



# Innovation Canada: A Call to Action

Executive Summary

Review of Federal Support to Research and Development – Expert Panel Report

Canada 

## About the Cover

While the great American inventor Thomas Edison is given credit for “inventing” the light bulb, the story is really one of incremental innovation. In 1810, British chemist Humphry Davy invented the “electric arc,” a precursor to the light bulb. A series of innovations followed and, by the 1860s, the race was on to develop a commercially viable light bulb. Joining this race were two Canadians, Henry Woodward, a medical student in Toronto, and Mathew Evans, a hotel keeper. In 1874, they patented a nitrogen-filled light bulb that lasted longer than others of the era. But they could not get financing for their work, and in 1878 were eclipsed by British inventor Joseph Swan and then in 1879 by Thomas Edison. Realizing the commercial viability of the light bulb, Edison was successful in obtaining major financial backers. He used these funds to continue his experiments, but also to buy out many patents, including those of Swan and of Woodward and Evans.

As we reflected on our consultations held across Canada, during which we heard first-hand of the struggles and successes of Canadian entrepreneurs, we wondered: What if Woodward and Evans had been able to interest investors? What if they had been able to obtain financing to carry on their work and beat out Swan and Edison to be the first to commercialize the light bulb?

This report lays the foundation for a more innovative economy that supports and welcomes research, development and commercialization. It sets out goals and recommendations to take our country forward and help unleash the potential of entrepreneurs from all over Canada. Our hope is that the next Woodwards and Evanses will have all that they need to bring their ideas to the world and leave a lasting impact for future generations.

For more information, see: Library and Archives Canada, “Patent no. 3738. Filing year 1874,” <http://www.collectionscanada.gc.ca/innovations/023020-2710-e.html>.



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## Executive Summary

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# Executive Summary

## Innovation Canada: A Call to Action

Canada has a solid foundation on which to build success as a leader in the knowledge economy of tomorrow. We have a strong financial sector and attractive corporate tax rates. We have a diverse, well-educated workforce and significant natural resource endowments. We have institutions that safeguard the rights of individuals and encourage initiative. Yet, despite these notable strengths, challenges remain.

Studies have repeatedly documented that business innovation in Canada lags behind other highly developed countries. This gap is of vital concern because innovation is the ultimate source of the long-term competitiveness of businesses and the quality of life of Canadians. The ability to conjure up new products and services, to find novel uses for existing products and to develop new markets — these fruits of innovation are the tools that will ensure Canada's success in the twenty-first century.

Recognizing that innovation is paramount to continued prosperity, Budget 2010, *Leading the Way on Jobs and Growth*, announced a comprehensive review of support for research and development (R&D) in order to optimize the contributions of the Government of Canada to innovation and related economic opportunities for business. Our Panel was appointed in October 2010 and was mandated by the Minister of State (Science and Technology)

### The Panel's Advice in a Nutshell

Create an Industrial Research and Innovation Council (IRIC), with a clear business innovation mandate (including delivery of business-facing innovation programs, development of a business innovation talent strategy, and other duties over time), and enhance the impact of programs through consolidation and improved whole-of-government evaluation.

Simplify the Scientific Research and Experimental Development (SR&ED) program by basing the tax credit for small and medium-sized enterprises (SMEs) on labour-related costs. Redeploy funds from the tax credit to a more complete set of direct support initiatives to help SMEs grow into larger, competitive firms.

Make business innovation one of the core objectives of procurement, with the supporting initiatives to achieve this objective.

Transform the institutes of the National Research Council (NRC) into a constellation of large-scale, sectoral collaborative R&D centres involving business, the university sector and the provinces, while transferring NRC public policy-related research activity to the appropriate federal agencies.

Help high-growth innovative firms access the risk capital they need through the establishment of new funds where gaps exist.

Establish a clear federal voice for innovation, and engage in a dialogue with the provinces to improve coordination and impact.

to conduct the review announced in the Budget.

This report records our advice to the government on how federal programs that support business and commercially oriented R&D can make an even stronger contribution to a more innovative and prosperous Canada.

