



Bringing research and industry together

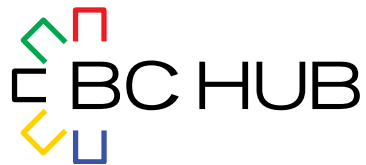
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## Executive Summary

Business is ultimately done as a result of face-to-face discussion. Human beings are social animals, including those who work in the technology industry. BC Hub is being proposed to provide both the physical spaces and a network to facilitate business-concluding interactions. It will be a warm 'heart' situated in the redeveloping False Creek area of downtown Vancouver, along with fully integrated satellites located in centres where demand warrants (such as Prince George, the Okanagan Valley and the Comox Valley). BC Hub will ensure that British Columbia remains and grows not just as a centre for technology research and innovation, but also for real development and economic growth.

The province of British Columbia is part of a global, information-driven economic system. Economic success is based upon access to information, production of knowledge, and the capacity to retrieve it, digest it and use it. This province must focus on the knowledge-based economy, on informational infrastructure, on connectedness, on R&D, and on technology-based sectors if we are to be successful in today's competitive world. Our focus must look beyond the high-intensity knowledge pockets of universities, research organizations and high-tech sectors.

**The challenge is to *integrate* science, technology and knowledge into the manufacturing economy. This will be a competitive transformation that reaches resource industries, traditional manufacturing, and agriculture as well as the technology sector.**

BC Hub will not be simply a bricks and mortar entity, but a better way of stimulating economic growth and creating sustainable industry. It is the promotion of a genuine scientific and practical development community, where shared resources encourage shared ideas, and where interaction between companies stimulates real economic growth. By connecting partners on a day-to-day, even minute-by-minute basis, linkages are created and bridges are built that integrate the interests and mitigate the constraints of the partners.

So, the BC Hub can be summarized in simple terms as:

- Socially stimulating buildings in Vancouver, Prince George, the Okanagan Valley and the Comox Valley that will house companies from all six of the major sectors of the technology community, all built and operated to high environmentally sustainable standards such as LEED.
- The BC Hub is a receptor for companies that have grown out of the post secondary system and for companies that have emerged from elsewhere but have chosen to be in British Columbia.
- Electronic, business, government and social networks will link these facilities.
- Programs designed to promote and sustain cross-industry innovations and relationships leading to the growth of world scale companies.

- A seed fund designed to meet the specific needs of early stage companies in each BC Hub location.
- Support and leadership from the technology community: BC Hub is designed to be led by the companies and organizations that make up BC's technology sector. It will be tailored specifically for the needs (current and future) of this community.

The plan described in this document will be used to define the scope of our services, as well as a means of gaining the necessary investments to open the facility. It will also be used on a continual basis in the evaluation of our vision, mission, goals, and objectives.

## 1.0 Vision

The vision and ultimate challenge of BC Hub is to make the Province of British Columbia globally competitive in today's knowledge-based economy, by helping the creation and growth of world-scale profitable companies that leverage technological strengths identified in the Integrated Technology Initiative (information and communications technology, wireless, new media, fuel cells and biotechnology).

### 1.1 Mission

The mission of BC Hub is to provide both physical centres and a province-wide network to accelerate the profitable and sustainable commercialization of technology, by promoting face to face communication within and among the identified technological strengths of British Columbia, with an overall goal of building world-scale companies.

### 1.2 Objectives

The objectives of BC Hub are:

1. Create an organization, both virtual and tangible, that will speed up and integrate the growth of the British Columbia knowledge-based companies in which BC has an identified advantage, starting with those described in the Integrated Technology Initiative.
2. Shift from the notion of R&D as a stand-alone economic driver to a clear focus on commercializing intellectual property in order to create sustainable products and companies.
3. Shift the whole process of innovation from individual firms to a global network that will use BC Hub as its point of coordination, all to the benefit of British Columbia.
4. Create a central place and regional satellites (virtual and tangible) for people to interact and develop thoughts and ideas to advance these objectives. Social environments for casual interaction will be integrated within the facility.
5. Attract sufficient capital (financial and human) to grow companies based on these advantages, which intend to compete globally from their inception.
6. Assemble key representatives from all sectors of business, academic and government communities to manage and direct the unfolding of the facility.
7. Create, where demand warrants, affordable office and lab spaces situated in optimum locations for BC's growing technology sector.
8. Enable components of the technology community that are currently confined to regional pockets across the province to interact. Help small and medium sized companies, that are cut off from the necessary post-spin off support, access the resources, tools and capital they need.

9. Act as a source of information for the general public on new innovations and technologies being developed by BC's own scientists, funders, institutions and companies.
10. Work effectively and quickly with government partners (at all four levels) to implement commerce-responsive creativity and effectiveness in the delivery of programs. Expectations will be shifted from measures of success taken from a singular focus of science and technology outputs to those related to success in commerce (profits, jobs, taxes and technologies of benefit to society).

