



TWENTY TWO C PARTNERS INC

Core Mandate Review Report:

BC Innovation Council

September 2011

Core Mandate Review of BC Innovation Council – Report September 2011

Page 2
CTZ-2015-00019

Executive Overview

Scope of Project

The Ministry of Jobs, Tourism and Innovation undertook a Mandate Review of the British Columbia Innovation Council (BCIC)

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undertaking the following:

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Methodology:

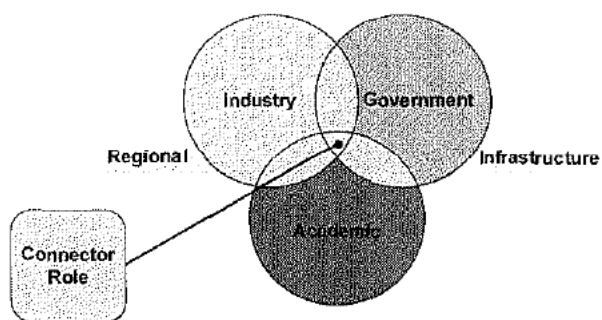
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Executive Overview

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BCIC S.12 has been designed and is operating as a service delivery agency, reporting currently to the Ministry of Jobs, Tourism and Innovation. Its mandate is to promote the development of entrepreneurs and the commercialization of technology through start-up companies and partnerships between industry and academia. The following illustration demonstrates best practice thinking related to the commercialization of research, innovation and growth in the knowledge-based economy: the ability to capture value from connecting the sectors of industry, government and academia that has regional infrastructure at its core.











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Executive Overview

1. Strengths of BCIC

BCIC has made a positive contribution growing entrepreneurship and innovation for the province. They have been strategic in focusing their budget on start-ups and getting greater traction than they would have by disbursing funds across a wider part of the continuum and lifecycle of entrepreneurship.

| | |
|---|--|
|  | BCIC has done an effective job given a limited budget: the actual discretionary funds to be invested are actually in the range of \$2.7M even though the budget would indicate closer to \$5.6M including regional councils and UILOs. |
|  | BCIC has been successful with events such as Connect. Widely seen and desired to be imitated, it has been viewed as a highly effective deliverable from BCIC and from numerous partners and stakeholders. |
|  | BCIC has operated successfully as a tool for leveraging and increasing its impact on funding entrepreneurs when it has collaborated with the federal government through IRAP and Western Economic Diversification. |
|  | BCIC has been strategic by focusing on a small part of the eco-system rather than spreading investment across a broader range in the continuum, and has created real impact in terms of job creation and investment. |
|  | BCIC provides more impact than it is funded for, especially in the areas of making connections between entrepreneurs, industry and academic institutions. |
|  | Several partners of BCIC believe strongly in the positive value derived for Government, related to the investment level for BCIC. |
|  | BCIC uses a leveraged model, working through industry associations and partners. Using 3 rd parties has a multiplier effect in job creation and economic development. |
|  | BCIC has adopted best practices to model programs and services from one of the global leaders in entrepreneurship, M.I.T. |

Executive Overview

2. Opportunities for Improvement

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Executive Overview

3. Options for the Future:

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¹ Adapted model drawn by 22c from Ohio State and BCIC sources

BCIC Key Findings

1. BCIC Mandate, Structure and Budget:

BCIC was created through the 2004 merger of the Innovation and Science Council of BC (established as the BC Science Council in 1978) and the Advanced Systems Institute (ASI – established in 1986).

| 2003-2004 - BC Science Council | 2004-2005 | 2005-2008 | 2008-2011 |
|--|---|---|---|
| <ul style="list-style-type: none"> • Tech Transfer • Public Education in Science | <p>BCIC adopted targets set by the Innovation and Science Council of BC.</p> <p>Far reaching and broad mandate including awareness campaigns.</p> | <p>More focused on accelerating commercialization; public awareness of science and tech; focus explicitly on early start-ups. Also mentions growing international business.</p> | <p>Focus core business on early adopters and entrepreneurs; start-ups (after idea stage).</p> |

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BCIC Key Findings

1. BCIC Mandate, Structure and Budget cont'd:

Continuum and Life Cycle of Entrepreneurs from the Point of View of Government as Shareholder²



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BCIC Key Findings:

1. BCIC Mandate, Structure and Budget cont'd:

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BCIC Key Findings

1. BCIC Shareholder Expectations:

Review and compare direction provided by the S.12 with respect to activities to be performed S.12 and determine how that direction may be similar to or different from direction provided by Government.

