

INFORMATION NOTE

Cliff #: 139617

Date: January 17, 2017

PREPARED FOR: Premier John Horgan

ISSUE: Viking Air in China

BACKGROUND:

- s.13,s.17

- Prior to certification of the Series 400 aircraft, Civil Aviation Administration of China (CAAC) regulations stipulated that commercial operators with single-engine aircraft were limited to 9 passengers and must operate with two pilots, making it uneconomical to run a commercial seaplane operation. The additional fuel costs of dual-engine aircraft are also uneconomical.
- s.13,s.17

- The Series 400 Twin Otter received Type Certification by the CAAC in early 2015, which allowed it to be used by operators in China (but only for take-off and landing on land).
- In September 2017, the CAAC approved the operation of Viking Series 400 Twin Otters equipped with Wipline 13000 straight and amphibious floats in China, enabling it to take-off and land on water.
- In 2012, Meiya Air of Hainan Province ordered five float-equipped Twin Otter 400 Series aircraft to support their seaplane flightseeing and charter operations in Sanya and the surrounding region of the South China Sea.
- In 2015, Viking Air announced a partnership with Reignwood Aviation Group of China for up to 50 aircraft to be delivered over five years and for Viking to set up a FECSC in China. The contract included options on the remaining 48 aircraft. Viking delivered two aircraft to Reignwood in 2016.
- On December 21, 2017, Viking received Transport Canada qualification (through sister company Pacific Sky Aviation) for a Level "D" Full Flight Simulator for the Series 400 Twin Otter. The simulator is located at Viking's facilities in Calgary, AB.

s.13,s.17

s.13,s.17

DISCUSSION:

- s.13,s.17

CONCLUSION: s.13,s.17
s.13,s.17

ATTACHMENTS: None

Prepared by: Rob O'Brien, Director Technology & Innovation, IBD
Telephone: 604.505.5896

Reviewed by				
Dir: ROB	ED: DC	ADM: BK	DM: FM	MIN:

MEETING NOTE

Cliff #: 139656

Date: January 31, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology
Rick Glumac, Parliamentary Secretary for Technology

DATE AND TIME OF MEETING: February 6, 2018, 12:30 to 1:30 p.m.

ATTENDEES: Honourable Jinny Sims, Minister of Citizens' Services
Jill Kot, Deputy Minister, Services and Technology Division, Ministry of
Citizens' Services
CJ Ritchie, Associate Deputy Minister and Chief Information Officer,
Ministry of Citizens' Services
Ian Donaldson, Assistant Deputy Minister, Office of the Chief
Information Officer, Ministry of Citizens' Services
Shannon Russell, Senior Ministerial Assistant, Ministry of Citizens'
Services

ISSUE: Tour of the BC Government Continuous Service Improvement Lab

BACKGROUND:

- Parliamentary Secretary Glumac requested a tour of the Continuous Service Improvement (CSI) Lab, operating on the 3rd floor, 1012 Douglas Street in Victoria.
- The CSI Lab is an initiative of the Ministry of Citizens' Services that hosts government teams that are exploring innovative solutions for information technology service delivery.
- The work at the lab examines topics such as information technology procurement reform, priorities for service improvement, engagement and opportunities for BC technology firms, and the modernization of the BC Public Service work environment.

DISCUSSION:

- The CSI Lab is demonstrating that government teams are able to make rapid improvements in government services using best practice agile methods and state of the art information technologies, similar to those used by leading B.C. technology firms. This represents a break from traditional government procurement and contracting model for information systems.
- Teams currently working at the CSI Lab include:
 - Ministry of Environment, Groundwater Wells Information

- Ministry of Energy Mines and Petroleum Resources, Transportation Fuel Reporting
- Environmental Assessment Office, Project Information and Collaboration
- Natural Resource Sector, Public Review and Commenting
- Government Communications and Public Engagement, Government Digital Experience
- Public Service Agency, Innovation Hub
- Public Service Agency, Behavioral Insights Group
- Citizens' Services, Service BC – Corporate Names and Registrations
- Citizens' Services, Government Chief Information Officer - BC Developers' Exchange
- The tour is an opportunity to learn how these teams are pursuing innovation and the potential for broader adoption of continuous service improvement approaches across government.

s.12,s.13

KEY MESSAGING:

- The CSI Lab is an example of how the BC Government is committed to continuous service improvement through the development of innovative solutions.
- The Ministry of Citizens' Services is undertaking important initiatives to encourage innovation in procurement that could have significant positive impacts on BC's technology sector.

