

# Financing Innovation: Who Pays and How Much?

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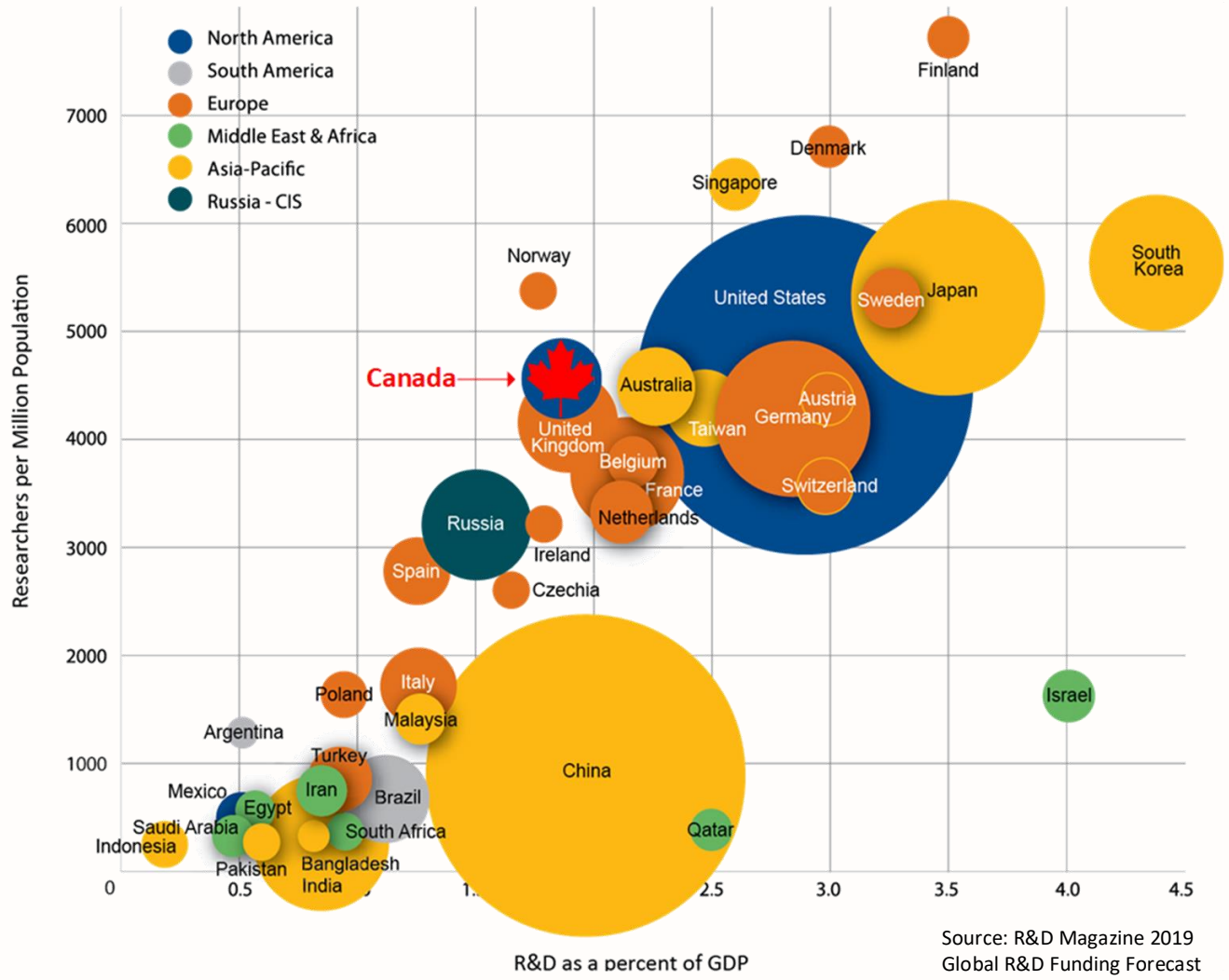
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## **Context: Government's Role in Financing Innovation**