### **1.3 Keys to Success**

- Initially, support from all levels of government: Public sector support will allow this project to develop at a successful pace and ensure that BC's technology industry will push the municipal, regional, provincial and federal economies forward.
- Private sector funding and commercial debt to keep the project focussed on market discipline and to ensure that debt is 'off-book' to government.
- Support and leadership from the technology community: BC Hub is designed to be led by the companies and organizations that make up BC's technology sector. It will be tailored specifically for the needs (current and future) of this community.
- Location and atmosphere: The major physical facility will be centrally located in the False Creek Flats in Vancouver, which is part of the expanding business core and not in a peripheral business park. It needs to be seen as the physical heart of the technology community in British Columbia, and the design will recognize that creativity and decisions come from human contact. Social interaction among the occupants and the business, government and academic communities will be emphasized. In addition, linked facilities will be developed in regional centres where demand warrants. These may include 'main street' renovations of existing buildings that would also help to stimulate local economies in collaboration with the host municipality.
- Integration of the sector: This initiative will bring together both identified technology clusters and regional communities in which technology is being created on a day-to-day, hour-by-hour basis. It will create linkages and build bridges that integrate the interests and minimize constraints of the companies, industry associations, governments and regional interests.
- One identity: Ideally, everyone involved in the business of commercializing technology in British Columbia will consider BC Hub as the place, figuratively and literally, through which success is most readily achieved. To achieve this, a fully representative management board needs to be created early in the process to ensure that all voices are heard, all regional and sectoral interests considered and a sense of ownership created.

## 1.4 Ownership and Management

Subject to legal and accounting advice, BC Hub will be owned and operated by a not-for-profit corporation representing the technology community and parties that invest in it. The intention is to initially fund BC Hub from a blend of public and private sources of capital such that space is affordable but not free, and services are very cost competitive. It is recognized that the cost of capital construction in British Columbia has risen dramatically and that any new facilities will cost considerably more than existing facilities, thus leading to higher rents that will require subsidies.

## 1.5 Financing and Funding

The capital cost could be funded by private equity and debt (keeping the debt 'off-book' to government) through the not-for-profit corporation, which would require rents and services that are at the top end of the commercial market due to the high costs of construction and equipment. To make the centres successful, to help encourage company growth and to meet the public policy goals of the BC Hub, public funds could be invested to lower rents and operating costs to an attractive level. This could be achieved by way of outright grants and/or loans that are ultimately to be repaid by BC Hub after achieving specified levels of success over time.



## **2.0 What Does BC Hub Comprise?**

BC Hub is not simply a bricks and mortar entity, but a new way of stimulating economic growth and creating sustainable industry. It is the promotion of a genuine province-wide community where shared resources encourage shared ideas and interaction between different disciplines. Synergies among different projects stimulate growth. By connecting partners on a day-to-day, minute-by-minute basis, linkages are created and bridges are built that integrate the interests and reduce the constraints among the various partners.

### **2.1 A Virtual Network**

Components of the technology community are located around the province as well as in the Lower Mainland and Victoria. Sectors do not always interact adequately. Small and medium sized companies can be lost to the community and cut off from the necessary support once they have spun-out from the post-secondary institution or a larger firm. By shifting the whole process of innovation from individual firms to a network, BC Hub intends to end the inevitable “out of sight, out of mind” factor detrimental to business growth.

The network will operate on several levels:

BC Hub will offer a formal mentoring system that includes the proven leaders from industry, finance (angels, VCs and lenders), law, accounting, marketing, manufacturing and government. BC Hub will be responsible for organizing and funding presentations to target audiences and for specific company-to-mentor meetings. These will be arranged both at the BC Hub locations and in recipient company facilities as required.

BC Hub will collaborate with Leading Edge BC, the Ministry of Advanced Education, Research and Technology, the Ministry of Economic Development, Industry Canada, Western Diversification, Industrial Research Assistance Program, and all BC industry technology organizations (including BC TIA, BC Biotech, New Media BC and WINBC) to develop and disseminate a common information and data base on services, events and assistance provided through these entities to technology companies throughout BC. Initially, this will require creation of a web-based service that coordinates this.

### **2.2 Lab and Office Space**

BC Hub will have a combination of lab and office space for lease primarily by technology companies, but also limited space for research institutes, industry associations, service firms, angels, venture capitalists and government agencies. The physical design of the building will emphasize ‘theme areas’ (by type of technology) to promote internal identities, and also ‘force’ spontaneous and formal meetings among the themes. Common facilities and amenities will be located such that people will be strongly encouraged to interact, share and develop creative relationships.