ADM Contact: Christine Little, Economic Development Division, 250 387-0661

Prepared by: Jennifer Williams, Senior Research Officer, Technology and Innovation

Reviewed by			
Dir: Christine Fast	ED: KB	ADM: CL	DM:

MEETING NOTE

Cliff #: 139021

Date: January 24, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology

DATE AND TIME OF MEETING: February 8, 2018 at 1:45-2:45pm

ATTENDEES: Mayor Gregor Robertson, City of Vancouver

ISSUE: City of Vancouver technology and innovation initiatives

BACKGROUND:

- On January 10, 2018, Mayor Robertson announced his decision to not seek re-election in 2018. When he finishes his third term later this year, his decade in office will be the longest consecutive run as Mayor in Vancouver's history.
- In April 2013, the City of Vancouver released their Digital Strategy with the vision of "Enhancing multidirectional digital connections amongst citizens, employees, business, and government."
- The Strategy is defined by four pillars:
 - *Engagement + Access*: Citizens and businesses can easily interact with the City through digital channels.
 - *Infrastructure & Assets*: Vancouver has a robust digital infrastructure built through strategic investments and partnerships.
 - *Economy*: Vancouver is a global leader in supporting innovation and growth in the digital economy.
 - *Organizational Digital Maturity*: The City of Vancouver has a mature, citizen-centric digital culture.
- The Digital Strategy sets out a four-year roadmap that moves Vancouver's approach to digital from *ad hoc* and siloed, to an integrated and strategic approach that prioritizes key actions which will have the most value for citizens, business and the organization.
- Since 2013, Vancouver has upgraded public wireless, given start-ups the ability to use City assets for proofs of concept (with the Green and Digital Demonstration Program), and launched the VanConnect app to engage with the City (including submitting service requests and getting citywide alerts).

DISCUSSION:

Vancouver Economic Commission

- The Vancouver Economic Commission (VEC) is an agency of the City of Vancouver with a mandate to strengthen the city's economic future by helping existing businesses, attracting investment, researching the business environment and making policy recommendations.
- The VEC has identified key sectors towards which their programs are aimed, including the Technology, Digital Entertainment and Green Economy sectors.
- There are a number of VEC initiatives relevant to the innovation economy:
 - BC Tech Talent Strategy and Talent Attraction Campaign – These include developing the CareerScout job search platform, participating in the BC Provincial Nominee Program Tech Pilot, and partnering with other agencies to develop a Technology Talent Strategy for BC.
 - Startup Genome Research – Vancouver is rated as Canada's number one startup ecosystem by Startup Genome. The VEC is partnering with the BC Tech Association and JTT to continue working with Startup Genome, by providing them with data, connecting them to experts, and addressing weaknesses.
 - Vancouver Startup City – is a curated ecosystem development and promotion platform which includes the ongoing Discovery Foundation Capital Mentorship Program. In the fall of 2017, during two weeks of curated events, workshops and programs, investors had the opportunity to discover Vancouver's innovative and high-potential startups while sharing best practices.
 - Green and Digital Demonstration Program – provides access to City of Vancouver resources (i.e. buildings, streets, vehicles, digital infrastructure) for product testing and showcase opportunities, as well as critical follow-on connections and business expansion support from VEC staff.

Other Initiatives

- Vancouver is utilizing their digital tools to address a number of key municipal challenges, including the Empty Homes Tax, homelessness, and the fentanyl crisis.
- The City of Vancouver has been recognized as a "Smart City" for their use of data for citizen engagement. The Cities of Vancouver and Surrey have already approached the Ministry about their joint federal Smart Cities Challenge bid.
- On December 12, 2017, Vancouver approved the 2018 budget, including commitments to participate in the federal Smart Cities challenge and continue the focus on data and analytics.