# Global R&D Context

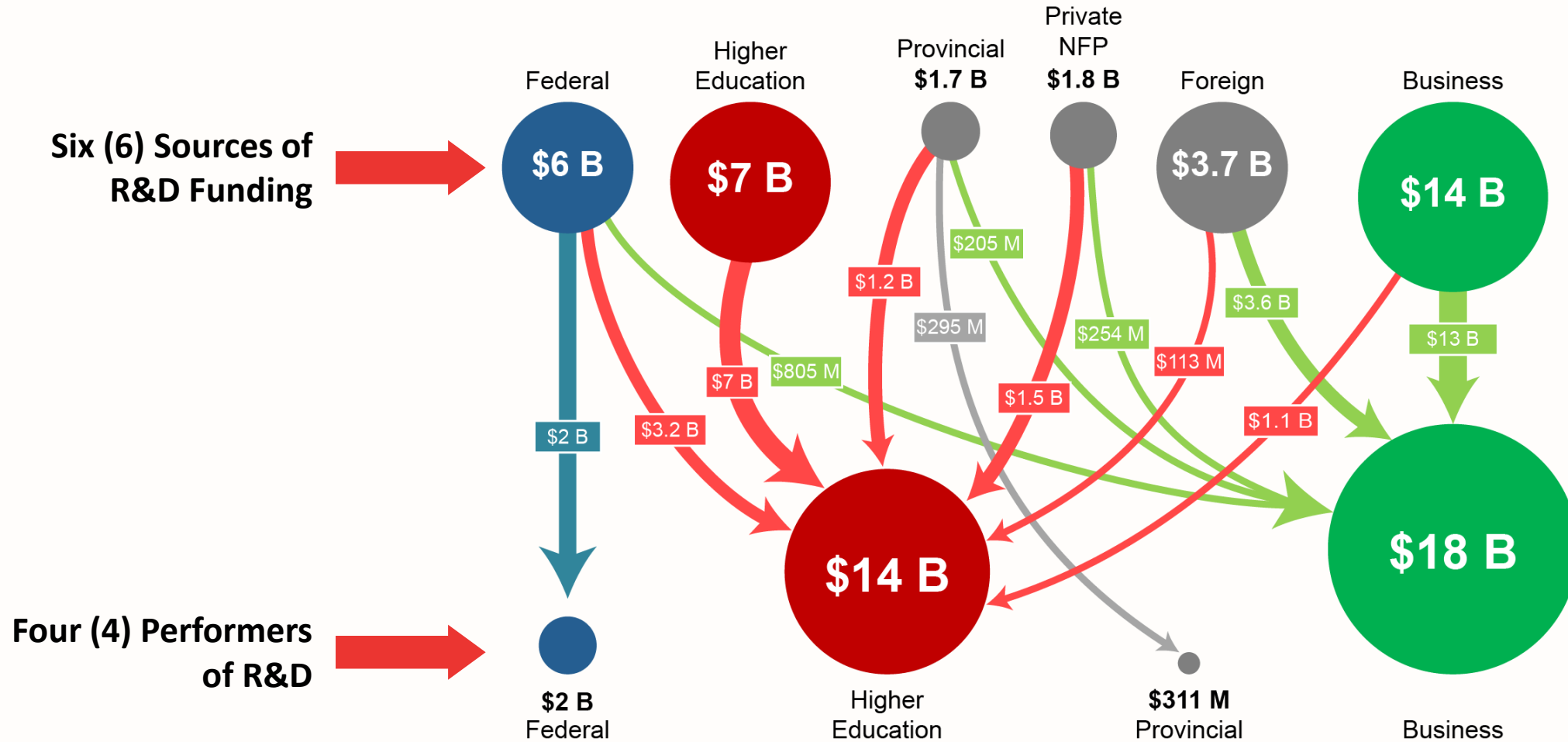


- Global R&D totals \$2,300 B
- Global R&D is dominated by US, China and Japan
- Canada contributes only 1.5% of global investments in R&D (about \$34.5 B of \$2,300 B)

