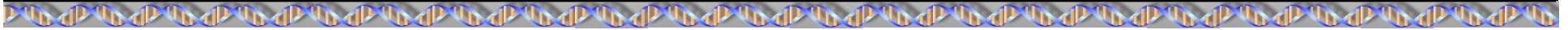
Bilateral Competition

- e.g. Genome Canada/ Genoma España

International Consortium Initiative (ICI)

- initiated & led by a Canadian scientist
- large international component: scientists & funding sources
- funded based on international joint peer review

OGI Five Year Plan: Ontario & Genomics



- **What is Genomics?**
- **What are Genome Canada & OGI?**
- **International Consortium Initiatives**

International Projects: Genome Canada International Consortium Initiative (ICI) Criteria

An ICI is a scientific research project

- in which Canadian researcher(s) play a key leadership role
- which will further enhance the status of Canada & Canadian scientists in the global community

In order to be eligible for an ICI, the following criteria must be met:

- the project must have clear international visibility;
- Canadian researcher(s) whose major research activities will be in Canada must play a key leadership role;
- the proposed project must involve an international consortium usually with some formal governance structures;
- the project should be for a minimum of \$50M over 3 years with other partners committing at least 75% of total costs.

International Consortium Initiatives

Public Population Project for Genomics (P³G)

- Biobanking resource for Human Population Genetics
- Protocols, Policies & Implications of Biobanking

Structural Genomics Consortium (SGC)

- 3D structures of protein families

International Regulome Consortium (IRC)

- Developmental Regulation of Stem Cell Development

International Barcode of Life Consortium (iBOL)

- Barcode 5M specimens for 500K species in 5 years

Example: Structural Genomics Consortium

– R&D *investment* (led by Aled Edwards @ U. of Toronto) –

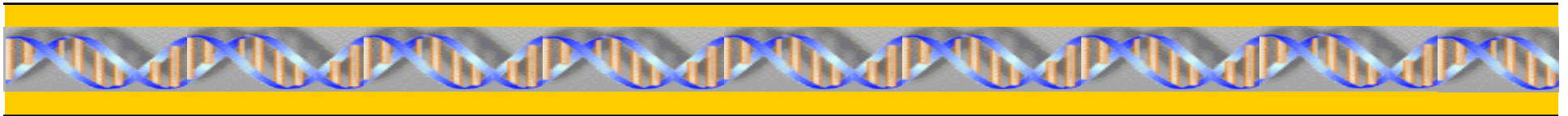
- focused on 3D structures of protein family members
- \$220M over 7 years (phase I & II)
- work done in and funded by Canada, United Kingdom & Sweden
- commercial partners: Glaxo SmithKline, Merck, Novartis

– *outcomes & resources* created –

- several hundred 3D structures of potential drug-targets into PDB
- expression, purification & crystallization methods on SGC web site
- source of 30% of recent novel human structures deposited in PDB

– *impact & benefits* –

- global recognition (lead source of recent novel human structures)
- provincial investment (\$30M) leveraged more than seven-fold
- tripled initial international pharma investment



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Genomics Sector Innovation Network Portal:
www.g-sin.ca