KEY MESSAGING:

- The Province thanks Mayor Robertson for his many years of public service and wishes him well in his future endeavours. From transit and transportation, to housing and homelessness, Mayor Robertson has been a passionate advocate for people.

- He can be proud of the work he and Council have done to make Vancouver the greenest city in the world.
- The Province is committed to ensuring the benefits of technology and innovation are felt around the province, and appreciates the important role municipal governments play in establishing BC as a preferred location for new and emerging technologies.
- There is significant overlap between the key sectors on which City of Vancouver activities are focused and those supported by the Province. Provincial initiatives are designed to directly benefit the economic development of these key sectors in Vancouver and across the province.
- The issues and opportunities identified by Vancouver are key to supporting and growing the BC technology sector as a whole. As such, any additional Provincial investments should be considered through a province-wide lens, rather than a Vancouver-centric approach.

ATTACHMENTS: Attachment A – Attendee Biography
Attachment B – City of Vancouver Digital Strategy

ADM Contact: Christine Little, Economic Development Division, 250 387-0661
Prepared by: Esther Rzeplinski, Policy Analyst, Technology & Innovation

Reviewed by			
Dir: Christine Fast	ED: KB	ADM: CL	DM:

Attachment A – Attendee Biography

Mayor Gregor Robertson, City of Vancouver

Copyright

CITY OF VANCOUVER

DIGITAL STRATEGY



Page 10 to/à Page 44

Withheld pursuant to/removal as

Copyright

MEETINGNOTE

Cliff#: 139618

Date: January 31, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology

DATE AND TIME OF MEETING: Friday, February 09, 2018, | 11:30am to 12:00pm.

Location: Grouse Room, JTT Offices, Canada Place

ATTENDEES: Samsung Electronics Canada - Vancouver R&D Lab

1) Tom Duggan, Head of R&D and Technical Operations

2) Stephan Doubrava, Head of UX Design

ISSUE: Meeting with Samsung Electronics (BC) to obtain an update on their BC operations, including relocation to a 20,000 sq/ft office in Vancouver in mid-2018.

BACKGROUND: In November 2013, Samsung announced the opening of its first Canadian R&D Centre in Greater Vancouver (Burnaby), an investment supported by BC's Korea TIR office. Samsung's establishment in Burnaby was a result of acquiring a former Nokia development team which had become available due to Nokia's decision to close operations in BC. The initial office opening of 60 BC employees has since grown to approximately 120 employees as of 2017. In mid-2018, Samsung Electronics will relocate to 565 Great Northern Way next to the Emily Carr University of Art and Design.

The Greater Vancouver R&D Lab is primarily project-based and is tasked to design, develop, operate and support specialized project segments as part of Samsung Electronics' global development programs. A key program of the research lab has been related to Samsung KNOX, an enterprise mobile device security platform, Samsung Pay, as well as innovation projects based out of Samsung Research America, located in Mountain View, CA.

The Samsung BC operation is a part of Samsung Electronics Canada, a subsidiary of Samsung Electronics Co. (Korea). Founded in 1969, Samsung Electronics is the largest subsidiary of the Samsung Group and the second largest IT company in the world. It has annual sales of US\$ 217 billion and 275,000 employees worldwide in 2017.

DISCUSSION:

The meeting provides an opportunity to:

1. Obtain an update on Samsung Electronics' BC operations; and
2. Discuss the move to a new building in Vancouver and its implications for jobs, investment and future programming by Samsung Electronics in BC.

In a recent meeting with JTT staff, Samsung Electronics outlined that its R&D Lab will relocate from Burnaby into Vancouver. This new office represents both an expansion and

a heightened profile for Samsung Electronics in BC with space for future growth. Talent attraction was one key consideration for the relocation into Vancouver. While the Burnaby office was in the state-of-the-art Glenlyon Business Park, Samsung Electronics found that it challenging to attract talent because of the distant from major amenities deemed important for tech workers, e.g., entertainment, restaurants, etc. The meeting provides an opportunity to discuss challenges related to attracting tech workers and to provide an overview of new programs that may assist Samsung Electronics, e.g., immigration support for tech workers, expansion of engineering programs, etc

JTT and the Korea & USA Trade and Investment Representative offices also enjoy a productive relationship with Samsung Research America (SRA) in Silicon Valley to support business partnership opportunities for BC companies. JTT has supported multiple B2B “connection days” with SRA and meetings with BC companies, most recently at the 2018 Consumer Electronics Show in Las Vegas.