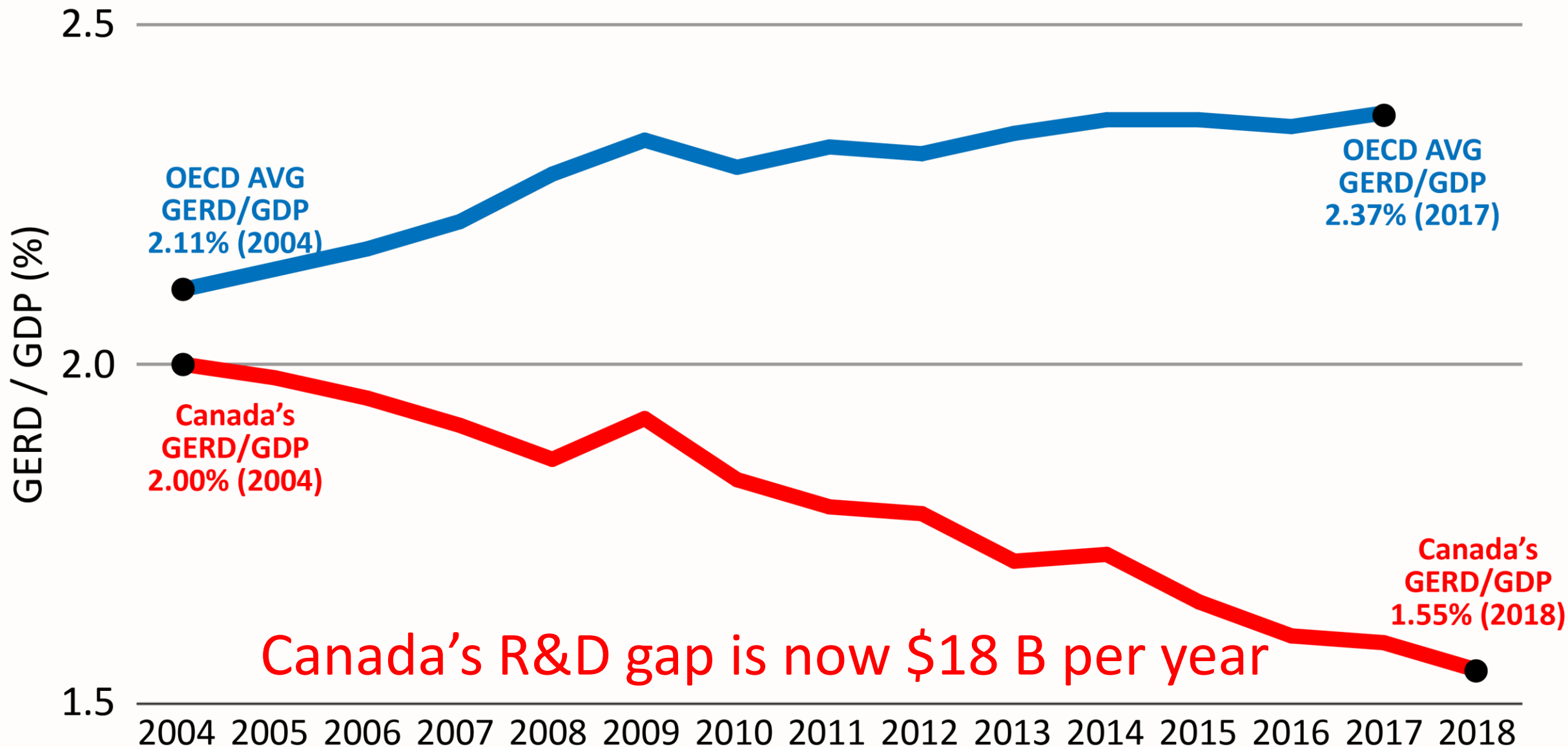
**Canada's Challenge:**  
How do we access the other 98.5% of new knowledge from R&D in order to meet Canadian needs?



# Total Canadian R&D Funding 2018: \$34.5 Billion



# Canada's Declining Gross Expenditures on R&D (GERD, 2004-2018)



Canada's R&D gap is now \$18 B per year





## **Canada's Innovation Funding – Four (4) Federal Funding Platforms:**

- 1. IRAP**
- 2. Strategic Innovation Fund**
- 3. Regional Development Agencies**
- 4. Trade Commissioner Service**

# #1: Industrial Research Assistance Program

## Federal Science-Based Departments & Agencies

### National Research Council Canada

Annual Budget: \$1,027 M (2018-19)

Total R&D Expenditures: \$966 M (2018-19) 0.2% increase since 2017-18

### Industrial Research Assistance Program (IRAP)

Annual Budget: \$269 M (2017-18)

Number of Full Time Staff: 410 (Actual)

Includes a network of over 255 Industrial Technology Advisors (ITAs)

Engages roughly 8,000 SMEs annually

### Budget 2019:

- Strengthen Canada's world class physics research (\$158 M over 4 years)

- NRC – IRAP

- A Base Funding: \$177 M per year
- Budget 2018 – \$700 M over 5 years

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**\$320 M / per year**





# #2: Strategic Innovation Fund

## Minister for Industry

### Innovation, Science and Economic Development

**Annual Budget:** \$2,905 M (2018-19)

**Total R&D Expenditures:** \$676 M (2018-19) **32% decrease since 2017-18**

**Strategic Innovation Fund (SIF):** \$1.26 B over 5 years (2017-22)

Repayable and non-repayable contributions to firms of all sizes across all of Canada's industrial and technology sectors.

