Rethinking How Government Buys Innovation

A Three-Stage Policy Proposal for Innovation Discovery, Development, and Procurement

By Erinn van Wynsberghe

Policy Objective

Expand the range of solutions government can discover while preserving rigorous, fair selection of organizations responsible for delivery.

Executive Summary

Governments regularly seek innovative solutions through processes that require applicants to assemble delivery teams, provide detailed budgets, demonstrate past performance and show the capacity to execute. These safeguards serve legitimate purposes, but their early application can prevent government from seeing promising concepts proposed by independent inventors, researchers and small firms. The resulting risk is a discovery failure: a potentially superior solution never reaches the buyer.

This proposal recommends a three-stage procurement pathway: (1) invite concise ideas against a defined public problem; (2) award selected concepts and pay their originators to refine them with the problem-owning department, including appropriate intellectual-property planning; and (3) compete implementation among capable delivery organizations through open or legally justified controlled processes. The innovator may be the eventual contractor, join a delivery team, consult on implementation or license protected technology. These possibilities should be set out transparently from the beginning.

Four potential compensation channels support participation: a guaranteed award for each shortlisted concept under published rules; paid concept-development work for selected participants; optional consulting during implementation; and negotiated licensing fees or royalties where legally applicable. The first two are program-design commitments; the latter two depend on subsequent agreements. The proposal builds on established challenge and phased research approaches, including Innovative Solutions Canada, Impact Canada and US SBIR/STTR. Its proposed contribution is an integrated pathway that explicitly rewards initial ideas and allows implementation to be competed separately from concept origination. A bounded pilot, with independent evaluation and legal review, is recommended before broader adoption. [1–4]

1. The Policy Problem

1.1 The Procurement Entry Barrier

Traditional tendering quite reasonably asks whether a supplier can deliver. Yet when a government is still searching for the right answer, an early demand for implementation credentials can narrow the ideas it encounters. A researcher may understand a technical pathway without operating a company. An inventor may know how to solve a problem without possessing a manufacturing plant, security-cleared delivery team or procurement department.

The costs of proposal preparation are especially difficult to justify when the probability of selection is uncertain. Detailed budgets, subcontractor commitments and evidence of similar completed projects may be necessary for a delivery contract, but they can be premature tests of an undeveloped concept. This proposal separates the question “Is the idea worth developing?” from “Who can deliver it reliably?”

1.2 The Incentive to Offer What Already Exists

A modest innovation award can be sufficient to adapt, test or integrate an existing technology, yet inadequate to invent and deliver a genuinely new system. Where a solicitation effectively demands an immediately deliverable product, applicants may rationally favour laboratory-ready solutions and incremental modifications. That is not a failure of the supplier; it is a predictable response to the terms of the competition.

The concern is not that every procurement should pursue novelty. Routine goods and services should continue to be purchased efficiently through established processes. The proposed pathway is intended for problems where the government has a real unmet need, cannot confidently prescribe the solution and would benefit from looking beyond the usual supplier base.

1.3 Two Risks Must be Managed

Supplier risk concerns whether a contractor can complete the work on time, to specification, and within the agreed price. Discovery risk concerns whether a more effective approach is excluded before it can be assessed. Traditional supplier qualification principally addresses the first risk. A *concept-first* pathway gives government a structured way to address the second risk while still preserving the supplier safeguards where they are most useful: before an implementation award.

2. Existing Practice and the Proposed Contribution

The central elements of staged innovation funding already have precedents. Innovative Solutions Canada's Challenge Stream funds feasibility work and prototype development for eligible Canadian small and medium-sized businesses, and its published materials generally allow innovators to retain developed IP. Impact Canada describes challenge prizes and staged incentives designed to draw in a wider range of problem-solvers. US SBIR/STTR uses competitive phased research funding and specifies data-rights protections. [1–4]

The proposed model should therefore not be presented as the invention of challenge-based procurement or staged funding. Its specific policy hypothesis is that government can improve access to ideas by offering a small, paid concept-entry pathway open to a broader class of originators, funding joint requirements refinement, and then selecting the implementation supplier separately when appropriate.

Existing approach	Relevant feature	Proposed addition
Innovative Solutions Canada	Feasibility and prototype funding for eligible SMEs	Explicit paid idea-recognition step; potential separation of originator and implementer
Impact Canada challenges	Prizes, staged incentives, broad participation	Systematic transition from compensated concept refinement to procurement
US SBIR/STTR	Competitive phased R&D and protected technical data	Adaptable concept-originator compensation and independent delivery pathway

These comparisons are program-level observations, not a claim that all current programs share identical rules. A pilot would require a more detailed jurisdiction-specific mapping of existing authorities and instruments.

3. The Proposed Three-Stage Pathway

Stage 1: Invite Innovative Ideas

The sponsoring department publishes a problem statement, intended outcomes, essential constraints and a short concept-submission template. Applicants explain what they propose, why it may work and what would make it valuable. An initial submission of approximately two pages is a reasonable design target, adjusted for the complexity and sensitivity of the challenge.