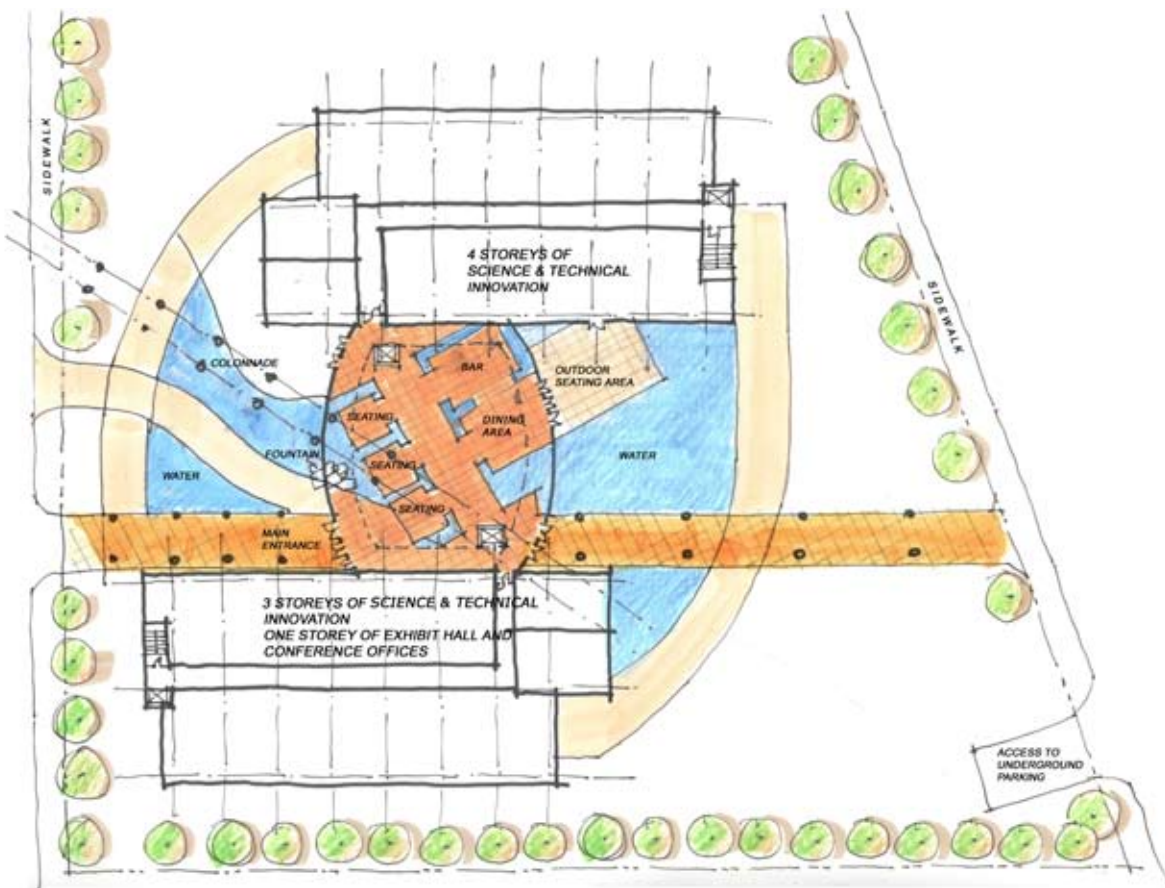
As described above, the cost of these facilities will be supported by private financing and public investment in order to ensure they are affordable for tenant companies.

## 2.3 BC Hub Seed Fund

BC Hub will raise a late stage seed fund to help companies prior to their securing VC funding, a merger, an IPO or other major liquidity event. The purpose of this fund, aimed initially at tenants of the BC Hub, will be to ensure that companies have adequate funding to pursue their commercial objectives before facing significant dilution of the company creators' investments and, secondly, to ensure a portfolio of investments that should eventually return significant capital to the BC Hub. Management of this Fund will be contracted to a qualified existing BC based firm.

## 2.4 Social Interaction

A beverage and food facility to provide places for informal and formal meetings and sharing of ideas will be included in the BC Hub concept. The BC wine and food industry will be invited to collaborate with BC Hub. This facility, designed to maximize chance encounters among tenant companies, will use the best designs to ensure lighting and sound levels, seating areas, colours, fabrics, graphics and all forms of stimuli optimize the atmosphere for interaction. Appropriate design consultants will be engaged to ensure this atmosphere.



## **2.5 Business Services**

Provision of reference resources, video conferencing, training facilities and a business centre with temporary office and meeting facilities will be included. BC Hub will also include:

- Communications technology enabling wireless sharing of work through internal private networks, voice and data services, wireless local area networks, unified messaging systems (integrating telephone, e-mail, and fax into one single interface)
- The development of a BC Hub web-based application for the technology community providing access to current news and information, local news updates, press releases, upcoming events, business and consumer services, facility booking and similar services.

## **2.6 Green Technologies and Building Construction**

All physical facilities will strive for LEED certification at the platinum level, and/or the equivalent standard, working collaboratively with the local municipalities of the network.

## **2.7 A Public Information Source**

BC Hub will not be an institution that is out of the public spotlight. Through marketing and PR professionals, BC Hub will make use of various forms of media to ensure the public is kept aware of new innovations and projects developed by its scientists and business people.

Looking to the long term, BC Hub could act as a central location for BC's industry organizations—Leading Edge BC, BC Technology Industries Association, BC Biotech, WinBC, Fuel Cell Canada and the BC Innovation Council among others. In turn, BC Hub will become a one-stop information source for media, where scientists and professionals across several disciplines will be accessible for comment.

### 3.0 Market Analysis

BC has a very strong and competitive business climate as a result of current policies developed in cooperation with private sector recommendations. These initiatives include very competitive levels of personal, business and capital gains taxation, a trend-setting program for R&D tax credits, a proactive program for streamlining the entry of immigrants into the workforce, and a strong post-secondary research component from which new products and companies can be developed and grown. Funding agencies such as the Michael Smith Foundation and Genome BC invest approximately \$60 million per year into the province's technology sectors.