**Stream 1:** Encourage R&D that will accelerate technology transfer and commercialization of innovative products, processes and services

**Stream 2:** Facilitate the growth and expansion of firms in Canada

**Stream 3:** Attract and retain large scale investments to Canada

**Stream 4:** Advance industrial research, development and technology demonstration through collaboration between academia, non-profit organizations and the private sector

**Stream 5:** Support large-scale national innovation ecosystems through high impact collaborations across Canada

#### Fall Economic Statement 2018

- \$800 M in additional funding to Strategic Innovation Fund

**Innovative Solutions Canada (ISC):** Supports the scale-up and growth of Canada's innovators and entrepreneurs

**Funding:** Over \$100 M from 20 federal departments and agencies

**Build in Canada Innovation Program (BCIP):** Tests Canadian businesses' innovative pre-commercialized goods and services within the Government before taking them to market; BCIP is currently being consolidated with ISC

**Max Funding:** \$500,000 for Standard Component (4 priority areas: enabling technologies, environment, health, safety and security) and \$1 M for Military Component (6 priority areas: arctic and maritime security, command and support, cybersecurity, in-service support, protecting the soldier, training systems)

**Innovation Canada:** Launched in January 2018 to provide a single point of contact for Canadian innovators and entrepreneurs

**Funding:** \$13.5 M over 5 years (\$3 M per year ongoing) from Budget 2018

**Concierge Service:** A single point of entry for Canadian SMEs to gain access to funding, services, and mentorship; concierge does not directly provide funding, but will redirect an SME to the appropriate organization for their stage of growth

- ISED – SIF:
  - Budget 2017 – \$1.26 over 5 years
  - Budget 2018 – \$100 M over 5 years
  - FES 2018 – \$800 M over 5 years
  - Budget 2019 – \$100 M over 4 years

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**\$460 M / per year**



# #3: Regional Development Agencies

## Federally-Administered Regional Development Agencies

### Budget 2019:

- Provide \$58.5 M over 2 years to RDAs for the creation of a Canadian Experiences Fund to help Canada's tourism sector innovate and grow
- \$6 M over 2 years to launch a federal strategy on jobs and tourism (with funding from ISED)

### Fall Economic Statement 2018:

- \$100 M to RDAs to support SMEs that are either producers or downstream users of steel and aluminum

	Budget (2018-19)
<b>Western Economic Diversification Canada</b>	\$150 M
<b>Budget 2019:</b>	
• Provide \$100 M over 3 years (on a cash basis) to increase programming in Western Canada	
• Provide increased funding of \$16 M (2019-20)	
<b>Canadian Northern Economic Development Agency (CanNor)</b>	\$30 M
<b>Budget 2019:</b>	
• Provide an additional \$75 M over 5 years to enhance its programming and create IDEANorth	
<b>Northern Ontario Development Program (FedNor)</b>	\$36 M
<b>Federal Economic Development Agency for Southern Ontario (FedDev)</b>	\$187 M
<b>Budget 2019:</b>	
• Permanent funding of \$185 M annually (starting 2024-25)	
<b>Economic Development Agency of Canada for Quebec Regions</b>	\$277 M
<b>Budget 2019:</b>	
• Provide increased funding of \$51 M (2020-21)	
<b>Atlantic Canada Opportunities Agency (ACOA)</b>	\$327 M
<b>Budget 2019:</b>	
• Provide increased funding of \$25 M (2019-20)	

## • ISED – RDAs

- Budget 2018 – \$511 M over 5 years
- Budget 2018 – \$400 M over 5 years
- Budget 2019 – \$58.5 M over 2 years

**\$210 M / per year**



# #4: Trade Commissioner Service

## Key Departments with an International Focus

### Global Affairs Canada

**Annual Budget:** \$6,491 M (2018-19)

**Total R&D Expenditures:** \$10 M (2018-19) Same as 2017-18

#### Budget 2019:

- \$67.3 M over 5 years (\$13.8 M per year ongoing) to protect Canada's national security against economic-based security threats, including theft of IP and Canadian-made technologies, with ISED, DND, CSE, CSIS, RCMP and PS
- Protect democracy (\$30.2 M over 5 years) with Heritage Canada and CSE by providing cyber security advice and guidance to political parties and strengthening cooperation and information sharing in response to foreign threats

