

## ATLANTIC REGIONAL WORKSHOP ON THE COMMERCIALIZATION OF GOVERNMENT SCIENCE RESEARCH: SUMMARY

NOVA SCOTIA AGRICULTURAL COLLEGE, OCTOBER 4, 1996

On October 4, 1996 the government Task Force on Commercializing Government Science Research held an Atlantic Workshop in Truro, Nova Scotia. The workshop, attended by the Chair of the Task Force, Walt Lastewka, and Vice Chair, Dianne Brushett, solicited ideas and suggestions from a variety of stakeholders in the university and government communities. Dr. René Lavoie from the Science Branch of Fisheries and Oceans Canada in Halifax provided an engaging and informative luncheon address. Bob Russell from the *Strategis* Program at Industry Canada in Halifax followed the luncheon address with an excellent overview of current R&D statistics.

All of the participants provided valuable comments and insights, and wished to send the following clear message to the Government of Canada:

As a country, Canada must endorse and financially support basic science research. The federal government must provide leadership in R&D by committing adequate, stable funding for research initiatives and infrastructure, by promoting research efforts and careers, and by enhancing and enabling partnerships between universities, industry, and government that will foster the commercialization of research and technology. Currently, Canada spends less of its GDP on research and development (1.5%) than any of the other G-7 nations. R&D is a crucial part of effecting jobs and growth in the current knowledge-intensive global economy, and the government must make a definitive commitment to improve the current state of R&D funding and promotion in Canada.

### Recommendations for Improvement

Each individual university had its own ideas and recommendations on how to capitalize on R&D opportunities. Among the more noticeable recommendations were the streamlining of research firms, smarter government funding, partial privatization of government research agencies, and more early business involvement with university research.

Successful partnerships and collaborations are vital to strengthening Canada's potential for commercialization and productivity in research. Linking Canadian businesses with Canadian researchers is a valuable method of keeping experts and their expertise, as well as business investments in Canada. Currently, university labs are relatively isolated from business. This, however, is changing and both universities and businesses are learning to be more cooperative and receptive to each other's needs and ideas. All of the **participants stressed the importance of human contact in the partnering process.**

Participants agreed that government funding and cooperation, and the restructuring of R&D infrastructure in Canada are crucial to commercialization success. More specifically, participants felt that the federal government must commit to secure, long-term funding, and actively work to eliminate bureaucratic red tape that is a disabling factor in the current process. Many noted that the quality of funding decisions and investments is equally as important as the quantity of funding the government invests.

Some participants argued that current funding is simply spread too thin and that a pooling of government funds into streamlined government/university research facilities would go a long way in creating a more efficient and productive system that could provide a more diverse and extensive base of expertise.

Universities and their researchers need incentives to become more entrepreneurial with their research. While teaching and research excellence are adequately rewarded, there is no mechanism in the current system to reward entrepreneurial initiative or excellence. Many agreed that greater freedom and incentive must involve the university awarding patents to individual researchers which allows them to sell their ideas to business or to develop and market them on their own. A growing number of researchers have developed "spin-off companies" which result in research being developed into a finished product. Many argued that giving researchers full ownership and enhanced freedom would do much to increase the speed with which research goes from the lab to the market.

Many participants felt that **financial incentives** are generally the most effective. Most agreed, that **an R&D tax credit is fundamental**, especially if small businesses are to get involved and stay competitive. Financial incentives could also include a better capital ventures program to help researchers with expensive equipment costs. There is an opportunity for government to establish a site on the internet, linking current research topics with current business needs and a list of possible available government programs that provide R&D and industry funding. ACOA is a good example of how a government liaison can be effective in facilitating successful partnerships and linking good ideas with funding opportunities.

Currently, a lack of receptive industries, a limited choice in Canadian companies and an absence of leadership are barriers to the improvement and success of research commercialization. Most Atlantic universities do not have an office dedicated to marketing university research and expertise to private sector industries and they consider this lack of infrastructure to be a significant barrier. Not surprisingly, questions of ownership also hinder progress. Attitudes, however, are changing, and most of those involved now agree that it is better to own 20% of something profitable than 100% of something that never gets off the shelf. Generally, participants felt that if a project is government-funded, it is public information. In the case of universities, ownership should be divided 50/50 between the university and the faculty member or graduate student. In cases where industry provides significant funding, they too are entitled to part of the ownership.

Many participants agreed that it is important to recognize that Canada cannot compete in all areas. Instead, government and universities must apply new technology to industries in each region where there is already expertise and experience. Others, however, felt that research should not be limited to regions because it thwarts international recognition and hampers Canada's ability to attract international students.

### Measuring Success

Success cannot be measured by numbers alone. A lot of the research that universities perform has broader applications and benefits for society which cannot be measured in any scientific way. Accountability is a large part of measuring success. It is important that those in charge of evaluation do not try to count too many things or count them too often. Participants agreed that one of the toughest challenges they face is being able

to provide a continuum of funding for research and commercialization ideas. Without this continuum, it is impossible to measure or indeed achieve real success. Most participants agreed, that there should be a time and funding commitment of at least a decade if government and universities hope to measure improvement in a meaningful way. While long-term measures will tell the real story, short-term measures of success must also be used in order to maintain interest and awareness in progress.

It is not enough to count an increase in the number of patents, researchers, or projects. Indeed, it is more meaningful to assess whether or not a patented product will still be valuable in ten years, or to count how many strategic alliances have been formed between government, universities, and industry. Any measure of success must take into account the unemployment rate, as well as the number of jobs that have been maintained and created as a result of the new government strategy. Measuring the number of jobs that result *indirectly* from success in the high-tech sector is also an important component of this process.

### Conclusion

No one expects the federal government to tackle this burden alone. Universities and industry are both willing to invest time and money in accordance with the federal government's effort to improve commercial opportunities for R&D. Canada's future competitiveness depends on its ability to adapt to a high-tech, knowledge-based economy, and the ability to get research from the laboratory to store shelves is key to achieving such an economy. Given that it boasts a skilled workforce and many excellent university and research facilities, participants at the workshop agreed that Canada should be able to meet these new challenges head on with tremendous success.