An April 2005 report issued jointly by Leading Edge British Columbia and Greenstone Venture Partners indicated that venture capital invested in BC companies generated almost a ten-fold increase in shareholder value by the time the companies went public or were involved in a mergers and acquisitions transaction. The study showed that the value created in BC per early stage invested dollar, has been higher than in every major investment region in North America, including the Silicon Valley.

The Integrated Technology Initiative (ITI), a collaborative study launched by Leading Edge BC, identified BC's technology cluster as having very strong potential. It is the third largest and fastest growing cluster in Canada, with the goal of being ranked number one by 2010.

According to Ernst and Young, BC's biotechnology industry is one of the top in North America, and the fastest growing in Canada. More than 90 firms make up the cluster, employing more than 2,600 people and drawing more than \$344 million in 2004 revenues.

The current economic and social environment in BC is set to embrace a constant and sustained growth of the technology industry. At least five world-class clusters have emerged in BC, including information and communications technology, wireless, fuel cells, new media and biotechnology with others, such as bio-products, emerging.

Vancouver is home to several world leaders in new media, including Electronic Arts and Radical Entertainment, with Walt Disney's new subsidiary Buena Vista Games recently entering the market. According to New Media in BC, more than 700 companies employ 14,000 people in this sector. BC's information and computer technology sector is the biggest part of BC's technology economy, employing more than 45,000 people and accounting for more than 2.9% of the province's economic output in 2003 (BC Stats).

Since 1997, federal and provincial governments have made large investments (topping \$13B) in recruiting top researcher talent to Canada. The successful federal initiatives include the Canadian Institutes for Health Research (CIHR), Networks of Centres of Excellence (NCEs), the Canada Foundation for Innovation (CFI), and Canada Research Chairs. Thanks to the millions of dollars invested by these programs, 474 foreign and expatriate researchers have been drawn to Canada. Of those, 105 are now hard at work in a BC university.

The Government of British Columbia is building a climate designed to support

initiatives like BC Hub. “We’re starting to create our own critical mass here in British Columbia,” said Premier Gordon Campbell last year. Upcoming new tax incentives to be implemented in BC are a strong sign that these goals have not been forgotten. The proposed changes will reduce the motivation for companies that are on the verge of commercializing a patent to move to an offshore low-tax or no-tax jurisdiction. To attract new firms and investments, the government will expand the International Financial Activity Program that provides refunds of provincial corporate income taxes paid on certain international financial activities.

Canada currently ranks in the top tier of countries for the number of technology companies and the number of products under development. However, the reality is that only a small number of those companies actually have products on the market and are actually making significant revenues. R&D alone is not sufficient. Canada has both a small domestic marketplace and a small pool of domestic financial capital with which to invest. In order to grow the knowledge-based sectors, Canada needs to attract sufficient capital, financial, human and otherwise to grow companies that can compete globally.

#### **4.0 BioSquare – Boston, Massachusetts**

BioSquare is Boston's world-renowned biomedical research facility, providing state-of-the-art, built-to-suit research facilities with comprehensive tenant amenities and services. A joint-venture between Boston University and the Boston Medical Centre, BioSquare is located on a 14-acre parcel that 10 years ago was a large parking lot beside an expressway in a forlorn section of the city. BioSquare is not a facility designed solely for profit-making. Rather, it is a partnership created between the University and the tenants to allow for joint-research, development, and innovation.

A total of 750,000 square feet of space is provided at BioSquare, with 340,000 devoted to garage and retail and 400,000 square feet to wet-labs. The remaining 75,000 is allocated to corporations and office. What separates BioSquare from similar facilities created by other institutions is its ability to provide key core services and access to valuable university resources.

Originally conceived as a 2.5 million square foot development, BioSquare was to be completed in two phases. Six buildings were devoted to research, with two parking garages, and a hotel and conference centre. Today, it consists of two multi-storey buildings with lab and office space, and a 1,000 space parking garage.

The biotech buildings are connected by a skywalk and house mostly researchers from the medical centre, along with three private biotech companies with approximately 100 researchers. Current and previous tenants of BioSquare include CombinatoRx, Amgen, Merck, and Infinity Pharmaceuticals, among others.

With the availability of space in the Cambridge area becoming an issue, BioSquare is finding itself in a good position for companies searching for alternatives, especially those requiring room to grow.

BioSquare stands within approximately one mile of the central business district of the city of Boston and is accessible via public transportation, commuter rails, major interstate highways and Boston's new third harbor tunnel, which lies at BioSquare's doorstep. Direct access to Logan International Airport is within a ten minute drive.

#### **4.1 Biomedicum – Helsinki, Finland**

Biomedicum Helsinki, a centre for biomedical research and training, provides well-equipped, state-of-the-art facilities for the University of Helsinki's basic medical research and the clinical research conducted by the University Central Hospital. The result is not only enhanced cooperation between the University's departments and research groups, but also increased interaction between the University and industry.

Construction of the 420,000 square foot building was completed in January 2001. At present, over 1,200 people in the building are engaged in research, and the first two years of the University's Faculty of Medicine are taught at Biomedicum Helsinki.

Biomedicum Helsinki is truly a joint effort between academia and industry, with ownership of the building divided between various stakeholders, including the University

of Helsinki, the Joint Authority for the Hospital District of Helsinki, a state-owned property developer, several private research foundations, and the cities of Helsinki, Espoo, and Vantaa.