SUGGESTED RESPONSE/KEY MESSAGING:

- I have recently returned from a trade mission to Korea, including a visit to Suwon (home of Samsung Electronics’ global HQ) where we toured the Pangyo Tech Valley. It’s an impressive campus that speaks to Korea’s tech leadership.
- I am pleased to learn about Samsung Electronics’ ongoing commitment to BC including your upcoming relocation to new office space in Vancouver.
- Our government is committed to addressing workforce needs of BC’s tech sector and is supporting various programs to respond to labour market demands.
- BC is prioritizing tech-specific immigration applications through a new Provincial Nominee Program (PNP) Tech Pilot program. Additionally, the Government of Canada’s Global Skills Strategy, launched 2017, is an immigration pilot to address tech sector labour requirements.
- My ministry and the BC government are prepared to support Samsung Electronics in meaningful ways to ensure its continued success in BC.
- I look forward to visiting your new office when it opens.

ADM Contact: Brian Krieger, 604 660-0220

Prepared by: Richard Sawchuk, Director, Japan, Korea & Hong Kong; Chris Heine, Manager-Korea, International Business Development

Reviewed by			
Dir: RS	ED:	ADM: BK	DM:

MEETING NOTE

Cliff #: 139776

Date: February 5, 2018

PREPARED FOR: Honourable John Horgan, Premier of British Columbia; Honourable Bruce Ralston, Minister of Jobs, Trade and Technology

DATE AND TIME OF MEETING: February 8, 2018 at 3:00 pm, VCO

ATTENDEES: Brian Carter, President and Chief Executive Officer, Seaspan Shipyards; Tim Page, Vice President Government Relations, Seaspan Shipyards; Larry Simkins, President and Chief Executive Officer, The Washington Companies; Steve Hanks, Executive Vice President and Chief Legal Officer / Secretary and Member of the Board of Directors, The Washington Companies; Michael Gardiner (Consultant) (**See Appendix 1: Biographies**).

ISSUE(S): National Shipbuilding Strategy Update and Managing Challenges Ahead

BACKGROUND:

Staff spoke with Tim Page on Friday, February 2 to confirm discussion topics for the upcoming meeting. Mr. Page advised that the discussion would centre on:

- 1) Updates on the NSS including economic benefits to BC;
- 2) s.13,s.17
- 3)
s.13,s.17

The National Shipbuilding Strategy (NSS) is a federal program developed to renew Canada's federal fleet; building a sustainable shipbuilding industry that retains economic benefits in Canada.

In 2011, Seaspan (**See Appendix 2: The Washington Companies & Seaspan ULC Company Profile**) was one of two companies that won the right to build NSS vessels confirmed through an Umbrella Agreement with the federal government. The NSS outcome determined that vessels over one thousand tonnes would be built by the two coasts: combat vessels by Irving Shipyards on the east coast, and non-combat vessels by Seaspan on the west coast.

Seaspan's work package is valued at an estimated \$8 billion. Seaspan will build seventeen non-combat vessels for the Canadian Coast Guard and Royal Canadian Navy in the following order:

- Three Offshore Fisheries Science Vessels;
- One Offshore Oceanographic Science Vessel;
- Two Joint Support Ships;
- One Polar Icebreaker; and
- Up to ten offshore patrol and medium endurance vessels.

DISCUSSION:

(1) NSS progress and economic impacts

To date, Seaspan has invested \$170 million under the NSS to upgrade its facilities at the Vancouver and Victoria Shipyards (**See Appendix 3: Advanced Manufacturing in a Modernized Shipyard**). Seaspan constructs NSS vessels at Vancouver Shipyards and utilizes Victoria Shipyards for finishing, testing, and trials.

Vancouver Shipyards employs approximately 700 people, including 70 apprentices. At peak construction, Seaspan expects to employ about 1,000 people, and estimates that its NSS impacts include 5,000 direct, indirect and induced jobs over the next 20 years and almost \$500 million per year in GDP.

