

Six Countries Conference

Importance of science, technology, and innovation to Canada

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Thank you, and good morning. Thank you all for coming. It really is a pleasure to be here participating in the Six Countries Conference, and to be able to share with you a bit of Canada (and of UBC)—and the growing importance of science and technology and innovation to Canada.

Now driving from my office to the hotel this morning, I was struck by the observation that as I have traveled around the world, people often are aware of Canada and Vancouver, but most often perceive them as beautiful places on earth: places that value the environment, are concerned with peace keeping in the world, and are known for their natural resources—forests, fisheries, mines and agriculture.

But when it comes to science and technology, internationally, people often tend to jump over Canada and look south to the United States. This is particularly the case when it comes to the

west coast of North America, as most often people around the world concentrate their attentions on California and the Silicon Valley. Indeed, there are some who insist that in academic and high-tech terms, the Silicon Valley is the centre of the universe.

Now while I will not suggest that there is not a lot happening, when it comes to science and technology in the United States and the Silicon Valley, I would like to suggest that there are other “hot spots” in North America.

Which brings me to the essence of my message to you today. It is, in the simplest terms, this: the West Coast high-tech corridor does *not* end at the 49th parallel. I’m here to suggest that Canada is very much in the game and that Vancouver – the third-largest high-tech precinct north of the 49th, and the 16th largest in North America – is a player, even a hot market. I am also here to assure you that the University of British Columbia is the Bunsen burner

providing the heat – that whether you are looking for talent, creative ideas, intellectual property, or academic and research collaborations, you would be making a serious mistake to overlook UBC.

So first—What is happening in Canada? What is Canada doing to be an important player in the newly evolving, global, knowledge society? How is Canada dealing with moving from a country known for its natural resources and beauty to a country recognized for its brains and innovation?

The federal government of Canada has recently woken up to the notion of innovation. After a decade of incredibly hard work erasing the Canadian government deficit and wrestling its debt into manageable shape – the government has recognized that our future lies not in the efficient delivery of raw materials and commodities, but in our ability to educate the Canadian population and to create

the ideas for innovation through research – both to serve the world and to maintain Canada's privileged position within the world.

Over the past five years, successive federal budgets have invested heavily in universities and university research...to the tune of over \$11B. Starting with the permanent funding of the NCE's (Networks of Excellence Program), to the funding of Genome Canada, to increasing the funding to the three federal granting councils, to transforming the MRC into the Canadian Institutes of Health, to establishing the Millennium Scholarship programs for undergraduate students and the Pierre Elliot Trudeau Foundation for graduate students in the humanities and social sciences, to developing the Canada Foundation for Innovation to enhance university research infrastructure, to creating the Canada Research Chairs program, to this last year's budget of paying the indirect costs of university research and creating 4,000 graduate

scholarships, the federal government has been advocating and supporting an impressive innovation agenda.

The goal of this innovation agenda is extremely ambitious-- to grow Canada's competitiveness so that it ranks in the top five OECD nations, rather than its current position of 14th or 15th. And the strategies associated with this agenda are very targeted—to build the support for research and to counter what in Canada has become known as the brain drain.

I know that I don't have to explain the concept of brain drain to the people in this room. The way it works is obvious: for the individual, you get a great education and then you pursue your passion, wherever opportunities avail. In Canada in the last decade, that has meant that one of our biggest exports to the United States has been talent. And so, to retain and attract back to Canada the best minds in all fields across all disciplines, the Canadian

government established the Canada Research Chairs program by funding 2,000 Research Chairs, at the tune of \$300M annually. These 2,000 Chairs are distributed to the universities on the basis of their ability to secure funding from the three granting councils, that is universities receive the Chairs proportionately as to how well they have done in competing for peer-reviewed federal research operating dollars. Of the 2,000 Chairs, UBC has been allocated 160—the second largest number of chairs granted to any university in the country—thereby placing us in a wonderful position to attract the best scholars from around the world, Canadian and non-Canadian, to Vancouver and UBC.