Prior to Biomedicum Helsinki, clinical research at Helsinki's University and hospital used to be about eight kilometers apart. Now physicians and scientists are located not only on the same campus, but also in the same building. This creates an environment where top-level research can be concentrated across various disciplines. Research taking place within Biomedicum Helsinki is coordinated through a central team of Finnish scientists, who have selected six research themes that encourage collaboration. A review every five years ensures that the research funding is being used effectively.

Within Biomedicum Helsinki is the Research and International Affairs Unit. It serves the function of an in-house University Industry Liaison Office. It supports and helps, in collaboration with the Foundation for Finnish Inventions, investigators in the Biomedicum Helsinki building and on the University campus in search for national and international research funds as well as in administration of the funds. In addition, it helps the researchers to develop and exploit invention proposals.

Located no more than 10 minutes by public transportation from the centre of Helsinki, Biomedicum also provides excellent conference facilities to the research community.

## 5.0 The Next Steps

Since the creation of this document:

- The Board of Discovery Parks Trust has formally endorsed this concept and offered to cost share in funding the next steps.
- The Board of BC TIA has endorsed the concept.
- The University President's Council, Vice Presidents of Research, has discussed the concept with Mark Betteridge.
- David Hall, CFO of Angiotech, Chair of BC Biotech, has endorsed the concept.
- The Executive Director of BC Biotech has offered her support.
- The Board of the Vancouver Economic Development Commission will consider endorsing the concept at its next meeting.
- The Minister, Deputy Minister, and senior staff of the Ministry of Advanced Education have reviewed this document. The Minister has indicated general support for the concept.
- The Minister and Deputy Minister of Economic Development have reviewed the document, referring it to the Ministry of Advanced Education.
- The document has been circulated to others for comment.

### 5.1 Engagement Strategy and Process

The next step is list all potential stakeholders, define their potential interests and describe how they will be engaged to determine their level of interest, their level of commitment (financial and time), and their issues. At this time, the potential stakeholders include:

- All BC Technology industry organizations, including those representing regional interests
- Venture capitalists and angel funders active in BC
- The False Creek Coalition
- The Province of British Columbia (Ministry of Advanced Education, Ministry of Economic Development, Office of the Premier, Premier's Technology Council, BC Innovation Council)
- The Government of Canada
- The City of Vancouver
- The University Presidents' Council
- Great Northern Way Campus
- Leading Edge BC
- The Vancouver Economic Development Commission
- The Greater Vancouver Economic Council

- The Vancouver Board of Trade
- Vancouver International Airport
- CN and Burlington Northern Railway
- Angiotech and QLT
- RAV
- Vancouver Coastal Health Authority
- Providence Health Care
- BC Cancer
- Discovery Parks Trust
- Others yet to be identified

From this group, appoint an interim management board to oversee the Business Plan development and completion within 12 months. This interim management board will attempt to secure funding for at least \$150,000 to implement this engagement strategy and produce a first Business Plan including:

- a. Strategy
- b. Objectives
- c. Relationships and partnerships
- d. Governance
- e. Ownership
- f. Finance
- g. Operations & Marketing
- h. Location(s)
- i. Physical design concepts and budgets
- j. Network design concepts and budgets
- k. Timing

Funding will be sought from all identified stakeholders.

## Appendix A

### *BC Hub - Programs and Services Financial Concept*

The BC Hub is more than just sustainable space. It is a business and social centre that offers relevant programs, advice, services, connections, networks and investment capital.

Currently, these are envisioned to be:

A **seed fund** for early stage companies resident in one of the BC Hubs (Vancouver and regional). Initially, this fund is seen as being \$5,000,000, of which half is invested by the private sector, half by the Government of British Columbia, and is administered by a proven BC-based fund investor. The target rate of return will be 15% averaged over the first five years of existence.

A **SWOT team** of seasoned and proven technology company builders who will be paid expenses to meet with BC Hub tenant firms (potential and current, both in Vancouver and in regional locations) to provide advice and direction as they see fit. These individuals will be permitted to invest in the companies they advise. Expenses budgeted at \$100,000 per year.

**Tax planning services** offered, at discounted prices, by qualified companies with emphasis on SR&ED credits, VCC's and other financial vehicles aimed at the technology sector. Budget of \$50,000 per year for the system.

**Human resources planning services** to help attract and retain the best talent. Budget of \$50,000 per year for the system.

**Advice on potential markets** for tenant companies as provided by the SWOT teams, by Leading Edge BC, by related government departments and economic development organizations. Budget of \$50,000 per year for the system.

**Direct access to BC NET** for communications. Budget to be determined, but not significant.

**Membership in the BC Hub lounge.** Food and beverage services in the Vancouver location will be offered to the technology industry with tenants having signing privileges. A top flight manager will be sought from the BC industry. There will be no net budget impact.