## • GAC – TCS

- Budget 2018 – \$10 M over 2 years
- Budget 2018 – \$10 M over 2 years
- FES 2018 – \$184 M over 5 years

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**\$30-50 M / per year**





## **Canada's Innovation Funding – 3 Other Federal Programs:**

- 1. SR&ED**
- 2. SDTC**
- 3. BDC**

# #1: Scientific Research and Experimental Development Tax Incentive Program

## Other Departments/Agencies/Crowns

### Canada Revenue Agency

**Annual Budget:** \$4,205 M (2018-19)

#### Scientific Research & Experimental Development Tax Incentive

Fully refundable enhanced tax credit at a rate of 35% for up to \$3 M of qualifying SR&ED expenditures annually

**Tax incentives total value:** \$3,165 M (2016)

**Number of claimants:** 23,000 (2012)

#### **Budget 2019:**

- Proposition to eliminate the income threshold for accessing credit to ensure continued enhanced support for SMEs

#### **Fall Economic Statement 2018**

- Allow the full cost of machinery and equipment used in the manufacturing and processing of goods, and the full cost of specified clean energy equipment, to be written off
- Extend the 15% mineral exploration tax credit for additional 5 years

- CRA – SR&ED
  - Indirect support – \$3,165 M (2016)

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**\$3.17 B / per year**



# #2: Sustainable Development Technology Fund

## Sustainable Development Technology Canada

### SD Tech Fund

The SD Tech Fund supports projects that are pre-commercial and have the potential to demonstrate significant and quantifiable environmental and economic benefits in one or more of the following areas: climate change, clean air, clean water and clean soil

**Budget:** \$915 M (2001-2021)

**Budget 2017:**

Recapitalize the Tech Fund - \$400 M over 5 years

- SDTC – SD Tech Fund
  - A Base: \$45 M a year
  - Budget 2017: \$400 M over 5 years

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**\$125 M / per year**



# #3: Crown Corporations – BDC

Only financial institution dedicated to entrepreneurs: 56,000 entrepreneurs helped across Canada

**1. Venture capital:** total funding of **up to \$3.0B**

- **Women in Technology Fund:** \$200 M
- **Industrial Innovation Venture Fund:** \$250 M
- **Industrial, Clean and Energy Technology Venture Fund:** focused on scalable businesses
- **IT Venture Fund:** \$300 M
- **Healthcare Venture Fund:** \$270 M
- **GO Capital:** \$50 M fund for Quebec
- **Diversified Portfolio:** \$160 M
- **Fund Investments:** advise and help fund managers set up their investment funds. The goal is to “develop and enable the venture capital ecosystem in Canada”
- **Co-Investments:** late-stage funding rounds “to support late stage, high growth and knowledge-based companies through direct investments or special purpose vehicles”
- **Strategic Investments:** find partners to support businesses, either through investment, in-kind, or technology support and overall connect “partners and players in the Canadian technology ecosystem”
- **Market Development:** supports “growth of Canada’s venture capital (VC) ecosystem” through various non-financial initiatives to help fund managers scale-up their funds.

**2. Growth & transition capital:** scale-ups are offered various tailored financing structures to expand without diluting their ownership – similar to merchant or transaction banking teams in the private sector

