



**Canada-Israel Industrial Research and Development Foundation**  
**Fondation Canada-Israël pour la recherche et le développement industriels**

# Addressing the needs of Canadian technology-based firms: The role of CIIRDF

A brief submitted to the Standing Committee on Finance

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# Addressing the Needs of Canadian Technology-Based Firms: the role of CIIRDF

## The Canada Israel Industrial R&D Foundation (CIIRDF): part of a Global Hub

In 1994, Canada and Israel signed an accord to establish a joint program in support of bilateral cooperation in industrial R&D. A fundamental element of this program was the establishment of a binational foundation called the Canada Israel Industrial R&D Foundation (CIIRDF) which, certainly for Canada, was and still is a unique organization given its binational structure and nature. It is also unique because, to this day, global connections for technology-based firms have yet to emerge as an important element of Canadian innovation policy.

The same cannot be said for Israel where international R&D cooperation at the level of the firm was and remains a core component of its innovation strategy; a component of relevance to Israeli start-ups as well as mature firms. Thus, Israel has accords similar to CIIRDF with about 3 dozen countries and, indeed, spends, in Canadian dollar equivalent, about \$160 million per year in bilateral and multilateral cooperation of this type. Given the 5:1 ratio in GDP between Canada and Israel, this would be equivalent to Canada spending \$800 million in building global partnerships for its tech-based firms, including start-ups.

CIIRDF has been part of this well-integrated 'platform' at the Israeli end. With the Israeli Chief Scientist serving as the chair of the CIIRDF Board of Directors, CIIRDF is entrenched in the infrastructure of his office (now called the "Israel Innovation Authority"), the recognized nerve centre of the Israeli innovation ecosystem, serving as its Israeli policy and program 'home'.

The 'institutionalization' of CIIRDF at the Israeli end provides, for Canada, a remarkable opportunity for a true 'strategic partnership' with the Israel Innovation Authority, recognized globally as a world leader in the design and delivery of coherent, adaptive and integrated programs for innovation-based economic growth. As the Government of Canada committed to an Innovation Budget, such a partnership comes at an ideal time as Innovation Canada emerges with the potential to perform a role in Canada similar to that of the Innovation Authority in Israel. Until now, the Government of Canada has not fully availed itself of the full value that comes with being in partnership with the Israel Innovation Authority. With the engagement of Innovation, Science and Economic Development Canada (ISED) with CIIRDF, especially through the newly mandated Innovation Canada, that value can be realized. A partnership between ISED and the Israel Innovation Authority, using the already established binational platform of CIIRDF, provides it with an efficient and cost-effective mechanism to help Canadian businesses grow and become more globally competitive through technology partnerships and joint projects with Israeli counterparts and their global connections.

Global Affairs Canada (GAC), on the trade side, is responsible for the management of the bilateral accord with Israel and has, as well, provided the \$1 million yearly contribution from its Canadian International Innovation Program (CIIP). However, CIIRDF management and the Israel Innovation Authority have both pointed out that CIIRDF funding at levels, in real terms, equivalent to the original commitment are necessary to maintain the integrity of the program. This is a position that GAC does not dispute but cannot fund through its own program sources. In fact, GAC has encouraged CIIRDF to seek additional contributions so as to be in a position to respond positively to the Israeli proposal. For ISED, its contribution of an additional \$1 million per year from Canada makes policy and strategic sense for reasons described in the preceding paragraph, as well as for the value it provides to the Canadian technology-based industries.

### Summary of the CIIRDF Record: impressive value for Canada

The essence of CIIRDF's activities is the promotion and support of R&D collaboration between companies in Canada and Israel. The rationale behind this is that such collaboration improves the competitive position of both sides and builds the basis for future cooperation, thus interlinking the two business communities in a positive sum context.

Over the past 20 years, CIIRDF has delivered value to Canada from both the funded part of its activities as well as in performing its partnering role. On the funded part, details on over 60 CIIRDF-funded bilateral projects provide direct evidence of clear economic returns. A small number of the projects did achieve clear "direct" results and sales figures clearly reflect this. On these alone, the return to Canadian taxpayers justifies the contribution. But the CIIRDF value derives far more from the majority of projects that, as one would realistically expect (given the risky nature of all industrial R&D, especially collaborative ones), did not achieve the desired results but were nevertheless of clear value to the participating companies. For Canadian firms, the value is derived from the experience of cooperating, pooling of expertise and personnel as well as sharing global market perspective from an Israeli partner, often at the leading edge of the technology sector involved. That value, as well as the direct benefits noted above, are included in the Annex attached to this brief. The benefits to the Canadian economy from these activities are orders of magnitude higher than the investment made by the Government of Canada to CIIRDF.