## Appendix B

### *BC Hub Regional Centres - Financial Concept*

The Regional BC Hubs are intended to primarily house early stage private companies, which reflect the technological strengths of British Columbia, as currently defined by the British Columbia Integrated Technology Initiative, and which reflect the local economy. The concept is to charge these companies an affordable rent and help them grow by providing support services. Costs are estimated as follows:

Estimated capital costs for three pre-paid building leases plus tenant improvements in Prince George, the Okanagan Valley and the Comox Valley:

\$3,000,000\*

\*This does not include the cost of offering support services to tenants

For the regional facility, we are assuming that BC Hub leases existing downtown office space and invests in appropriate tenants improvements to provide a centre of about 5,000 square feet. Rents to tenants, varying by local market conditions, would be approximately as follows in order to be attractive:

Office space: \$10 - \$15 gross per square foot\*

Lab space: \$15 - \$20 gross per square foot\*

\*Rents include tenant improvements

In addition, delivery of support and management services is crucial. We are estimating these annual operating costs as follows (per centre, per year):

Local manager:	\$100,000
Assistant:	\$35,000
Marketing costs:	\$100,000
Travel and promotional expenses:	\$50,000
<b>Total:</b>	<b>\$285,000</b>

### **Summary:**

Capital costs for three centres of 5,000 square feet, including pre-paid head lease:

\$3,000,000

Operating costs for three centres for five years:

\$4,275,000

Total cost, allowing a small contingency:

\$7,275,000

## Appendix C

### *BC Hub - Vancouver Financial Concept*

The Vancouver location of BC Hub is intended to primarily house relatively early stage private companies, which reflect the six technological strengths of British Columbia (as currently defined by the Integrated Technology Initiative). The concept is to charge these companies affordable rent, while helping them grow by providing support services within the goals as explained throughout this document. By having an entity such as Discovery Parks act as the 'owner/developer', private equity can be invested and debt raised in the commercial markets to keep this 'off-book' to government.

The challenge is to provide attractive new space, programs, amenities and overall support at a time when the market faces rapidly rising capital costs and a tightening supply of all forms of commercial space.

We have estimated the capital cost of a building of 100,000 square feet (gross) based on very preliminary architectural concepts plus the extensive experience of Discovery Parks in building this type of facility. Costs are estimated as follows:

Estimated capital costs for land, building, and tenant improvements:

\$45,000,000\*

\*This does not include the cost of offering support services to tenants

If financed at market (page 21), rents would be as follows:

Office space: \$36 per square foot (plus \$12 per square foot for operating costs)  
Lab space: \$45 per square foot (plus \$12 per square foot for operating costs)

These costs are at the very top end of the market and driven by cost. They would be very hard to achieve at present and would act as a serious deterrent to the entire concept.

The stakeholders, therefore, are being asked to contribute to the project by way of capital contributions to reduce the amount of debt and, thereby, the rent. For example, as shown on page 22, a \$10 million capital contribution would lower the rents as follows:

Office space: \$27 per square foot (plus \$12 per square foot for operating costs)  
Lab space: \$35 per square foot (plus \$12 per square foot for operating costs)

A \$20 million capital contribution would yield rents as follows:

Office space: \$19 per square foot (plus \$12 per square foot for operating costs)  
Lab space: \$25 per square foot (plus \$12 per square foot for operating costs)

A \$30 million capital contribution would yield rents as follows:

Office space: \$11 per square foot (plus \$12 per square foot for operating costs)

Lab space: \$25 per square foot (plus \$12 per square foot for operating costs)

In all scenarios (see pages 21 - 24), we have kept the cash equity investment to 25% of the unsubsidized cost and maintained at least a 6% (i.e. minimal) return on this equity to the private investment entity.

In any of these scenarios, a public investment is leveraging a \$45 million capital cost project as a true public/private partnership.

**BC Hub - Pro Forma Investment Analysis  
Market Value**

Gross base rent (sq-ft)	
Retail	5,000
Office	60,000
Lab	30,000
	<b>95,000</b>
Benchmark rental rate (\$/sq-ft)	
Retail	\$ 25.00
Office	\$ 36.00
Lab	\$ 45.00
Gross annual revenues	
Retail	\$ 125,000
Office	\$ 2,160,000
Lab	\$ 1,350,000
<b>Total</b>	<b>\$ 3,635,000</b>
<b>Average benchmark rental rate (\$/sq-ft)</b>	<b>\$38.26</b>

Parking revenues	
Number of stalls	190
Annual rent per stall	\$ 600
Annual parking revenues	<b>\$ 114,000</b>

Vacancy and Turnover Allowance	3%
Structural Repairs and Maintenance	1%
Cap Rate	8%

<b>Projected Return on Investment</b>	
Gross base rent	
Retail	\$ 125,000
Office	\$ 2,160,000
Lab	\$ 1,350,000
	\$ 3,635,000
Parking income	\$ 114,000
	\$ 114,000
Vacancy and turnover allowance	-\$ 112,470
	-\$ 112,470
Structural repairs and maintenance	-\$ 36,365
	-\$ 36,365
Net operating income	<b>\$ 3,600,165</b>
ROI as a percentage of cost	<b>8.00%</b>
Capitalized value / appraised value	\$ 45,002,059
Total project cost	-\$ 45,000,000
Land cost @ market value	\$ -
Retained development return	<b>\$ 2,059</b>
As a percentage of cash equity	<b>0%</b>
As a percentage of cash equity and land	<b>0%</b>

