

# INNOVATIVE SOLUTIONS CANADA



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# Innovative Solutions Canada and Canada's Innovation and Skills Plan

## 4 Key Themes

1

People and Skills

Teaching Kids to Code

Global Skills Strategy

2

Research, Technology, Commercialization

Innovation Super Clusters

Intellectual Property Strategy

3

Program Simplification

Innovation Canada

Strategic Innovation Fund

4

Investment, scale-up and clean growth

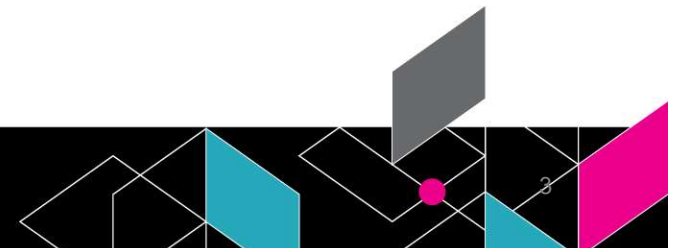
Innovative Solutions Canada

VC Catalyst Initiative



# Helping High Potential Canadian Firms Scale Up through Successful R&D

- Innovative Canadian firms expect their governments to help them leverage their R&D activities to succeed at home, in the global market, and to scale up.
- Effective procurement-based support for business innovation requires:
  - Creating a culture of innovation in our organizations from top to bottom;
  - Defining best value more broadly than lowest cost and risk; and
  - Utilizing demand pull and supply push approaches.
- The Build in Canada Innovation Program recently consolidated within Innovative Solutions Canada as part of the Government's commitment to streamline business innovation support programs.



# Redesigned Innovative Solutions Canada

**Objective:** Support innovative high potential Canadian firms to:

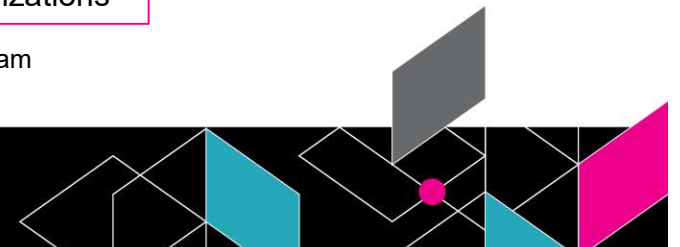
- ❑ Develop and commercialize R&D having potential to address the needs of government; and
- ❑ Leverage their participation in ISC to support to scale-up, realize export sales, and create jobs for Canadians and wealth for Canada.

**Design:**

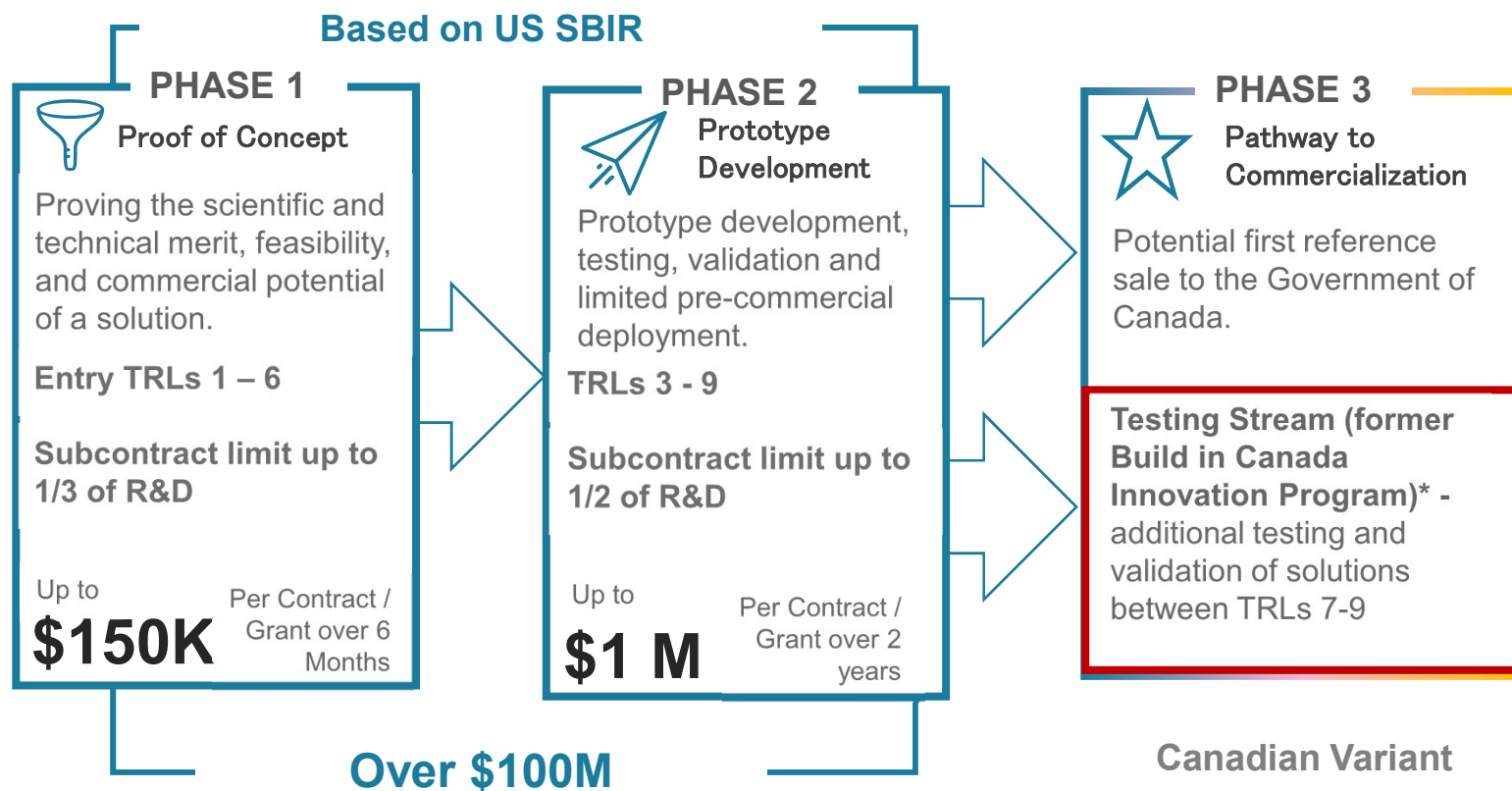
- ❑ Challenge Stream: enables federal departments/agencies to partner with Canadian SMEs to develop and commercialize early stage R&D (TRL 1-6\*) having potential to address their specific operational needs;
- ❑ Testing Stream\*\*: enables federal departments/agencies to test a wide range of late stage R&D (TRL 7-9) of Canadian firms of all sizes in operational environments and that are associated with government priorities and its operational needs; and
- ❑ Single window digital access to a broad range of R&D needs of the federal government that enables innovative Canadian firms to submit proposals for assistance to develop and commercialize related potential solutions.