**3. Growth equity:** direct but minority equity stakes up to \$25 M in stable businesses with growth potential

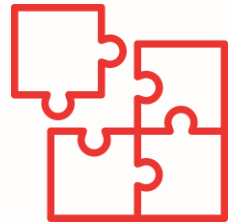


**Business  
Development Bank of  
Canada**

Financing streams  
accessible to businesses





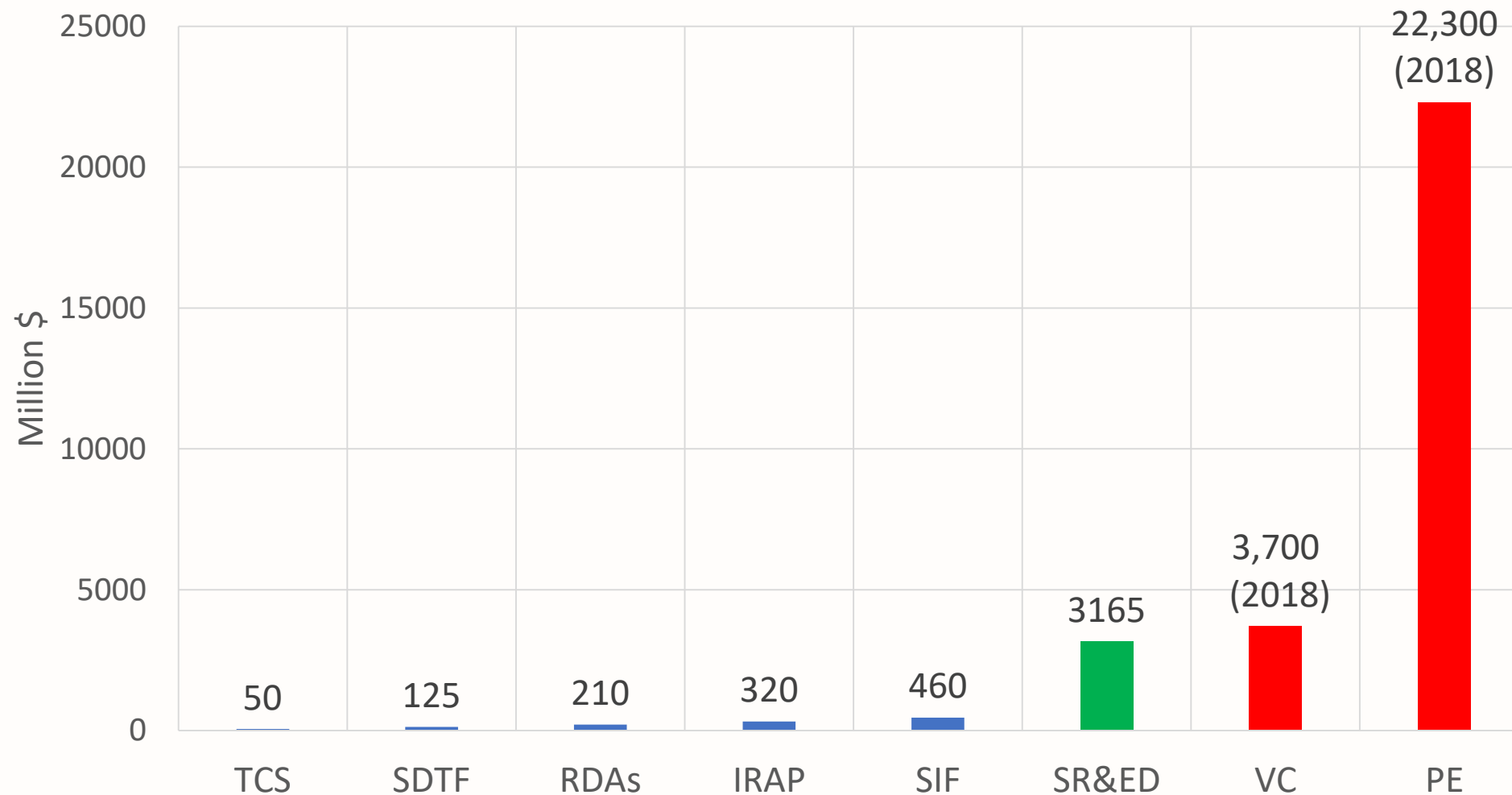


## **Results, Issues, and Broader Implications**



# What role for government in supporting innovation?

## Federal Government's Flagship Programs and Private Sector Capital (per year)



# Issues and Broader Implications

1. Government programs are numerous, fragmented, and small in scale compared to private sector risk capital
2. Crown corporations are more specialized, offer more resources (especially capital), and are more strategic with generally better risk management
  - They are also responsible to show returns, aligning their interests more tightly with the firms they serve
3. Most government innovation funding is channeled through programs hosted at federal departments
  - Could that funding be invested through more efficient vehicles?
4. BDC is the only kind of financial institution dedicated to helping entrepreneurs within the federal system
  - Could it be used in better ways to advance the goals of Canada's innovation, trade, and industrial policies?

# Thank you!!

To access our newly updated 2019 Canada's R&D and Innovation Ecosystem Map and Briefing Deck please visit:

<https://globaladvantageconsulting.com>





# How do you manage a Supercluster NFP?.....Super carefully!