## What We Heard and Learned

During our extensive consultations, we learned about many Canadian success stories and heard from numerous entrepreneurs who said that federal programs have served them well. We also heard that there is opportunity to enhance the impact of programs to make them even better. We heard that the government should be more focussed on helping innovative firms to grow and, particularly, on serving the needs of small and medium-sized enterprises (SMEs). We heard that programs need to be more outcome oriented as well as more visible and easy to access. We heard that whole-of-government coordination must be improved and that there should be greater cooperation with provincial programs, which often share similar objectives and users. We also learned that innovation support is too narrowly focussed on R&D — more support is needed for other activities along the continuum from ideas to commercially useful innovation. This extensive feedback, supplemented by research and analysis and interpreted in the course of the Panel's internal dialogue, forms the basis of our advice.

## A Framework for Action

Our work has been guided by a long-term vision of a Canadian business sector that stands shoulder-to-shoulder with the world's innovation leaders — ultimately, this means a more productive and internationally

competitive economy that supports rising living standards for Canadians. To transform this vision into reality, we believe that the government must focus its efforts on the goal of growing innovative firms into larger enterprises, rooted in Canada but facing outward to the world and equipped to compete with the best.

Achieving the Panel's vision requires public policy action on a number of fronts, including ongoing efforts to refine and enhance marketplace and regulatory policies that influence the climate for private sector competition and investment. While these framework policies are not within the scope of this review, we would emphasize that the impact of our advice depends ultimately on complementary efforts to strengthen those policies — especially as they relate to encouraging the competitive intensity that is a central motivator of innovation.

The core of our advice can be summarized in six broad recommendations, the details of which are elaborated subsequently. Taken together, they provide a framework for action.

### Industrial Research and Innovation Council

We envisage a new, whole-of-government program delivery vehicle — the Industrial Research and Innovation Council (IRIC) — that would be the centrepiece of the federal government's efforts to help entrepreneurs bring their innovative ideas to the marketplace and grow their companies into internationally successful businesses. To this end, the IRIC should take on at least the following industry-facing activities:

- deliver an expanded Industrial Research Assistance Program (IRAP) and a commercialization vouchers pilot program that connects SMEs to providers of commercialization support



- provide a national “concierge” service and associated website to help firms find and access the support tools they need
- work with partners to develop a federal business innovation talent strategy.

Moreover, the IRIC could assume the following responsibilities: in partnership with the federal granting agencies, joint oversight of appropriate business-facing programs administered by those agencies; technical assessment of the innovation element of project proposals submitted to the regional development agencies; and oversight of federal support for business-oriented collaborative research institutes evolved from the current institutes of the National Research Council, as further discussed below.

### Scientific Research and Experimental Development (SR&ED) Tax Credit

In line with feedback from stakeholders, we are recommending that the SR&ED program should be simplified. Specifically, for SMEs, the base for the tax credit should be labour-related costs, and the tax credit rate should be adjusted upward. The current base, which is wider than that used by many other countries, includes non-labour costs, such as materials and capital equipment, the calculation of which can be highly complex. This complexity results in excessive compliance costs for claimants and dissipates a portion of the program’s benefit in fees for third-party consultants hired to prepare claims.

Canada’s program mix is heavily weighted toward the SR&ED program and, during our consultations, we heard many calls for increased direct expenditure support. As well, many leading countries in innovation rely much less than Canada on indirect tax incentives as opposed to direct measures. That is why we are recommending other improvements to the SR&ED program that will generate savings for the government. The savings should be redeployed to fund direct support measures for

SMEs, as proposed in our other recommendations. Specifically, to ensure a greater focus on promoting the growth of firms, the portion of the credit (claimed by SMEs) that is refundable — that is, paid regardless of whether the firm generates taxable income — should be reduced, such that part of the benefit would depend on the company being profitable. Given the central importance of the SR&ED program to firms across the country, our recommended changes should be phased in over several years to allow time for adjustment.

### Risk Capital

Innovative, growing firms require risk capital, yet too many innovation-based Canadian firms that have the potential for high growth are unable to access the funding needed to realize their potential. The government can play an important role by facilitating access by such firms to an increased supply of risk capital at both the start-up and later stages of their growth. We therefore recommend measures to establish risk capital funds that target these areas. The federal government’s contribution to the funds would be delivered through the Business Development Bank of Canada (BDC), with incentives and governance designed to ensure strong private sector participation and leadership.