The value is more significant when one considers the value of an enabling platform CIIRDF provides by connecting Canadian industry and Israel across the spectrum of innovation. Given the changing nature of innovation itself and the need for support programs to adapt and pivot in response, CIIRDF has proven invaluable in this connectivity role because the Israeli "system of innovation" is recognized for this adaptability. Israel is a world leader in building global alliances based on industrial R&D cooperation. Through the CIIRDF platform, Canada's own innovation system has benefitted in a several ways. For example, as result of CIIRDF's efforts, Canada joined the EUREKA program during Israel's presidency in 2010 resulting in a Canadian membership in a 40 nation European technology cooperation hub.

In another important example, in 2013, CIIRDF launched a Canada-Israel Energy S&T Fund which began a process whereby, in an age of "open innovation," Israel's leading-edge technologies have been applied in Canada's oil sands for improving their environmental performance. The realized commercial value of these efforts has also been estimated in the hundreds of millions of dollars and adds to the economic performance of CIIRDF and the continuing value of its technological "hub" position. As well, this incredible harvest of Israeli technology through the involvement of the oil sands industry has had a net effect of improving Canada's overall technological capabilities across the clean technologies sector, a priority of our government's innovation agenda. Most recently, the successful CIIRDF approach in the oil sands is being applied to provide Canada's energy sector with privileged "line of sight" on Israeli cyber solutions for addressing the vulnerability of electricity, gas and other systems. Here, CIIRDF is partnered with Natural Resources Canada in defining an effective and strategic component to Canada's National Cyber Response Strategy through cooperation with Israel.

## Conclusions

There are strong "innovation policy" arguments for building on the binational platform of the CIIRD Program. Among these is the clear evidence provided by the last 20+ years' experience that CIIRDF provides Canada with a true partnership platform with one of the world's recognized leaders in strategic innovation. This partnership has delivered results and is poised to continue doing so in key, "disruptive" areas such as cyber security and sustainable development. The "business arguments" are equally compelling as CIIRDF operations and approaches have consistently punched above its weight and shown an ability to leverage the investments made. The Government of Canada's commitment to a true Innovation Budget should make it possible to extend CIIRDF's Canadian platform to ISED and, more specifically, Innovation Canada. Through this connection, Canada can build an even more productive relationship with Israel through the evolving strategic partnership enabled by CIIRDF. Ultimately, it will be Canadian innovation-based companies who will benefit as their technological scope and global market access will improve through the CIIRDF-enabled partnerships with Israeli counterparts.

## Annex: CIIRDF By Numbers

<b>CIIRDF by Numbers</b>				
<b>Collaborative R&amp;D Projects (1995-2016)</b>	<b>CIIRD Program</b>	<b>Ontario-Israel</b>	<b>Energy S&amp;T</b>	<b>Total</b>
Total Canada-Israel R&D Proposals Received	189	38	12	239
Number of Canada-Israel R&D Projects Funded	87	16	7	110
Total Value of CIIRDF R&D Projects	\$ 150,520,195	\$ 22,261,847	\$ 17,755,865	\$190.5M
CIIRDF contribution in R&D Projects (including committed but not disbursed amount)	\$ 41,415,436	\$ 4,243,501	\$ 4,094,939	\$49.8M
CIIRDF Funding Leverage (CIIRDF Fund / Total Project Value)	28%	19%	23%	23%
Number of Firms Supported by CIIRDF R&D Grant Program	161	32	13	206
Number of New CIIRDF-Supported Technologies and Products Brought to Market	44	12	6	62
Royalty Repayments to CIIRDF	\$1.76M	\$0.25M	0*	>\$2M
Direct Revenues Generated from CIIRDF-Supported Companies	\$70M	\$10M	0	>\$80M
Economic benefit realized as reported by CIIRDF-supported companies	\$430M	\$44M		>\$470M
Revenue forecast of CIIRDF-supported projects as reported by companies	\$863M	\$667M	\$1,455M	\$3B
<b>Leverage</b>				
	<b>Canada Government</b>	<b>Israel Government</b>	<b>Canadian Industry</b>	<b>Israeli Industry</b>
Leverage: Contribution / Total Budget	20%	17%	33%	30%
Canada Federal Government	17%			
Ontario Government	3%			
<b>Technology Partnerships</b>				
<b>Technology Partnership Development Activities (PDAs) *Data from 2007-2016</b>	<b>CIIRD Program</b>	<b>Ontario-Israel</b>	<b>Energy S&amp;T</b>	<b>Total</b>
Total Number of Canada-Israel Partnership Development Activities (*not including webinars and small info sessions)	11	13	5	29
Total Number of PDA Participants	343	611	356	1310
Total Number of Technology Matchmaking	400+			

\*There is no repayment requirement for projects supported under the Canada-Israel Energy S&T Fund.