And to ensure that those talented researchers are able to conduct leading-edge research, the government has also made huge commitments in building the research infrastructure required for world-class research. Through the Canada Foundation for Innovation (CFI), the Canadian government is investing up to 40%

of the cost of building, equipping, renovating university research facilities. Over the past several years, the Canadian government has invested over \$3B thereby leveraging almost \$8B in new university research infrastructure throughout the country. Indeed, if you were to crisscross the nation today, you would find on almost every campus in this land, a series of cranes, cement trucks and construction workers—building, renovating and restoring major research facilities in all fields and all disciplines. At UBC alone we are in the middle of building a Clean Energy Research Centre, an Aquatic Ecosystems Laboratory, an Institute for Computing Information and Cognitive Systems, a Biotechnology Laboratory, and Earthquake Engineering Research Facility, Museum of Anthropology, a multi-user Facility for Proteomics, an Integrated Biodiversity Laboratory and a facility to study the origin and persistence of species. Coupled with other capital research programs (Life Sciences - \$110M), over \$600M of new research

infrastructure will be being built at UBC over the next 18-24 months.

That's a bit of the big picture: the great white north produces more than cold fronts; it is conveniently integrated into the U.S. economy and is freshly charged with an innovation strategy that is energizing all of its universities in general and UBC in particular. Which leads me to my favourite subject--UBC.

So what about UBC? How does it fit into this innovation agenda? What role is it playing, with other major research universities in Canada, to contribute to the social and economic development of Canada? UBC, as most of you know, sits in Vancouver on more than 600,000 square meters of some of the most valuable land in the Lower Mainland—most of it sitting proudly on Point Grey, overlooking the Pacific Ocean in certainly

one of the most beautiful locations for a university anywhere on earth.

We are big—Canada's second or third largest university—depending on how you count. We offer the full array of programs and degrees and have over 37,000 students, 3000 full- and part-time faculty, and 6000 staff with an operating budget of over \$1.4B/year.

UBC is a research-intensive university and on almost any measure of research productivity ranks in the top two or three universities in Canada.

We attract annually more than \$350M of external research funding for our research activities, for projects ranging from Asian Studies, anthropology, and biodiversity, to clean energy research, functional proteomics, and computing science and electrical

engineering. And as a result of this research, UBC has registered 227 patents and created over 109 spin-off companies—companies that have attracted \$1.5B in private investment and employ over 2500 people. We have two incubator facilities on campus and are currently building a third to house these early stage companies that generate annual revenue of more than \$500M. In addition to the well-known QLT, UBC claims Westport Technologies, WebCT, Angiotech and Xenon Genetics, to name a few.

UBC is also an international university—one that sits on the Pacific Rim—equi-distance between Europe and Asia—committed to the education of the future global citizens of the world—individuals who are the fabric of a civil society—individuals who understand world events and other parts of the globe—individuals who are tolerant and respectful of other cultures and religions, and individuals who in addition to being computer and scientifically literate have a certain level of what I would call global literacy.

UBC's dedication to Internationalization is evident in all parts of university life. For example, this past fall we opened UBC Korea House, a collaborative academic program with Korea University that will annually bring 100 students from Korea University to live on campus with 100 UBC students. UBC Korea House was modeled on an existing exchange program with Kyoto's Ritsumeiken University, and will be replicated again next year, thanks to an agreement between UBC and Mexico's prestigious TEC de Monterrey.

We are establishing a strong US Studies program and have recently opened a UBC office in Hong Kong and in 2000 we established the Liu Centre for the Study of Global Issues, with Dr. Lloyd Axworthy (Minister of Foreign Affairs) as its Director.

In summary, UBC is positioning itself to assist in building the fabric of a civil society, one that has a vibrant, innovative

economy, an educated population, and a global perspective. We like most people in this room, support and believe in the role universities are and must play, working with governments and industry, to create the knowledge and discoveries that are essential for the global economy.

Last summer, John Manley, the Canadian Minister of Finance, reported to the House of Commons Finance Committee on the state of the Canadian economy and his aspirations to turn (and I quote) “Canada into an economic ‘northern tiger’ with skilled workers, cutting-edge research and strong domestic and foreign investments.”

So the message is clear – look North. Look over Oregon; strain and look past Redmond. Look beyond the 49th parallel and what you will see is a nation investing in innovation and its universities –a nation that has made a commitment to research and

knowledge discovery—a nation that is working to support creative, culturally fluid, and globally literate people who have innovative ideas.