### Collaborative R&D Institutes

Canada needs a fundamentally new approach to building public–private research collaborations in areas of strategic importance and opportunity for the economy. Accordingly, we recommend that the business-oriented institutes of the National Research Council (NRC) should become independent collaborative research organizations, intended to be focal points for sectoral research and innovation strategies with the private sector. Those NRC institutes that perform primarily fundamental research would become affiliates of universities,



while those with core public policy mandates would be transferred to the most relevant federal department or agency.

### **Public Sector Procurement**

The government should make better use of its substantial purchasing power to create opportunity and demand for leading-edge goods, services and technologies from Canadian suppliers. This will foster the development of innovative and globally competitive Canadian companies connected to global supply chains, while also stimulating innovation and greater productivity in the delivery of public goods and services. We therefore recommend that encouragement of innovation in the Canadian economy should become a stated objective of procurement policies and programs. Further to this end, we recommend, among other measures, that the current pilot phase of the Canadian Innovation Commercialization Program (CICP) evolve into a permanent, larger and effective program that provides incentives for solving operational problems identified by federal departments.

### **Whole-of-Government Leadership**

The responsibility to foster innovation cuts across many functions of government and requires a system-wide perspective. For this reason, the government needs to establish business innovation as a whole-of-government priority. This will require the designation of a minister as the voice for innovation, with a stated mandate to put innovation at the centre of the government's economic strategy and to engage the provinces in a dialogue on innovation to improve coordination and impact.

Effective implementation of our action plan will depend on an oversight structure that ensures the timely achievement of desired outcomes. We recommend that the government's main tool in that regard should be an external Innovation Advisory Committee (IAC) — a body with a whole-of-government focus that would oversee the realization of our proposed action plan, as well as serve as a permanent mechanism to promote the refinement and improvement of the government's business innovation programs going forward.

# Guiding Principles

In the course of our consultations and research, we developed a set of broad guiding principles — essentially a philosophy of program design to promote business innovation (see Chapter 4 in our main report). These principles, which are reflected in the foregoing framework for action, can be summarized as follows.

## Transformative Programs

Programs to support business innovation should focus resources where market forces are unlikely to operate effectively or efficiently and, in that context, address the full range of business innovation activities, including research, development, commercialization and collaboration with other key actors in the innovation ecosystem. The design and delivery of federal business innovation programs must always strive to result in R&D activity and commercialization outcomes that meet the highest global standards.

## Require Positive Net Benefit

The total benefit of any given program should be greater than the cost of funding, administering and complying with the program. Support programs should reduce the subsidy amount provided — or move to a repayable basis — the closer the activity being supported is to market, and therefore the more likely it is that the recipient firm will capture most of the benefit for itself. There is also a need for coordination across the full suite of innovation

programs to avoid excessive “stacking” of incentives that may result in subsidies that are higher than needed to achieve policy objectives. Excessive subsidization not only wastes financial resources, but also risks encouraging or sustaining activities that deliver little societal benefit.

## Favour National Scope and Broad Application

The core of the federal suite of business innovation programs should be large national programs of broad application — for example, the SR&ED program and IRAP — that support business innovation activity generally, empowering firms and entrepreneurs to make market-driven investment decisions according to their own timelines and regardless of sector, technology or region.

## Build Sector Strategies Collaboratively

Beyond programs of broad application, there is a complementary role for programs tailored to the needs of specific sectors that the government identifies as being of strategic importance. For industry sectors that are concentrated in particular regions, initiatives should be designed and delivered to work collaboratively with the relevant provinces and other local interests.



### **Require Commercial Success in Regional Innovation**

Regionally oriented programs to support business innovation should focus on creating the capacity of firms in the target region to succeed in the arena of global competition. That is why it is essential for regional innovation programs to apply the same high standards of commercial potential as are required by programs of nationwide application.

### **Establish Clear Outcome Objectives, Appropriate Scale and a User-Oriented Approach**

A program to foster business innovation should be designed to address a specific problem for which a government initiative is needed as part of the solution. The program should have well-defined outcome objectives, be of a scale appropriate for the problem at hand, be well known to its target clientele, and be easy and timely to access and use.