See Annex A for a list of ISC's core participating organizations

\* TRL = Technology Readiness Level / \*\* Represents the former Build in Canada Innovation Program



# ISC's Challenge Stream



\*See Annex B for ISC Challenge types, Outcomes and Successes

# ISC's New Testing Stream (formerly BCIP)

## Priority Areas:

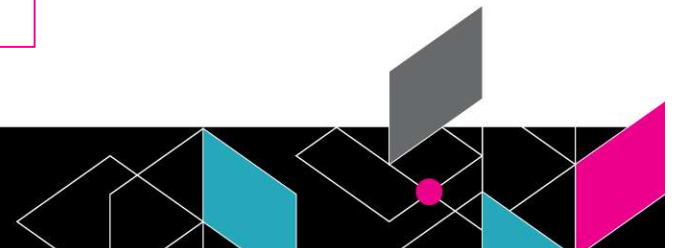
Standard: Enabling Technologies, Environment, Health, Safety and Security (max \$550K)

Military: Arctic/Maritime Security, Command/Support, Cyber-security, In-Service Support, Protecting the Soldier, and Training Systems. (max \$1.15M)

## Process:

- Mix of open, thematic, and issue-specific Calls for Proposals;
- Matches qualified test ready R&D with federal departments/agencies willing to test it;
- Test department and firm develop statement of work for the test of the innovation;
- Program issues contract to firm to procure the innovation and facilitate its testing; and
- Testing and feedback; and
- Firms assisted to identify for follow-on sales.

\* See Annex C for CSA's participation in BCIP



# Key Improvements to BCIP under ISC's New Testing Stream

**Before**



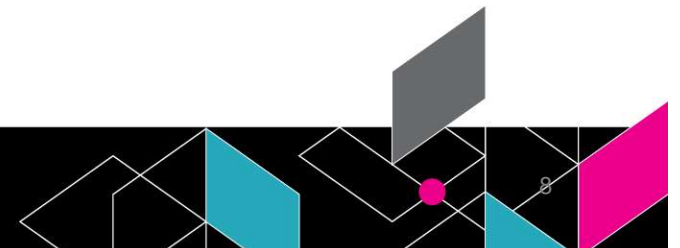
**After**

<b>Proposal Intake</b>	Continuous proposal intake	Calls for Proposals issued 2-4 times per year
<b>Evaluation</b>	Prequalified proposals not ranked before being matched	Proposals prequalified then ranked using CFP-specific criteria (e.g. market potential) before being matched
<b>Matching</b>	Program identifies test department (16 + months allowed)	Departments given a list of ranked proposals and a limited time (e.g. 60 days) to make testing decisions. [Supported by the ISC Secretariat]
<b>Contracting</b>	4-6 week after statement of work (SOW) finalized	4 weeks after the SOW is finalized (target)
<b>Testing</b>	Federal departments [other orgs can test with support of lead department]	Any Government of Canada entity can test directly. Collaboration with provincial/territorial entities based on shared priorities (e.g. healthcare, AI) will be piloted
<b>Additional Sales</b>	Firms identify opportunities for additional sales within the GoC	Firms assisted to identify opportunities for additional sales within the GoC
<b>Expenditure Management</b>	Single innovation budget	CFP-specific budgets
<b>Time to Contract</b>	Average of 10 months	Average of 6 months