The invitation must be clear that this is a compensated concept competition, rather than a conventional request for information. It states the shortlist selection criteria, number or range of available awards, fixed recognition payment, treatment of confidential information, submission rights and next-stage participation rules. Applicants should understand the potential economic value of their ideas before sharing them.

Reviewers assess problem fit, plausible feasibility, novelty or distinctiveness, potential public value and whether the proposal merits development. They do not demand a complete execution team or a detailed delivery price. A structured initial screen and expert review can reduce the cost per application, although the total review burden may increase if participation grows.

Stage 1 Output: a documented shortlist of concepts meriting further consideration, with reasons for selection and an award decision.

Stage 2: Reward and Refine

Each shortlisted concept selected for recognition receives the advertised lump-sum award. A further subset may enter a separately funded concept-development agreement for a defined period. This second payment covers the innovator's time and agreed deliverables; it is not merely reimbursement of proposal preparation. The sponsoring department and originator work together to translate the concept into a solution that meets the actual operational need.

Activities can include technical and systems discussions, validation of constraints, requirements mapping, consultation with end users, feasibility analysis, and identification of interfaces and performance measures. External engineers, academic experts, or specialized partners may be included where needed. The goal is a sufficiently specified concept for an informed implementation decision, not necessarily a finished prototype or full cost estimate.

Government should retain discretion to end refinement early when the idea is already mature, or stop work when evidence shows it is infeasible. Milestones and decision gates prevent an exploratory concept from becoming an open-ended development commitment. The initial submission rules protect confidential concepts, while Stage 2 establishes the more detailed ownership, licensing, and disclosure arrangements needed for implementation.

IP treatment is addressed before disclosure or external implementation solicitation. Where patent protection is appropriate, the program may fund qualified legal advice and filing costs. Some solutions instead rely on copyright, trade secrets, contractual know-how, data rights or no exclusive protection at all. Filing is not automatic and does not itself guarantee patentability. The agreement must identify background IP, newly developed IP, permitted government use, publication limits, transfer or licensing rights and treatment of unsuccessful concepts.

Stage 2 Output: a requirements-aligned solution description, feasibility and residual-risk record, an IP/disclosure plan, and a documented go/no-go decision.

Stage 3: Select the Delivery Partner

Once the government has decided what it wishes to build or test, it conducts a separate implementation procurement. This stage examines the capabilities that traditional procurement is designed to test: technical capacity, financial stability, security requirements, delivery approach, price, schedule, quality assurance and support arrangements.

Two routes may be appropriate. Under open competition, the department publishes implementation requirements with protected information removed or disclosed only under suitable conditions; the originator may bid alone or with partners. Under controlled competition, the department limits technical disclosure to appropriately qualified recipients and follows the procurement authorities and exceptions that actually apply. Confidentiality alone is not a blanket authorization for sole sourcing. [5–7]

Government and the innovator should establish any necessary rights before prospective implementers receive sensitive information. The eventual contractor may hire the originator as a consultant to support continuity. Separately, the contractor or government may license IP for agreed fees or royalties where applicable. Neither engagement nor royalty payments are automatic; both depend on the chosen rights and commercial structure.

Stage 3 Output: a defensible implementation award, supported by an appropriate license or transfer of rights, with clear delivery accountability.

4. Compensation and Commercial Rights

The incentive structure is central to the proposal. An innovator should be able to contribute a valuable solution without needing to finance a full bid or become a large contractor. The four channels below are deliberately separate.

Channel	Trigger	Proposed treatment
1. Concept award	Shortlisted idea meets published award conditions	Defined lump sum; not contingent on later implementation
2. Refinement agreement	Selection for funded Stage 2 work	Fixed amount or milestone payments for a defined term and outputs
3. Implementation consulting	Delivery team chooses to retain originator	Separate negotiated services agreement; optional
4. IP commercial return	Use of rights under a valid license or other agreement	Negotiated license fee, royalty or other payment; conditional

The design must avoid paying for ideas that are copied from the public domain, improperly taken from third parties or materially identical to an already funded concept. Published rules should address independent invention, overlapping submissions, joint inventorship, disclosure of prior rights, conflicts of interest and appeals. Payment for a shortlisted submission should not imply that government owns every idea submitted, and a concept award should not be confused with a patent grant.

For government, the economic value lies in creating a credible market signal: a useful concept can be rewarded early, paid refinement can improve it, and implementation can be assigned to a capable delivery organization. For the innovator, early compensation reduces participation risk; later income is possible but not guaranteed.

5. Implementation Design Choices

5.1 Sponsor and Governance

A department with a clearly defined operational need should own the problem statement and the acceptance criteria. A small program office could manage intake, records, conflict-of-interest declarations, payments and transition to procurement. An independent technical panel, including users and relevant specialists, should advise on merit without replacing the authorized decision-maker.