<b>Projected Operating Cash Flow</b>	
Annual mortgage repayments*	\$ 2,609,421
Cash equity and expected return	\$ -
Structural repairs and maintenance	\$ 36,365
Fixed annual overheads	\$ 150,000
Leasing commission (Average of 3%)	\$ 109,096
Total cash flow required	<b>\$ 2,904,882</b>
Rent required to cover 97% occupation	<b>\$ 31.52</b>
Annual return on equity based on average rental rate	<b>6.50%</b>
* Based on \$33.75 million, borrowed at 6% over 25 years	

**BC Hub - Pro Forma Investment Analysis  
Partial Capital Subsidy of \$10 Million**

<b>Gross base rent (sq-ft)</b>	
Retail	5,000
Office	60,000
Lab	30,000
	<u>95,000</u>
<b>Benchmark rental rate (\$/sq-ft)</b>	
Retail	\$ 25.00
Office	\$ 28.00
Lab	\$ 35.00
<b>Gross annual revenues</b>	
Retail	\$ 125,000
Office	\$ 1,680,000
Lab	\$ 1,050,000
<b>Total</b>	<b>\$ 2,855,000</b>
<b>Average benchmark rental rate (\$/sq-ft)</b>	<b>\$30.05</b>

<b>Parking revenues</b>	
Number of stalls	190
Annual rent per stall	\$ 600
<b>Annual parking revenues</b>	<b>\$ 114,000</b>

Vacancy and Turnover Allowance	3%
Structural Repairs and Maintenance	1%
Cap Rate	8%

<b>Projected Return on Investment</b>	
Gross base rent	
Retail	\$ 125,000
Office	\$ 1,680,000
Lab	\$ 1,050,000
	<u>\$ 2,855,000</u>
Parking income	\$ 114,000
	<u>\$ 114,000</u>
Vacancy and turnover allowance	-\$ 89,070
	-\$ 89,070
Structural repairs and maintenance	-\$ 28,799
	-\$ 28,799
<b>Net operating income</b>	<b>\$ 2,851,131</b>
ROI as a percentage of cost	<b>8.15%</b>
Capitalized value / appraised value	\$ 35,639,134
Total project cost	-\$ 35,000,000
Land cost @ market value	\$ -
<b>Retained development return</b>	<b>\$ 639,134</b>
As a percentage of cash equity	7%
As a percentage of cash equity and land	7%

<b>Projected Operating Cash Flow</b>	
Annual mortgage repayments*	\$ 2,029,549
Cash equity and expected return	\$ -
Structural repairs and maintenance	\$ 28,799
Fixed annual overheads	\$ 150,000
Leasing commission (Average of 3%)	\$ 86,398
<b>Total cash flow required</b>	<b>\$ 2,294,746</b>
Rent required to cover 97% occupation	\$ 24.90
Annual return on equity based on average rental rate	<b>6.69%</b>
* Based on \$26.25 million, borrowed at 6% over 25 years	

**BC Hub - Pro Forma Investment Analysis  
Partial Capital Subsidy of \$20 Million**

Gross base rent (sq-ft)	
Retail	5,000
Office	60,000
Lab	30,000
	<u>95,000</u>
Benchmark rental rate (\$/sq-ft)	
Retail	\$ 25.00
Office	\$ 19.00
Lab	\$ 25.00
Gross annual revenues	
Retail	\$ 125,000
Office	\$ 1,140,000
Lab	\$ 750,000
<b>Total</b>	<b>\$ 2,015,000</b>
<b>Average benchmark rental rate (\$/sq-ft)</b>	<b>\$21.21</b>

Parking revenues	
Number of stalls	190
Annual rent per stall	\$ 600
Annual parking revenues	<b>\$ 114,000</b>

Vacancy and Turnover Allowance	3%
Structural Repairs and Maintenance	1%
Cap Rate	8%

<b>Projected Return on Investment</b>		
Gross base rent		
Retail	\$ 125,000	
Office	\$ 1,140,000	
Lab	\$ 750,000	
		\$ 2,015,000
Parking income	\$ 114,000	
		\$ 114,000
Vacancy and turnover allowance	-\$ 63,870	
		-\$ 63,870
Structural repairs and maintenance	-\$ 20,651	
		-\$ 20,651
Net operating income		<b>\$ 2,044,479</b>
ROI as a percentage of cost		<b>8.18%</b>
Capitalized value / appraised value		\$ 25,555,984
Total project cost		-\$ 25,000,000
Land cost @ market value		\$ -
Retained development return		<b>\$ 555,984</b>
As a percentage of cash equity		<b>9%</b>
As a percentage of cash equity and land		<b>9%</b>

<b>Projected Operating Cash Flow</b>	
Annual mortgage repayments*	\$ 1,449,678
Cash equity and expected return	\$ -
Structural repairs and maintenance	\$ 20,651
Fixed annual overheads	\$ 150,000
Leasing commission (Average of 3%)	\$ 61,954
Total cash flow required	<b>\$ 1,682,283</b>
Rent required to cover 97% occupation	\$ 18.26
Annual return on equity based on average rental rate	<b>6.13%</b>