### **Design for Flexibility**

Federal innovation programs should themselves be innovative and flexible in their design, setting clear objectives and measurable outcomes, and then allowing program users to propose novel ways of meeting the objectives. For example, where appropriate, programs should invite civil society to make proposals to develop new approaches and to actually deliver programs, rather than relying exclusively on established government delivery mechanisms.

### **Assess Effectiveness**

More extensive performance management information is required to ensure an outcome-driven and user-oriented approach to federal support for business innovation. This entails regular public reporting on the outcomes both of individual programs and of the full suite of federal innovation support. The performance information would inform periodic evaluations, not only against the objectives of programs themselves, but also of the programs' relative effectiveness within the overall portfolio.

# Approach to Our Mandate

The Panel was asked by the government to provide advice in respect of the effectiveness of federal programs to support business and commercially oriented R&D, the appropriateness of the current mix and design of these programs, as well as possible gaps in the current suite of programs and what might be done to fill them. The mandate specified that our recommendations must not result in either an increase or a decrease in the overall level of funding of federal R&D initiatives. Therefore, where we have identified opportunities for savings — such as from some reduction in the refundability of the SR&ED tax credit — we expect the government to reallocate the savings to provide funds for our other recommendations.

The year-long process culminating in this report began with foundational briefings from experts and decision makers in both the federal and provincial governments. We implemented, in parallel, an ambitious agenda of research and program assessment. The latter encompassed a set of 60 programs (worth about \$5 billion in the 2010–11 fiscal year) covering the gamut of federal initiatives to foster business R&D. Our extensive consultations included 228 written submissions in response to the release of our consultation paper in December 2010. These were supplemented by in-person group sessions in cities from coast to coast: Vancouver, Calgary, Winnipeg, Waterloo, Toronto, Ottawa, Montréal, Québec and Halifax. We extended the scope of consultations beyond Canada to gather international perspectives on issues germane to this review. Meetings took place in Australia, Germany, Singapore, the United Kingdom and the United States, and with officials of the Organisation for Economic Co-operation and Development (OECD) and Tekes<sup>1</sup> in Paris. Finally, we commissioned a survey of more than a thousand R&D-performing businesses representative of the range of sizes, sectors and provinces.

<sup>1</sup> Tekes is a Finnish funding agency for technology and innovation.

# Recommendations

Our headline advice has been summarized in the Framework for Action and associated Guiding Principles sections above. What follows are detailed statements of our recommendations, organized in response to the three specific questions in the Panel's mandate.

## Program Effectiveness

The first question in the Panel's mandate asks: What federal initiatives are most effective in increasing business R&D and facilitating commercially relevant R&D partnerships?

The government regularly evaluates individual programs against the stated objectives of each program. But these objectives vary widely among programs in terms of the outcomes being targeted, and the evaluation data collected for individual programs have generally not been designed to enable assessment of the *comparative* effectiveness of programs. Our advice in respect of program effectiveness is therefore based not only on available data regarding the 60 programs we reviewed but also, and more particularly, on our consultations and related research.

From what we heard and learned, there is a need to improve the business expertise of program delivery staff and to achieve greater scale and efficiency in program implementation. We have concluded that SMEs need enhanced access to services and small grant or voucher-based funding to assist their innovation

activities. We found that the bewildering array of innovation support programs (at both the federal and provincial levels) made it difficult for companies to navigate the landscape to locate the right programs for their purposes.

Our survey of R&D-performing firms demonstrated that client awareness of most programs is low (with the exception of the SR&ED program and IRAP). We also found that the current suite of programs to develop and deploy the talent needed to meet the needs of innovative businesses is a patchwork of largely subscale initiatives. More generally, we found that there are opportunities to improve program efficiency and flexibility by combining smaller initiatives with similar objectives. Finally, we concluded that adequate tools do not exist to comparatively assess relative program effectiveness. Therefore, the evidence base is lacking for a regular and systematic reallocation of resources among programs to achieve the most cost-effective support for business innovation.

Based on these findings, as detailed in Chapter 5 of our main report, we make the following recommendations.