5.2 Fairness and Competition

The program needs objective, published scoring criteria; consistent treatment of applicants; clear records of reviewer decisions; and an auditable process for selecting paid concepts. At Stage 3, the use of an open competition should be the default where appropriate. Any limited or restricted tendering must be supported by applicable law, trade obligations and a documented justification. Canadian trade-agreement and defence rules place conditions on security exceptions and limited tendering. [5–7]

5.3 Managing the Originator–Implementer Relationship

Before Stage 3, the department should identify whether implementation requires access to protected know-how, whether that access can be licensed on fair terms, and whether a single originator's rights could unduly constrain competition. Possible instruments include a non-exclusive government-use license, a pre-agreed implementation license, escrow of technical documentation, or a voluntary partnership. No single model suits every technology.

5.4 Appropriate Scope

Suitable pilot challenges would have measurable outcomes, multiple plausible technical approaches, limited immediate safety exposure, and manageable IP complexity. Poor candidates include routine commodity purchases, urgent operational acquisitions that cannot accommodate concept development, or problems where a pre-selected proprietary solution is effectively unavoidable.

6. Principal Risks and Mitigations

Risk	Mitigation and decision control
Unmanageable volume of submissions	Two-page template; eligibility screen; staged review; published award cap; track reviewer workload
Weak, derivative or infeasible concepts	Originality declaration; expert screening; milestone-based refinement; stop/go gates
IP disputes or premature disclosure	Pre-submission rights notice; confidential intake; counsel-supported rights assessment; disclosure approval
Perceived favouritism or conflicts	Published criteria; conflict declarations; documented scoring; independent oversight and complaint route
Supplier lock-in or restrictive licensing	Plan implementation rights in Stage 2; test licensing feasibility before solicitation
National-security or sensitive data exposure	Security classification, access controls and procurement route reviewed by authorized specialists
Higher program administration cost	Measure full cost per viable concept and per implementation, not just cost per initial submission
Innovation that cannot be implemented	Technical validation, user acceptance tests, and full delivery diligence at Stage 3

An important limitation is that broad participation can increase the number of concepts to assess. The case for efficiency rests on reducing unnecessary full-bid preparation and focusing expensive diligence on promising solutions; net savings must be tested, not assumed.

7. Recommended Pilot and Evaluation

Launch a time-limited pilot in one department or a small group of participating departments, using a narrowly defined problem with genuine uncertainty about the best solution. Publish the Stage 1 concept rules and fixed awards; select a manageable number of concepts; offer funded refinement to those with the strongest potential; and proceed to implementation procurement only when a viable and legally usable solution is established.

The pilot should operate under an approved legal and financial instrument, with procurement counsel, IP specialists and departmental security authorities involved before launch. Existing challenge or R&D authorities should be assessed first; new authority should be sought only where the desired payment or competition mechanism cannot lawfully be supported.

Suggested evaluation measures:

- Discovery and Reach: number of eligible submissions; share from first-time government applicants, individuals, researchers and small firms; diversity of solution approaches
- Process Burden: median applicant preparation time; departmental review hours; time from challenge launch to shortlist and to concept decision
- Concept Quality: independent technical ratings; proportion passing feasibility gates; number progressing to implementation solicitation
- Commercial and Rights Outcomes: share with workable IP arrangements; licensing or consulting participation; number of qualified implementation bids
- Value and Risk: total program administration and concept-development costs; quality of delivered results; schedule, performance and supplier continuity after award

Compare outcomes with a reasonable baseline, such as prior procurements addressing similar problems or a parallel conventional solicitation where feasible. Independent review should examine whether the model actually discovers credible solutions that otherwise would have been missed. Success should not be defined merely by receiving more applications.

8. Recommendation and Conclusion

Government should test a procurement pathway that pays for the discovery and refinement of promising ideas before purchasing implementation. The pilot should retain transparent evaluation, strong IP safeguards, lawful competition and rigorous delivery due diligence, while giving people with good ideas a realistic opportunity to contribute.

Government is purchasing access to innovation before it purchases implementation. That sequence can improve the structure of procurement so that innovation and risk management reinforce each other. The goal is practical: discover a brilliant idea from someone who has neither a factory nor a procurement department, develop that idea with them, reward their contribution, and then hire the organization best equipped to bring it into the world.

Find the best solution *first*. Find the best supplier for it *second*.

References and Source Notes

[1] Innovation, Science and Economic Development Canada. “Challenge Stream for innovators.” https://ised-isde.canada.ca/site/innovative-solutions-canada/en/challenges

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[4] US Small Business Innovation Research / Small Business Technology Transfer. “Policies.” https://www.sbir.gov/about/policies

[5] Global Affairs Canada. “CETA: Chapter 19 – Government procurement.” https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/ceta-aecg/text-texte/19.aspx?lang=eng

[6] Department of National Defence. “DAOD 3016-0, National Security Exception Under Trade Agreements.” https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/3000-series/3016/3016-0-national-security-exception-under-trade-agreements.html

[7] Office of the Procurement Ombud. “Turning Complexity into Capability: Canada’s Defence Procurement System for Major Projects” (2026). https://opo-boa.gc.ca/tcc-eng.html

Scope note: This is an independent policy proposal for discussion and pilot testing, not a legal opinion or an assertion that existing procurement authorities automatically permit every proposed mechanism.