

Review of Federal Support to Research and Development

Expert Panel Consultation Paper

Summary:

At Sciencetech we think the role of government should increase, helping secure financing not only with a tax return program such as SR&ED, but also to fill the need for inventions when banks are not interested in them.

Question 1

There is a considerable benefit for our community if the innovative products that may be developed during the research and development phase under SR&ED can be brought to commercialization.

Not only it is of benefit of the company to commercialize these products, but it is also a way to establish a leadership in the particular new field, that will, in the long term, result in considerable benefits for our Canadian internal and external trade balances.

However, the financing of the market introduction and first phases of commercialization tend to be difficult and for most of the SME the required capital is well beyond their financial reserves.

Therefore, it would be very important to have a way to support these activities, especially when there are good indications the result will be financially beneficial. Government programs for this kind of financing should be oriented to receive part of the benefits over the medium and long term.

Question 2

Figure 2 captures the key elements as we can see during our normal operation. The first two are supported by some programs presently available. The last two (Networks, collaboration & linkages, and Capital & financing) even when addressed in principle do not bring practical results at the moment. We have lost many of the possibilities created by new product innovation because of these last two phases.

Some reasons are lack of efficient cooperation with the academic community and lack of proper action by the banks, venture capital and other financial institutions.

What is missing is the commitment of the community (that is represented by government institutions) to introduce in the action “community benefits” in addition to “financial profitability”.

Question 3

There is not adequate supply of risk capital firms at most of the levels and in particular at our stage. The reason common to all stages (start-up, small, medium and large) is that financing is mainly left in the hand of bankers. Bankers do not understand high tech developments and do not like to take risks.

What it would help, in particular to companies like Sciencetech that have the potential of several million dollars markets and can't find capitalization, is to have government funding based more on community prosperity and needs and not exclusively in short term profit considerations.

Question 4

It is very important for Canadian companies to perform their own R&D in Canada. There are a number of good reasons to keep new high tech developments as much as possible within our borders.

Two factors are jeopardizing our ability to compete internationally:

1. The poor work in common between academics and industry.
2. The lack of proper funding for products in the phase of market introduction and commercialization.

To be profitable, some success in the market place is required. Nowadays to achieve this success a high level of innovation is needed. Few small or medium industries can afford to have the specialized personnel required to market products properly.

Lack of funding for market introduction and international commercialization (in particular) of new products will continue limiting the efforts in R&D.

Question 5

One of the most important impediments to successful business-university or business-college partnership has been the lack of proper government support programs.

Most of the program pay the university/college and expect the industry to make a 50-50 contribution. When the money is received by the academic institution it is used according to the academic principles and concept of efficiency.

This is not the concept typical in the industry where profitability is the most important driving force and time is extremely important.

These differences make the work in common very difficult and in most of the cases impossible. From the industry point of view, when the funding is sent to the industrial partner, who will in turn pay the academic, the situation is considerably different and the results financially superior.

Question 6

It is evident that plans like the SR&ED will act as incentive for the creation of innovation in Canada by some of the international investors. However, like in many different financial activities, the pressure of the international capital that is exclusively looking for short term profits should be avoided.

Government proper planning should include the history of Canadian based companies with a proven result in the marketplace. These companies should receive most of the support, having proven their capability to innovate and their interest to remain Canadian contributors.

It will also help Canadian industry to be able to sell directly to the Gov. of Canada or the provinces.

Question 7

Presently there is an evident surplus of highly educated labour. All companies we know receive an overwhelming number of applications from highly qualified people for jobs with considerably lower demands.

Colleges and universities are competing for more business which means higher numbers of graduated will enter the workforce in the near future at the time the industry demands are decreasing.

If any change should be done in order to have the talents created at universities and colleges grow by acquiring experience and practical knowledge, is funding for the

employers who can offer highly qualified job positions but do not have resources to train them for months before they become useful to the organization.

Question 8

Consistent with the suggested procedures outlined above, Sciencetech employs undergraduate and graduate students. On April 11th 2011, for example, we will receive a student from the University of Paris (at Creteil) to work in Sciencetech. The university is paying for the trip, the accommodation and the living costs of this student.

This is a good example of how the academic and the industry should participate in the education, the development of required skills and in the development of novel, market driven products.

We also employ Canadian college and university students, but we have not found to date, over our 25 years of business life, a case where the university or college cover the full cost of employment of the candidate.

Question 9

We are familiar with SR&ED, some programs managed by NSERC and some of the NRC/IRAP programs.

SR&ED is probably the best program. It is evident to us: government's management must be difficult, since it could be abused by many corporations.

In particular with this program, Sciencetech would need an improvement on the speed of payments in order to take advantage of the funds when we are prepared to convert them into efficient "following last fiscal year" R&D plans.

NSERC has not been so flexible lately.

One of the unaddressed needs from these support plans is in Sales and Marketing. We need scientists supporting sales with innovative concepts a regular salesperson just trained to sell does not have. This is because we develop innovative systems, that most of the time is requested by the market place.