## Recommendation 1

**Create an Industrial Research and Innovation Council (IRIC), with a clear business innovation mandate (including delivery of business-facing innovation programs, development of a business innovation talent strategy, and other duties over time), and enhance the impact of programs through consolidation and improved whole-of-government evaluation.**

**1.1 Industrial Research and Innovation Council (IRIC)** — Create an arm’s-length funding and delivery agency — IRIC — with a clear and sharply focussed mission to support business innovation. IRIC should become the common service platform for all appropriate federal business innovation support programs. Over time, it should take on at least the following industry-facing activities, as further elaborated in Recommendations 1.2 through 1.4:

- delivery of the Industrial Research Assistance Program (IRAP) and a commercialization vouchers pilot program (1.2)
- delivery of a national concierge service and related web portal (1.3)
- development of a federal business innovation talent strategy (1.4).

**1.2 Resources for IRAP and commercialization vouchers** — Increase IRAP’s budget to enable it to build on its proven track record of facilitating innovation by SMEs throughout Canada, and create a national commercialization vouchers pilot program, delivered within the suite of existing support mechanisms offered through IRAP, to help SMEs connect with approved providers of commercialization services in post-secondary, government, non-profit and private organizations.

**1.3 Innovation concierge service** — Establish a national “concierge” service and associated comprehensive web portal to provide companies with high-quality, timely advice to help identify and access the most appropriate business innovation assistance and programs for the individual firm.

**1.4 Talent** — IRIC should lead the development of a federal business innovation talent strategy, working closely with the provinces and relevant federal departments and agencies, focussed on increasing business access to, and use of, highly qualified and skilled personnel.

**1.5 Program consolidation** — Over time, consolidate business innovation programs focussed on similar outcome areas into a smaller number of larger, more flexible programs open to a broader range of applicants and approaches.

**1.6 Program evaluation** — Build a federal capacity to assess the effectiveness of new and existing business innovation programs to enable comparative performance evaluation and to guide resource allocation going forward.

## Program Mix and Design

The second question in the Panel’s mandate asks: Is the current mix and design of tax incentives and direct support for business R&D and business-focussed R&D appropriate?

The SR&ED tax credit — which currently provides approximately \$3.5 billion annually toward the cost of business R&D — is the flagship of federal support for business innovation. The program lowers the cost of R&D for firms, promotes greater investment in R&D, and makes Canada a more attractive place to locate R&D activity. It allows almost 24 000 firms across all economic sectors and regions of the country to make individual, market-driven decisions about the R&D they need to compete

and succeed. It is essential that this highly valued program be made simpler, more predictable and more cost effective in promoting business innovation.

However, the heavy reliance on the program implies that federal support for innovation may be overweighted toward subsidizing the cost of business R&D rather than other important aspects of innovation. For this reason, we believe that the government should rebalance the mix of direct and indirect funding by decreasing spending through the SR&ED program and directing the savings to complementary initiatives outlined in our other recommendations.

For the reasons outlined above, as detailed in Chapter 6 of our main report, we make the following recommendations.

## Recommendation 2

**Simplify the SR&ED program by basing the tax credit for SMEs on labour-related costs. Redeploy funds from the tax credit to a more complete set of direct support initiatives to help SMEs grow into larger, competitive firms.**

**2.1 Simpler compliance and administration** — The tax credit benefiting small and medium-sized Canadian-controlled private corporations (CCPCs) should be based on labour-related costs in order to reduce compliance and administration costs. Because the credit would be calculated on a smaller cost base than at present, its rate would be increased. Over time, the government should also consider extending this new labour-based approach to all firms, provided it is able to concurrently provide compensatory assistance to offset the negative impacts of this approach on large firms with high non-labour R&D costs.

**2.2 More predictable qualification** — Improve the Canada Revenue Agency's preclaim project review service to provide firms with pre-approval of their eligibility for the credit.

**2.3 More cost effective** — Reduce the amount of SR&ED tax credit assistance by introducing incentives that encourage the growth and profitability of small and medium-sized enterprises (SMEs) while decreasing the refundable portion of the credit over time. Redeploy the savings to fund new and/or enhanced support for innovation by SMEs, as proposed in the Panel's other recommendations.

**2.4 More accountable** — Provide data on the performance of the SR&ED tax credit on a regular basis to permit evaluation of its cost-effectiveness in stimulating R&D, innovation and productivity growth.