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BCIC Key Findings

1. BCIC Shareholder Expectations cont'd

Review and compare direction provided by the S.12 *with respect to activities to be performed* S.12 *and determine how that direction may be similar to or different from direction provided by government.*

| Selected General Shareholder Expectations as specified in BCIC Act: | |
|---|------|
| Complete a five-year strategic action plan with performance measures by September 30, 2010. | |
| Develop and implement business incubator and accelerator programs by October 1, 2010 that help to train students to be entrepreneurs and launch promising, small and medium sized technology companies. | S.12 |
| Continue to drive partnerships between academia and industry through directed and applied research projects. | |

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BCIC Key Findings

1. Budget

BCIC operates primarily as an administrator for flow-through funds that go to Regional Councils and UILO offices. BCIC administers funds but has little influence or capacity to audit for value. On paper, BCIC's annual budget also includes investment interest generated from the \$50M NRAS endowment fund; the \$50M capital endowment must be preserved, and the investment interest must be only spent in full accordance with the restrictions of the endowment and Treasury Board rules.

BCIC – 2010/11 Budget

Total Operating Revenue for 2010/2011 (not including NRAS endowment): \$8.85 M; Total Summary Expenditures for 2010/2011: \$8.85 M
Detailed budget numbers are provided in Appendix II.

| | |
|-----------------------------------|----------------|
| Staff Salaries/General Admin/Rent | \$2.7 M |
| BCRSTN Funding | \$1.7 M |
| UILOs | \$1.1 M |
| PTC | \$0.425 M |
| Progress Board | \$0.260 M |
| Discretionary Program Investments | \$2.7 M |
| Total Operating Revenue | \$8.85M |

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Analysis:

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BCIC Key Findings

2. Programs and Partnerships

*Review the work and projects undertaken
organizations by government.*

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and assess the consistency of that work to mandate direction provided to the

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BCIC Key Findings

2. Programs and Partnerships...cont'd

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BCIC Key Findings

2. Programs and Partnerships...cont'd

E. Programs to Be Divested or Funded Appropriately

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Recommendations:

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BCIC Key Findings

2. Programs and Partnerships...cont'd

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BCIC Key Findings

2. Programs and Partnerships...cont'd

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BCIC Key Findings

2. Programs and Partnerships...cont'd

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BCIC Key Findings

2. Programs and Partnerships...cont'd

G. Other groups or jurisdictions with similar mandates:

BCIC does have overlapping mandates with other groups within the BC landscape or eco-system in the areas of mentoring and workshops.

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BCIC Key Findings

2. Programs and Partnerships...cont'd

G. Other groups or jurisdictions with similar mandates:

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BCIC Key Findings

3. Analysis of Other Jurisdictions

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BCIC Key Findings:

4. Board and Governance

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BCIC Key Findings:

4. Board and Governance

Analysis:

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Recommendations:

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BCIC Options for the Future

5. Future Options

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| RECOMMENDED NEW MANDATE AND CORE FUNCTIONS | |
|--|------|
| PROVINCIAL STRATEGIC ROLE IN INNOVATION | S.12 |
| CENTRE OF EXCELLENCE FOR INNOVATION | |

BCIC Options for the Future

5. Future Options

B. Summary of Recommendations

CORE MANDATE

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BOARD AND GOVERNANCE

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PERFORMANCE TRACKING/ACCOUNTABILITY

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BUDGET

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PROGRAMS AND PARTNERSHIPS

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BCIC Options for the Future

5. Future Options

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BCIC Key Options for the Future

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BCIC Options for the Future

Option 2: Crown Corporation...cont'd

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BCIC Options for the Future

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High Level Implementation Plan

6. High Level Implementation Plan

The following activities are recommended for Year 1 assuming BCIC continues as a Crown Corporation.