To hire PhDs to create instruments to support these needs is not considered research by NSERC even if the PhD candidate is using his knowledge to generate a quotation competing internationally at the highest level of technical analysis.

NRC/IRAP is working fine because the excellent support we have received from the local industrial technical office. People in charge of accepting proposals and delivering dollars are accessible but very strict in the management of the funds allocated to each project.

Question 10

Because the large amount of developments and R&D activities, Sciencetech ends up with a small margin of profit, typically it is between 3 and 5%.

In many cases that profit evaporates because the customer expects more and better specs for the instrument he told us he needed at the time of the purchase order.

SR&ED is covering some of that small edge of competitiveness.

To date, after 25 years operation, most of the capital invested by our investors has paid no dividends to them. Dividends when profitability allows, have been reinvested. Therefore the SR&ED allows us to continue re-investing in growth and new products which have sustained the Company average growth of 13.6%/year over the past 25 years.

Sciencetech Inc. will not exist without SR&ED.

The past success of the Company and the several companies that were built on innovative products we developed at Sciencetech also owe their existence to this program.

While many corporations such as Trojan or Nortel started at the time we started and grew exponentially, we are still much smaller only because we failed identifying and attracting the proper capital.

Even today, if proper capitalization would be available we could immediately grow the operation by a considerable value and make new products and their commercialization a reality. SR&ED is one of the most important programs we still have in Canada that encourages SME to make investment in the risky areas of innovation and new product developments.

Our Company does not think the changes made by the CRA resulted in real improvements to us. While there is a new structure, reporting of the advancements of science appears to be more complicated.

The improvement seems to be oriented only to increase the control and auditing accuracy. A good way to provide opportunities and improve the present system would be to have people on the ground, with some knowledge about the products put on the market in the past, who could report the progress made to any new or improved product at any time, and not just after the immediate report had been submitted.

Question 11

It may be a considerable improvement to implement any of the following:
to decrease the reviews at the time of filing and to increase the “over the fiscal year” monitoring of the candidates to claim SR&ED,
to keep records of the past history of each of the claims. This will allow offering to the responsible companies that have done a good work and produced good results an incentive program for funding their market introduction,
to have some officer visiting companies and discussing their needs during the year. This will help to reduce bureaucratic requirements and will increase the level of the Gov of Canada knowledge on who does what and why.

Question 12

To be more innovative and responsive, our government should do what the financial sector refuses to do: invest in community welfare rather than in profitable enterprises. Innovation is one of the main needs.

Several areas are in desperate need for support: environment and green renewable energies, high technology developments, healthy food production, proper use of land and agricultural practices to name just few.

Programs that will promote the government priorities are very important. It is the only hope we have that our communities’ interest will prevail over typical investors’ and financial institutions well known greed approach.

Question 13

China and the European Community plans for Innovation and R&D support are a good teaching lesson for us in Canada.

There is no real government financial support for commercially-oriented R&D enterprises, but in some isolated cases (e.g. biotechnology and medical devices). Sciencetech has produced several products for the market place that are presently commercialized successfully.

However, we have missed many more opportunities due to this lack of financial support. The successful commercialization of SR&ED products generates community welfare and form a base for the sustainability of good standards of living.

It is with great sorrow that we see the absence of government support.

The principal features of these programs should include:

History of the candidate: to insure it has the knowledge and expertise to introduce successful products to the marketplace. This is not difficult to do if the SMEs are reviewed based on their past performance.

Have government commitment and allow its participation in the development, control and outcome of the commercialization program. An observer at the Board of Director level should be mandatory for large investments.

Insure that the product and the working conditions in the SME follow government's line for the growth of the national and international community and the welfare of the people involved.

These are element present in the (far more extensive) government programs developed in China and the European Common Market countries. Their competition is "deadly" for us, encroaching into good markets we used to have in both areas of the World.

Question 14

Many funds for industry and research originally managed by provincial and federal agencies in the past are now becoming managed by private companies.

Private groups will first consider their own economic interest before community goals.

Even if chambers of commerce are "non-for profit" organizations, many times their members have their own personal agendas.

Today's commercial trade, strongly dependent on how China, India and Brazil will receive our products, has a great government component from those countries. Therefore, we need to change the "do-it by yourself" American style, to allow governments to become partners in the growth and prosperity of our community.

Question 15

We may define innovation as a "totally new" idea or device brought to be part of our scientific knowledge and wealth. Innovation could generate immediate commercial results or could only increase the knowledge we have about science and technology.

We may accept that R&D is the activity performed to further expand ideas or concepts already in place, or to prove theories that may generate more innovation.

Most of the R&D carried on by private corporations is market driven and tends to generate short term commercial results.

Since financing of R&D and Innovation is not a great priority for investors and bankers, this area is still open to government intervention with minor conflicts with the charter banks and financial group interests.

Therefore a national bank, devoted to the management and support of the national R&D and Innovation activities, or provincial organizations like the former Innovation Ontario Corporation are key elements to keep Canada in the forefront of innovative high tech developments, with the possibility to enjoy the future with a good standard of living.

In conclusion, innovation and research are complimentary or steps in a continuum to market new products and should not compete one against the other.