# Collaborative Public Procurement of R&D under ISC

- ISED will soon seek opportunities to work with willing provinces under ISC. Possible elements of collaboration could include:
  - Identifying specific priority areas (e.g. health, artificial intelligence);
  - Co-developing challenges;
  - Cost sharing development of possible solutions;
  - Operational testing of prototypes and providing feedback to participating firms to support commercialization; and
  - Supporting firms to identify opportunities to realize follow-on internal and external to government sales.



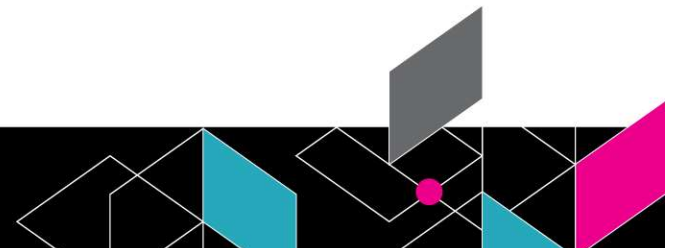


# Annexes

**Annex A: ISC Departments and Agencies;**

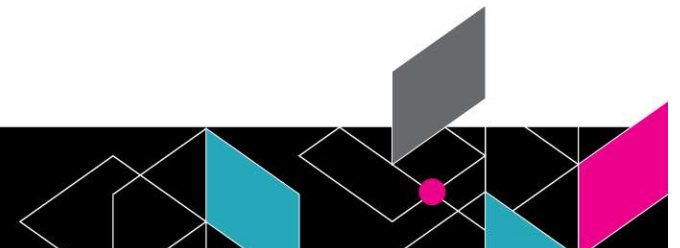
**Annex B: ISC Challenge types, Outcomes and Successes; and**

**Annex C: CSA's Participation in BCIP.**



# Annex A: ISC Departments and Agencies

- Agriculture and Agri-Food Canada
- Canada Border Services Agency
- Canadian Food Inspection Agency
- Canadian Space Agency
- Correctional Service Canada
- Employment and Social Development Canada
- Environment & Climate Change Canada
- Fisheries & Oceans Canada
- Global Affairs Canada
- Health Canada
- Indigenous and Northern Affairs Canada
- Innovation, Science and Economic Development Canada
- National Defence
- National Research Council Canada
- Natural Resources Canada
- Public Health Agency of Canada
- Public Service and Procurement Canada
- Royal Canadian Mounted Police
- Shared Services Canada
- Transport Canada



# Annex B: ISC Challenges, Outcomes, and Successes

## Types of ISC Challenges

Enhancing operational capabilities of departments



Using AI to better manage space assets



Beyond line of sight communication



Ergonomics of night vision goggles



Internet connectivity in remote locations

Advancing departmental mandates by filling a gap in the marketplace



Recycling of plastic construction waste



Improving film food packaging



Separating mixed plastics



Enhancing the safety of vulnerable road users

## Program Outcomes

44 challenges released

14 x Phase 1 awards  
1 x Phase 2 award

730+ proposals received

Average of 16 proposals per challenge

## Successes



ISED Connected Vehicle and Engineered Surfaces Challenge

Challenge: How to address radio interference between connected vehicles



Winnipeg-based, 3 FTEs

Develops electromagnetic analysis tools for computer-aided engineering

Awarded \$150,000 Phase 1 (Proof of concept) grant

Will be awarded ISC's first Phase 2 (Proto-type development) grant \$1m



Vancouver-based SME

In 2017 it received a \$1,163,721 BCIP contract for its renewable energy innovation tested by DND

Solution captures energy produced by movement of the knees, and makes it useable as a remote power source



# Annex C: CSA's Participation in BCIP

#	Innovator Name	Innovation name	Innovation Description	Contract End Date	Contract Value
<b>Contract Complete</b>					
1	Centre for Surgical Invention and Innovation	IGAR Teleop	Teleoperable robotic system for diagnosis and treatment of breast cancer in rural and remote settings.	19/03/2019	\$544,374
2	GHGSat Inc.	GHGSat	Measurement of greenhouse and air quality gas emissions from industrial sites, using a satellite.	31/08/2017	\$477,029
3	Space Codesign Systems Inc.	SpaceStudio	SpaceStudio is electronics design software to shorten the design cycle for complex electronic embedded systems.	23/06/2016	\$177,440
4	Xiphos Systems Corp.	Q6S Space Processor	A space-qualified hybrid processor, delivering state-of-the-art performance optimized for size, weight and power for use in small satellites.	31/03/2013	\$441,120
<b>Grand Total</b>					<b>\$1,639,963</b>