\* Based on \$18.75 million, borrowed at 6% over 25 years

**BC Hub - Pro Forma Investment Analysis  
Partial Capital Subsidy of \$30 Million**

<b>Gross base rent (sq-ft)</b>	
Retail	5,000
Office	60,000
Lab	30,000
	<u>95,000</u>
<b>Benchmark rental rate (\$/sq-ft)</b>	
Retail	\$ 25.00
Office	\$ 11.00
Lab	\$ 16.00
<b>Gross annual revenues</b>	
Retail	\$ 125,000
Office	\$ 660,000
Lab	\$ 480,000
<b>Total</b>	<b>\$ 1,265,000</b>
<b>Average benchmark rental rate (\$/sq-ft)</b>	<b>\$ 13.32</b>

<b>Parking revenues</b>	
Number of stalls	190
Annual rent per stall	\$ 600
<b>Annual parking revenues</b>	<b>\$ 114,000</b>

Vacancy and Turnover Allowance	3%
Structural Repairs and Maintenance	1%
Cap Rate	8%

<b>Projected Return on Investment</b>		
<b>Gross base rent</b>		
Retail	\$ 125,000	
Office	\$ 660,000	
Lab	\$ 480,000	
		\$ 1,265,000
Parking income	\$ 114,000	
		\$ 114,000
Vacancy and turnover allowance	-\$ 41,370	
		-\$ 41,370
Structural repairs and maintenance	-\$ 13,376	
		-\$ 13,376
<b>Net operating income</b>		<b>\$ 1,324,254</b>
ROI as a percentage of cost		<b>8.83%</b>
Capitalized value / appraised value		\$ 16,553,171
Total project cost		-\$ 15,000,000
Land cost @ market value		\$ -
<b>Retained development return</b>		<b>\$ 1,553,171</b>
As a percentage of cash equity		<b>41%</b>
As a percentage of cash equity and land		<b>41%</b>

<b>Projected Operating Cash Flow</b>	
Annual mortgage repayments*	\$ 869,807
Cash equity and expected return	\$ -
Structural repairs and maintenance	\$ 13,376
Fixed annual overheads	\$ 150,000
Leasing commission (Average of 3%)	\$ 40,129
<b>Total cash flow required</b>	<b>\$ 1,073,312</b>
Rent required to cover 97% occupation	\$ 11.65
Annual return on equity based on average rental rate	<b>7.05%</b>
* Based on \$11.25 million, borrowed at 6% over 25 years	

## Appendix D

### *BC Hub - Overall Financial Concept*

The following spreadsheet (page 26) shows the total costs for the BC Hub over the first five years of operation.

The grand total cost is \$64,425,000. Of this, almost \$46,000,000 is the capital cost for the BC Hub building in Vancouver, while \$3,000,000 is for capital costs in Kelowna, Prince George and the Comox Valley. The balance is for local operations and program delivery, plus the seed fund.

At this time, it is proposed that the sources of funds be as follows (all figures approximate):

Equity from private investors for the Vancouver BC Hub:	\$4,000,000
Commercial debt for the Vancouver BC Hub capital budget:	\$11,250,000
Federal grant to the Vancouver BC Hub capital budget:	\$15,000,000
Provincial grant to the Vancouver BC Hub:	\$15,000,000
Federal grant to the regional capital and operations budget:	\$3,000,000
Provincial grant to the regional capital and operations budget:	\$3,000,000
Seed fund from private sources:	\$2,500,000
Seed fund from provincial government:	\$2,500,000
Other funding from private sources:	\$8,175,000
<b>Total:</b>	<b>\$64,425,000</b>

\*Assumes contribution by the City of Vancouver of a 99 year land lease for \$1 per year for the first ten years. This amount would then move towards market rates as funds are generated from operations.

\*The total federal and provincial contributions are each approximately 30% of the total cost of the BC Hub concept (excluding the seed fund)

## BC Hub Costs before Financing and Funding

	2006	2007	2008	2009	2010	
Business Plan	\$ 150,000					
BC Hub - Vancouver location						
Design & approvals	\$ 2,000,000	\$ 2,000,000				
Construction		\$ 20,000,000	\$ 21,000,000			
Management and operations	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	
Total costs - Vancouver location						\$ 45,900,000
BC Hub - Regional locations						
Kelowna	\$ 1,000,000					
Prince George	\$ 1,000,000					
Comox Valley	\$ 1,000,000					
Management and operations	\$ 855,000	\$ 855,000	\$ 855,000	\$ 855,000	\$ 855,000	
Total costs - Regional locations						\$ 7,275,000
Seed fund	\$ 250,000	\$ 1,750,000	\$ 3,000,000			\$ 5,000,000
System wide programs						
Tax planning services	\$ 500,000	\$ 1,500,000	\$ 3,000,000	\$ -	\$ -	
SWOT Team	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	
Tax planning services	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	
HR planning services	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	
Marketing advice	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	
BC NET	\$ -	\$ -	\$ -	\$ -	\$ -	
BC Hub Lounge	\$ -	\$ -	\$ -	\$ -	\$ -	
Total costs - System wide programs						\$ 6,250,000
Totals	\$ 7,155,000	\$ 26,505,000	\$ 28,255,000	\$ 1,255,000	\$ 1,255,000	
<b>Grand total costs</b>						<b>\$ 64,425,000</b>