ViaTeC's September Monthly Meeting: Getting Technology from the Feds: Cakewalk or Quicksand?

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Federal Government laboratories can be an important source of technology, expertise and know-how for companies looking to expand their capabilities and/or product lines. Most government departments and agencies have a technology transfer office (also called business development office) that facilitates contacts between laboratory personnel and potential recipients of laboratory technology and expertise. A partial list of contacts can be found on the web-site of the Federal Partners in Technology Transfer **(www.nrc.ca/fptt/)**.

To answer the question posed in the title, obtaining technology from federal laboratories is not a cakewalk, but neither is it a sea of quicksand if you know what actions both parties should take to increase the probability of successful transfer.

First, however, what is meant by technology transfer? A good working definition is: "Successful technology transfer is the **managed** process of transferring knowledge, expertise or hardware from an originator to an adopter in an organization that can maximize its value to the ultimate end-user."

In approaching the federal laboratories to acquire intellectual property (IP), either hardware or expertise, you must keep in mind that there is "no free lunch". Federal laboratories are under considerable pressure to bring in outside funds through licensing or collaborative R&D projects to augment inadequate research budgets. Thus, be prepared for hard bargaining. If you are going to be involved in any contract R&D work for government departments be especially careful of their standard draft contract clauses that give the government unrestricted access to any of your background IP (i.e., previously developed IP). These can be modified to be more favourable to you.

Various studies and reviews conducted by me and others over the past ten years have resulted in extensive lists of factors and activities that either enhance/encourage successful technology transfer or inhibit the process.

Among the factors/activities that have been found to promote government to industry technology transfer are:

- low-level of government "red-tape" and bureaucratic rules;
- technology transfer is considered to be a legitimate and valued activity by senior government managers;
- allowing the government "inventor" to be actively involved with their counterparts in the adopting organization;
- adequate levels of resources (personnel and financial) have been assigned by the government department to adequately support its technology transfer activities;
- government department has hired competent and knowledgeable people in its technology transfer office (i.e., office not used as a dumping ground for people who can not be placed elsewhere in the organization);
- government technology transfer office willing to guarantee that their technology will work as promised, or money-back;
- there is a royalty-based incentive system in place in the government lab to encourage the involvement of the scientist/engineer who initially developed the technology or expertise;
- government scientists and engineers are not penalized for taking part in technology transfer activities that will not result in publications;
- technology transfer practices are consistent across all government departments;
- private sector is pro-active in learning about what technologies/expertise is available in the government laboratories;
- private sector has respect for the quality of R&D work produced by government scientists and engineers;
- adopters are assigned exclusive proprietary rights (at least to a specific application); and
- up-front fees or royalties are deferred, especially for small firms.

Some of the impediments to technology transfer identified are:

- stifling government bureaucracy;
- out-of-date equipment and facilities that limit what the government lab can do for a client;
- under-funding of the government technology transfer office that limits its marketing and patenting activities;
- reluctance to issue exclusive licenses;
- lack of real commitment by senior government managers to support technology transfer; and
- government scientists not thinking about commercial applications at the beginning of a research project.

A more complete listing of both barriers and incentives to technology transfer can be found on the Stargate web-site (http://www.stargate-consultants.ca).

Many of the impediments to successful technology transfer such as the lack of guarantee that a private sector R&D partner receives at least an "exclusive to application" license for IP they developed in partnership or under contract with a government laboratory can be resolved by Canada having a Technology Transfer Act, similar to those in the U.S. This Act would also replace the many out-of-date Treasury Board Policies and the one Act of Parliament that govern IP management in the government and remove many of the internal impediments that exist in the government's present reward scheme for government inventors and innovators.

I believe that most government technology transfer officers are doing a reasonably good job transferring technology and expertise to the private sector given the limited resources they have to work with. A prudent private sector participant involved in technology transfer with a government laboratory should be able to avoid most of the bureaucratic quicksand that does exist.