**2.5 Phased implementation and consultation** — Adopt the proposed changes through a phased-in approach to give the business sector time to plan and adjust smoothly. There should be early consultations with the provinces on the proposed changes, given that they may want to consider adopting the same base as the federal government.

## Program Gaps

The third question in the Panel's mandate asks: What, if any, gaps are evident in the current suite of programming, and what might be done to fill these gaps?

Based on our consultations, the identification by the OECD of gaps in Canada's innovation system, and the findings of panels before us — namely, the Competition Policy



Review Panel and the Expert Panel on Commercialization — we concluded that three gaps were most significant: (i) the strategic use of public sector procurement to foster innovation, (ii) the enhanced use of large-scale research collaboration and (iii) the availability of risk capital to finance the development and growth of innovative businesses. The following three recommendations, as detailed in Chapter 7 of our main report, address each of these gaps in turn.

### Public Sector Procurement

We concluded from our consultations and research that government support for business innovation needs to employ more “demand-pull” measures to complement the more traditional suite of “research-push” measures. To this end, public sector procurement and related programming should be used to create opportunity and demand for leading-edge goods, services and technologies from Canadian suppliers. This will foster the development of innovative and globally competitive Canadian companies while also stimulating innovation and greater productivity in the delivery of public sector goods and services.

## Recommendation 3

**Make business innovation one of the core objectives of procurement, with the supporting initiatives to achieve this objective.**

**3.1 Innovation as an objective** — Make the encouragement of innovation in the Canadian economy a stated objective of procurement policies and programs.

**3.2 Scope for innovative proposals** — Wherever feasible and appropriate, base procurement requests for proposals on a description of the needs to be met or problems to be solved, rather than on detailed technical specifications that leave

too little opportunity for innovative proposals.

**3.3 Demand-pull** — Establish targets for departments and agencies for contracting out R&D expenditures, including a subtarget for SMEs, and evolve the current pilot phase of the Canadian Innovation Commercialization Program (CICP) into a permanent, larger program that solicits and funds the development of solutions to specific departmental needs so that the government stimulates demand for, and becomes a first-time user of, innovative products and technologies.

**3.4 Globally competitive capabilities** — Plan and design major Crown procurements to provide opportunities for Canadian companies to become globally competitive subcontractors.

**3.5 Working collaboratively** — Explore avenues of collaboration with provincial and municipal governments regarding the use of procurement to support innovation by Canadian suppliers and to foster governments’ adoption of innovative products that will help reduce the cost and improve the quality of public services.

### Public–Private Research Collaboration

We believe that public–private research consortia in Canada lack the scale needed to have significant impact on the development of globally competitive Canadian companies. Consequently, Canada needs a fundamentally new approach to building such collaborations in areas of strategic importance and opportunity for the economy. The existing institutes of the NRC are a unique asset in terms of infrastructure, talent and sectoral and regional coverage. Consistent with the new direction being taken by NRC management, we believe that several of the institutes should be evolved to become a core national constellation of R&D

and technology institutes mandated to collaborate closely with business in key sectors. The appropriate individual institutes could become focal points for the development of R&D and innovation strategies for key sectors, for major enabling technologies and for regional clusters of innovative firms and supporting services.

## Recommendation 4

**Transform the institutes of the National Research Council (NRC) into a constellation of large-scale, sectoral collaborative R&D centres involving business, the university sector and the provinces, while transferring NRC public policy-related research activity to the appropriate federal agencies.**

**4.1 Evolution of the NRC** — Charge the NRC to develop a plan for each of its existing institutes and major business units that would require their evolution over the next five years into one of the following:

- (a) an industry-oriented non-profit research organization mandated to undertake collaborative R&D and commercialization projects and services, funded by amounts drawn against existing NRC appropriations together with revenue earned from collaborative activities
- (b) an institute engaged in basic research to be affiliated with one or more universities and funded by an amount drawn against existing NRC appropriations together with contributions from university and/or provincial partners
- (c) a part of a non-profit organization mandated to manage what are currently NRC major science initiatives and potentially other such research infrastructure in Canada

- (d) an institute or unit providing services in support of a public policy mandate and to be incorporated within the relevant federal department or agency.

**4.2 IRAP** — Transfer the Industrial Research Assistance Program to the proposed Industrial Research and Innovation Council (IRIC).

