# Canada's R&D Conundrum

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While necessity is, indeed, the mother of invention, invention does not occur automatically once the need for it has arisen. There is always a process of idea generation, prototype creation, testing, and so on that leads to the final product which in fact solves a business problem. The usability – the problem solving capacity – of this final product, then, determines its value, and the value of the research and development process that created it.

Research and development is fundamental to the Canadian ICT industry. While the industry represents 5.5 percent of our national GDP, it represents 38 percent of all business R&D performed in this country. That's more than twice that of any other sector. Those of us in the ICT industry are therefore extremely vested in the health of our R&D investment environment.

First and foremost, in order to derive the true "value" of R&D, we must maintain the health of those programs that currently exist to stimulate R&D expenditure by business. The Scientific Research and Experimental Development (SR&ED) federal tax incentive program – which has existed in its current form for 25 years – is the largest single source of federal government support for industrial research and development in Canada, providing more than $3 billion in tax assistance annually. As a tax credit, for the most part, SR&ED works. Other countries (including the US) have begun implementing similar tax credits – or making improvements to their current tax credit programs – based on the Canadian model.

But the program is not perfect. For some types of companies, SR&ED does not work as intended. For a variety of reasons, a number of investors in R&D cannot access or do not recognize value from the SR&ED program.

There is an opportunity to address these SR&ED shortcomings in a way that will not represent added fiscal expenditure to Canada (indeed, in many cases, quite the opposite). This would involve allowing companies to choose between a refundable R&D wage credit and the SR&ED credit as it now exists. In those cases where companies would choose the refundable wage credit, it would represent a very real incentive for them to invest in R&D in Canada. And since wages represent about 70 percent of R&D expenditures, the fiscal cost to Canada would be significantly less. The province of Quebec has implemented a payroll-based tax incentive for R&D, and the robustness of its R&D sector suggests there is merit in this approach. Considering that the key determinant for investing in R&D in a particular jurisdiction is the availability of talent, such a wage credit would also contribute to the attraction and retention of talented workers in R&D related positions in Canada. Canada's relatively rich talent pool is a key asset in attracting R&D – we must do all we can to grow it rapidly.

ITAC is also supportive of programs for direct support of R&D, but we would recommend that more emphasis be placed on market-pull initiatives that actively engage industrial partners who bring real market consideration to the R&D process. The recently terminated PRECARN is an example of this model. This falls in line with a key message of ITAC's, that no matter how great the idea, without a customer it is stillborn. A lack of commerce competence in both the technical founders of R&D intensive firms, as well as their financial, legal and governing supporters, has been proven to be a key contributor to the downfall of many Canadian R&D intensive firms. And this problem isn't easily solved when many of these exact competencies are not taught in universities and colleges. They are learned on the job, working for top R&D firms. Alas Canada's R&D conundrum. We need more large ICT firms in Canada to grow the expertise necessary to grow large Canadian ICT firms.

If there is one key ingredient missing in the current recipe for value-driven R&D in Canada, it is access to capital. The biggest gap in the current suite of government programming for R&D, for instance, relates to venture capital. While Statistic Canada reports that there exist 31,500 Canadian ICT companies, only 11 of these companies report annual revenue over $1 billion. Only 217 report more than $10 million in annual revenue. We must figure out how to grow these 200-plus companies, turning at least some of them into the next RIM or OpenText.

Programs for the support of R&D in Canada will evolve over time and be subject to the imperatives of our overall economic health. What must remain constant, meanwhile, is a concerted national discourse and concerted efforts by various business sectors and government partners to show the true value of excellence in R&D. Canada, with a highly educated workforce and significant investments in research and science, can punch above its weight among global competitors for R&D investment. This investment nourishes all our knowledge-based industries. It must be preserved and expanded.