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Appendix I

Comparison of Existing Mandates, Shareholder Expectations

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Analysis:

32 | Page

Appendix I

Comparison of Existing Mandates, Shareholder Expectations

S.12

Appendix I

Comparison of Existing Mandates, Shareholder Expectations

S.12

Appendix I

Comparison of Existing Mandates, Shareholder Expectations

S.12

Appendix I

Comparison of Existing Mandates, Shareholder Expectations

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Appendix I

Comparison of Existing Mandates, Shareholder Expectations

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Appendix I

Comparison of Existing Mandates, Shareholder Expectations

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Appendix I

Comparison of Existing Mandates, Shareholder Expectations

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Appendix II

BCIC – Full 2010/2011 Budget Detail (from the Audited Statements)

| Revenue | 2011 | 2010 |
|--|---------------------|---------------------|
| Province of British Columbia | \$8,500,000 | \$8,500,000 |
| Program revenue (note 5) | - | \$1,484,204 |
| Revenue from NRAS Endowment | \$1,800,000 | \$2,000,000 |
| Interest | \$116,610 | \$60,054 |
| Other Income | \$242,061 | \$213,207 |
| Gain (loss) on equity investments (note 3) | | \$1,999 |
| TOTAL | \$10,658,671 | \$12,259,464 |

| Expenses | 2011 | 2010 |
|---------------------------------------|---------------------|---------------------|
| Program expenses and disbursements: | | |
| Talent development and innovation | \$378,373 | \$134,993 |
| Contribution to NRAS program (note 6) | \$1,800,000 | \$2,000,000 |
| Commercialization | \$1,921,554 | \$1,500,526 |
| Science and technology fund | \$2,671,030 | \$2,951,030 |
| Sector programs | \$343,200 | \$647,830 |
| International program | - | \$1,296,544 |
| Communications and recognition | \$424,143 | \$313,904 |
| Amortization | \$61,671 | \$73,522 |
| Operations | \$3,058,592 | \$4,051,475 |
| TOTAL | \$10,658,563 | \$12,969,824 |

Appendix III

BCIC Comparative Organizations

| Organization | Location | Mandate | Governance |
|---|--|---|---|
| INNOVACORP http://innovacorp.ca/ Established 1994 | Nova Scotia | To fuel sustainable economic growth by enabling Nova Scotia knowledge-based companies to accelerate the commercialization of their technologies and increase competitiveness in export markets. | Crown corporation of the province of Nova Scotia. Co-chaired by academic and industry chairs; board includes industry, academia and government (deputy minister). |
| Manitoba Innovation Council | Manitoba | For knowledge based economy: To develop and implement an action plan to commercialize innovation and technology projects in the province. To create a capital markets strategy that supports innovative companies at all stages of development | Crown Corporation. Co-chairs Dr. Albert D. Friesen, Co-Chair. Reports to the Minister of Innovation, Energy and Mines, Dave Chomiak |
| Innovation Saskatchewan Created in November 2009 | Saskatchewan | To lead the work of co-ordinating government support for research, development and commercialization of innovation in the province. | Chaired by Ministry of Energy and Resources. Vice chair is Advanced Education and Employment and Labour Market Council is made up of CEOs from industry and significant membership from University and the academic environment. |
| Ontario Centres of Excellence CEO: Tom Corr | Ontario: 80 Employees in 7 offices and 14 Regional Innovation Centres across the province. Stand-alone and not-for profit structure. | Works with small, medium and large entrepreneurs to leverage research at universities. Designed deliberately to be arms-length from government due to the OCE's picking winners and losers through their funding. Measures include: jobs saved, jobs created, job exports, talent build. They will even fund up to 90% of a new PH.D.'s salary. | CEO is from Waterloo (best practice geography for innovation) Regional Councils are people funded but not program funded – funding allows for a base no of FTEs based on population. Regional councils apply for the funding through OCE. Not like BCIC at all. Their claim to success is having 25-30 account reps (out of 80) whose sole accountability is to find companies, and connect them with universities for applied research. |
| MaRS | Toronto | Building Canada's next generation of growth companies: helping science, technology and social entrepreneurs get the help they need. This mandate is closest to BCIC today as they assist entrepreneurs and start-ups through mentoring, access to capital, learning, matching capital. They go beyond technology, wireless and communications by also focusing on advanced materials, manufacturing, nano-materials, semi-conductors, physical sciences, health sciences and social sciences. | Not for profit. Both OCE and MaRs work closely with the Ministry of Research and innovation even though they are at arm's-length. Programs include: sales and marketing, financing and funding strategy, human resources, financial management, intellectual property, legal, product development and marketing, operations and customer and strategic partnerships. |