**4.3 Structure and oversight** — Institutes could be established as independent non-profit corporations, with the federal government's share of funding managed and overseen by the proposed IRIC for industry-oriented institutes in category (a) above, and by the Natural Sciences and Engineering Research Council (NSERC) or Canadian Institutes of Health Research (CIHR) for categories (b) and (c) above. (Apart from functions in category (d), any residual activities of NRC, or institutes that are unable to secure adequate funding, would be wound down according to an appropriate transition plan.)

### Financing Growth of Innovative Businesses

We heard repeatedly that too many innovative firms with high growth potential have difficulty attracting sufficient risk capital to finance the path from an initially promising idea through to commercial viability. Similar observations have been made by earlier panels that have addressed the issue. Data demonstrate that the supply of risk capital for innovation-based businesses is comparatively much smaller in Canada than in the US. Consequently, Canadian start-ups are less likely to get the capital they need to achieve commercial viability. In addition, the preponderance of foreign (mostly US-based) investors in late-stage venture capital and buyouts of Canadian firms means that the intellectual property is likely to be exploited primarily outside Canada.



## Recommendation 5

**Help high-growth innovative firms access the risk capital they need through the establishment of new funds where gaps exist.**

**5.1 Start-up stage** — Direct the Business Development Bank of Canada (BDC) to allocate a larger proportion of its portfolio to start-up stage financing, preferably in the form of a “sidecar” fund with angel investor groups.

**5.2 Late stage** — Provide the BDC with new capital to support the development of larger-scale, later-stage venture capital funds and growth equity funds in support of the private venture capital and equity industry. These funds would specialize in deal sizes of \$10 million and above that are managed by the private sector and subject to appropriate governance practices.

### Whole-of-Government Leadership

Innovation is the principal source of productivity growth in the long run, and thus lies at the heart of Canada’s future prosperity. But innovation far transcends just the application of science and technology and R&D. A responsibility to foster innovation cuts across many functions of government and therefore requires a system-wide perspective and whole-of-government priority. This will require restructuring the governance of the government’s business innovation agenda, while developing a shared and cooperative approach with provincial and business leaders.

## Recommendation 6

**Establish a clear federal voice for innovation, and engage in a dialogue with the provinces to improve coordination and impact.**

**6.1 Assign responsibility** — Identify a lead minister responsible for innovation in the Government of Canada together with a stated mandate to put business innovation at the centre of the government’s strategy for improving Canada’s economic performance.

**6.2 Whole-of-government advice** — Transform the Science, Technology and Innovation Council (STIC) to become the government’s external Innovation Advisory Committee (IAC), with a mandate to provide whole-of-government advice on key goals, measurement and evaluation of policy and program effectiveness, the requirement for new initiatives responding to evolving needs and priorities going forward, and all other matters requiring a focussed external perspective on the government’s innovation agenda. The IAC should act through two standing subcommittees: a Business Innovation Committee (BIC) and a Science and Research Committee (SRC).

**6.3 National dialogue on innovation** — Through the minister responsible for innovation, engage provincial and business leaders in an ongoing national dialogue to promote better business innovation outcomes through more effective collaboration and coordination in respect of program delivery, talent deployment, sectoral initiatives, public sector procurement, appropriate tax credit levels and the availability of risk capital.

## In Conclusion

Guided by strong leadership and sound principles, and through concerted action, the end result of our recommendations will be a rebalanced system of federal assistance for business innovation that provides more effective support to innovative firms, especially SMEs, to help them grow and become large competitive Canadian enterprises. Federal support for business innovation will be outcome oriented, collaborative and innovative in its implementation. It will be held to account by state-of-the-art procedures for evaluation across the suite of programs. The Government of Canada will have assumed a leadership role by establishing innovation as a whole-of-government priority and by engaging the provinces, businesses and post-secondary institutions in a national dialogue on innovation.

Going forward, the Panel welcomes the opportunity to meet with government officials, business leaders and post-secondary institutions to discuss our recommendations. The agenda is ambitious, but so too is our vision — a Canadian business sector that stands shoulder-to-shoulder with the world's innovation leaders. While this is a long-term goal, government action must be swift and decisive, because the impact of the initiatives begun today may take years, even decades, to be fully realized.

The longest journey begins with the first step, so the time to act is now.