Refer to themselves as a public private partnership.

Appendix III

BCIC Comparative Organizations

| Organization | Location | Mandate | Governance and programming |
|---|----------------|---|--|
| <p>Alberta Model for Innovation and Research</p> <p>Dr. Ron Dyck, ADM Research & Innovation Advanced Education and Technology</p> | <p>Alberta</p> | <p>The entire structure for research and innovation has been integrated into one single structure with separate entities, government agencies, commissions and management boards that include biotechnology sector, health sector, energy and environment, Technology Futures- described in detail below, Alberta Ingenuity Fund at 100M endowment, I-Corp, attracting the brightest and best to Alberta through scholarships targeted at the upper 5-10% of students, Nano-Alberta. All of research across ministries is consolidated into a single shared services organization. They provide direct investments in companies in addition to programs.</p> <p>Each sector works differently. Technology Futures is the closest comparator to BCIC due to the inclusion of Technology as a sector. It has a \$150M budget, 600+ employees and campuses throughout Alberta. Support is for small, medium and large companies; they are not an incubator. They fund five regional innovator networks at \$100K per region. They also fund Innovate Calgary and Technology Edmonton. Bio gets \$15M in funding, Health \$75-80M in funding, \$100M for cancer research.</p> <p>They see Information, Communications and Technology (ICT) as a substantial sector. The chair of the ICT group is the former head of Technology at the University of Alberta. Their mandate is much broader and wider than anything in BC. They operate along the continuum, including, all sectors, small, medium and large companies (matching industry to academic and research programs and funds); they are also charged with anchor company attraction and retention. The funding alone for ICT within their agenda is \$20M which is about four times that of BCIC (\$5.5M). According to Stats Can, Alberta has the most research spending per capita of</p> | <p>Technology Futures is an arms-length type of Crown corporation but Alberta does not use that term.</p> <p>It has a Board of Directors. Ron Triffo, chair (industry); board members comprised of research, innovation and business leaders. Reports to Minister of Advanced Education and Technology.</p> <p>Technical Services - Helping organizations develop their technologies faster and smarter</p> <p>Funding Programs - Fostering an entrepreneurial culture and increasing Alberta's critical mass of innovation talent</p> <p>Regionally Accessible Commercialization Support –</p> <p>The type of performance measures they use include established global measures in research and innovation, such as growth, contribution they make to innovation, job creation, quality of life, degree of collaboration across the partners in industry, academia and government. They have MOUs covering all of the partners in a single integrated model.</p> <p>Their model includes an International Advisory committee that has global experts from Australia, Germany, UK, US in innovation, international venture capital, world HIV network. The Minister of Advanced Education and Technology chairs a council of 7 cabinet ministers involved with innovation and research to ensure all activities are supporting overall government direction and that there is one single plan for the Province. It has been operating less than one year and is seen to be successful but they are still working to improve their speed to market as partners feel it is still too slow to be</p> |

| | | | |
|--|--|---------------|--------------------|
| | | any province. | responsive enough. |
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Appendix III

BCIC Comparative Organizations

| Organization | Location | Mandate | Governance and programming |
|--|---------------------------|--|--|
| Ottawa Carleton Research and innovation Operating for 26 yrs and considered a leader in research and innovation. | Ottawa Carleton | Public private partnership. Private funding is approximately 20-25%, the city of Ottawa 35%, Provincial 25% and federal government 25%. A four way partnership. They host an entrepreneurship centre for anyone in business. Much broader definition than BC. They are charged with picking winners and provide not only services, such as market data, business planning, access to information, a network of trusted advisors and specialists; they also refer them and guide them to investment sources of capital. | They use the measure of job creation to determine their impact. The organization does direct design, programming and delivery. They do not use third party leverage. They have on average 50-60 active client companies in a given year. A full service from start-ups through to early stage companies. |

Appendix III

BCIC Comparative Organizations

| Organization | Jurisdiction | Mandate | Governance |
|---|---|--|--|
| International Jurisdictions | | | |
| Tekes – Reports to the Finnish Ministry of Employment and the Economy which oversees Finland's technology and innovation policy sectors. | Finland Science, technology and innovation are high priorities for the Finnish government. Key issues are coordinated by the Research and Innovation Council , which is chaired by the Prime Minister. | Tekes is a publicly funded expert organisation for financing research, development and innovation in Finland. Tekes boosts wide-ranging innovation activities in research communities, industry and service. At regional level, the national technology policy is implemented by the Centres for Economic Development, Transport and the Environment . | The Board decides on Tekes' general policies and broad-reaching issues with fundamental significance such as the initiation of the Tekes' programmes. In 2008, the Board decided on the launching of six programmes. The Board decides on the funding of research and development projects if the funding by Tekes exceeds 2 million euros. In 2009, the limit increased to 3 million euros. The Board may also at its discretion decide on the funding of projects smaller than this. In 2008, the Board met 11 times. Note: Finland is considered one of the best countries in the world for technology and innovation policy and strategy. |
| Enterprise Ireland | Ireland | Government organization responsible for the development and growth of Irish enterprises in world markets. Works in partnership with Irish enterprises to help them start, grow, innovate and win export sales on global markets. In this way, it supports sustainable economic growth, regional development and secure employment. | The Enterprise Ireland Board is responsible for setting the broad strategy and policies of Enterprise Ireland. It is responsible for the system of internal financial control and oversight responsibility for the activities of the organisation. The Board delegates to the management and sub-committees the responsibility for the implementation of these policies. Board Members are appointed by the Minister for Jobs, Enterprise & Innovation. |

Appendix IV

Interview List:

Government

Dr. Moira Stilwell, Parliamentary Secretary for Industry, Research and Innovation
Honourable Naomi Yamamoto, Minister of Advanced Education
Dana Hayden, Deputy Minister, Jobs, Tourism and Innovation
Don Fast, former Deputy Minister of Science and Universities
Jane Burnes, ADM, Jobs, Tourism and Innovation
Melanie Friesen, Jobs, Tourism and Innovation
Tim Ewanchuk, Jobs, Tourism and Innovation
Joel Enns, BC Progress Board
Dave Nikolejsin, CIO, BC government

Premier's Technology Council

Greg Peet, Co-Chair
Eric Jordan, President
Andrew Wynn-Williams, staff
Brad Bennett
Barbara Berg
Reg Bird
Greg Kerfoot
Jonathan Rhone
Gerry Martin
Dr. Dan Muzyka
Mossadiq Umedaly
Judy Hess
Paul Lee
Don Safnuk
Ralph Turfus, PTC Council
Barry Jinks, CEO Colligo Networks(PTC and BCIC interview)
Denis O'Connor, ex Science council, chair, ex-PTC(PTC and BCIC)
Andrew Harries, Co-founder, Sierra Wireless(PTC and BCIC)

Other Jurisdictions

Ron Triffo Chair, Alberta Gov't Future Tech
Alan Winter, Board Member, Alberta Innovates (Tech Futures) – BCIC Counterpart,
former BCIC Board Member, GENOME BC
Doug Kinsey, Exec Director, Industry Canada

Tom Corr, CEO, Ontario Centres of Excellence
Bill Mantel, ADM, Ministry of Research and Innovation, Ontario Government
Dr. Ron Dyck, ADM Ministry of Advanced Education, Alberta Government
Mel Wong, AET (Responsible for ICT)
Chris Lumb, CEO, Tech Edmonton
John Master, CEO, Innovate Calgary
Dianne Caldbick, Exec Director Innovation & Research Council Federal Government
Claude Haw, CEO, Ottawa Carleton Research Innovation Council
Perry Quan, Alacrity, IRAP, WD & IC – Federal Government
Gerry Salembier, ADM, Kraig Short Western Economic Diversification (WD)
Kraig Short, WD
Tammy Schulz, Director, Innovation and Competitiveness, WD
David Wolfe, University of Toronto(scheduled October)

BC Innovation Council

Greg Aasen, Chair of BCIC
 Mark Payne, Acting CEO BCIC
 Bob DeWitt – New Ventures BC – BCIC Competition for funding
 Jonathan Burke, Westport
 Gurval Caer, Blast Radius (former – ret)
 Robin Ciceri – president, Research Universities Council of BC (Chair, BCIC Mandate Committee)
 Richard Glickman, Aspreva (founder, former)
 Doug Horswill, Teck Cominco
 Greg Kerfoot – former CEO Business Objects
 Jill Leversage – former Corp Fin TD Forestry
 Martha Salcudean – UBC Weyerhaeuser Chair, researcher
 Cheryl Slusarchuk – Lawyer McCarthy, Tetrault
 Morgan Sturdy, Acetech, PTA (former, TIA Lifetime Achiever
 Jonathan Burke, board of BCIC
 Dean R Prelazzi, VP Bus Dev BCIC
 Lin Kishore, Director Marketing & Comm BCIC
 Sarah Albrecht, Senior Mgr. Of Imagination Strat BCIC
 Dawn Wood, Senior Mgr of Innovation – Post Sec BCIC
 Fred Lam, Controller BCIC
 Dean Rockwell, Former CEO
 Lin Kishore, Marketing, BCIC
 Arlene Fernandez, Prog Spec BCIC
 Nancy Powronznik, BCIC
 Jennifer Whelan, BCIC
 Nadine, Program Manager BCIC
 Lindsay Thom, Media Manager BCIC
 Alice Lam Marketing and Comm Specialist BCIC
 Dawn Wood, BCIC
 Tarah Ferguson, Office Manager EA, BCIC
 Sarah Albrecht, BCIC
 Paulin Laberge, Entrepreneur-in-residence, BCIC

BCIC Continued

46 | Page

Industry Associations

Bill Tam, BCTIA
 Peter van der Gracht, Wavefront
 Jim Maynard, Wavefront
 Kathy Troupe, Pres Academy for Technology CEO (Acetech)
 Don Enns, Life Sciences (BC Biotech and Bioproducts)
 Howard Donaldson, Digi BC
 Mark Betteridge, Discovery Parks Incubators
 Johathan Wilkinson, former Chair BCTIA
 Owen Matthews & Stephanie Wesek, Alacrity Foundation

Academic Sector

Cinder Pearson; Dr. Nimal Rajapanski, SFU Dean of Applied Science
 Dr. Tyseer Aboulnasr, UBC Dean of Applied Science
 Angus Livingstone, UILO Office, UBC
 John Hepburn, VP Research, UBC
 Mike Volker, SFU Time Centre and SFU UILO
 Ken Spencer, Advisor to Acetech, UBC, SFU
 Jonathan Wilkinson
 Arvind Gupta, Mitacs, UBC
 David Wolfe, U of T, scheduled for October

Lisa Payne, ex CFO BCIC now COO Colligo
Hector Mackay-Dunn, QC former chair BCIC
Andrew Harries, Co-founder of Sierra Wireless
Lee Malleau, Vancouver Economic Development Commission
Paul Lambert, Entrepreneur and Mentor in BCIC mentoring program

Regional Councils

Dan Gunn, chair of Regional Science Councils and Chair, Viatec, Victoria
Laurie Ackerman, Fort St. John
Bill McQuarrie(Thompson, Nicola, Salmon Arm, Quesnel)
Martin Ewell, Kelowna