Seaspan is scheduled to deliver the first of three Offshore Fisheries Science Vessels to the Canadian Coast Guard later this year. Seaspan is anticipating a fifteen month production downturn between the structural completion of its final Offshore Fisheries Science Vessel and the start of construction for its next class of vessel, the Offshore Oceanographic Science Vessel. This gap is due to a number of factors including a longer design and engineering phase for the Offshore Oceanographic Science Vessel, creating potential workforce challenges such as short-term layoffs and the difficulty re-building the workforce given strong competition for skilled trades.

The federal government determines the sequencing and timing of the vessel builds; Seaspan is negotiating changes to the building schedule to mitigate the production gap including moving up construction of the Joint Support Ships. Additional commercial and government ship repair work is also being sought to avoid workforce reductions.

s.13,s.16,s.17

s.13,s.16,s.17

(3) Role for the province to advocate for NSS commitments in BC

s.13,s.17

Currently, the province supports Seaspan's NSS work through a number of programs, including:

- Shipbuilding and Ship Repair Industry Tax Credit for eligible employers that employ apprentices in the BC. Between October 1, 2012 and October 1, 2017, approximately \$1.5 million was claimed supporting provincial shipbuilders.
- Canada-BC Job Grant program, an employer-driven, cost-sharing program that offsets the expense of employee training. Between 2014/15 and 2016/17, Seaspan received \$1.59 million supporting the training for 10,000 course participants.
- Sector Labour Market Partnerships program completed the BC Industrial Marine Sector Labour Market Information Study to better understand and address the workforce challenges of the sector. Phase 2 (Labour Market Information) was recently completed and Phase 3 (Strategy Development) has just begun. The Sector Labour Market Partnerships program has provided more than \$500,000 in funding.

KEY MESSAGING:

- The BC government strongly supports the provincial industrial marine sector and recognizes that Seaspan's work on the National Shipbuilding Strategy is building a sustainable shipbuilding industry on the west coast supported by workers trained for well-paying jobs in this sector.
s.13,s.16,s.17

ATTACHMENTS:

Appendix 1: Biographies

Appendix 2: The Washington Companies & Seaspan ULC Company Profile

Appendix 3: Advanced Manufacturing in a Modernized Shipyard

Appendix 4: Michael Byers' UBC Report on the NSS

ADM Contact: Christine Little, 250 387-0661

Prepared by: Ingrid Strauss; Manager; TIED

Reviewed by			
Dir: JR	ED: AC	ADM: CL	DM: FM

Appendix 1: Biographies

Copyright

Copyright

Tim Page
Vice President, Government Relations, Vancouver Shipyards

Copyright

|
:
:
|
|
-
f
i

|
|
|
:
f
|
i

/

Appendix 2: The Washington Companies & Seaspan ULC Company Profile

The Washington Companies

The Washington Companies is an association of separate independently operated business entities in which Montana businessman Dennis Washington owns controlling stake. According to Forbes magazine, Mr. Washington is the 79th wealthiest American.

The Washington Companies' activities are focused on rail transportation, marine transportation, environmental construction and clean-up, mining, heavy equipment sales, aviation technology, and real estate development (**See Chart 1: The Washington Companies Corporate Structure**).

The companies are headquartered throughout the United States and western Canada and conduct business internationally. The Washington Companies' includes 33 companies under the parent entity which includes major companies in the United States such as Montana Resources, which mines and mills copper and other minerals, and Montana Rail Link, which offers freight transportation.

Dominion Diamond Corporation, which mines for and markets diamonds, is a large affiliate in Canada headquartered in Toronto. **In British Columbia, the Washington Companies' businesses include Seaspan ULC and Southern Railway of British Columbia Ltd.**, both subsidiaries of Washington Canadian Ltd.

Seaspan ULC

Formerly known as the Washington Marine Group, Seaspan ULC consists of four primary operations; Seaspan Marine (operating tugboats and barges), Seaspan Ferries (Roll-on/Roll-off vessels operating between mainland and Vancouver Island), Marine Petrobulk and Seaspan Shipyards.

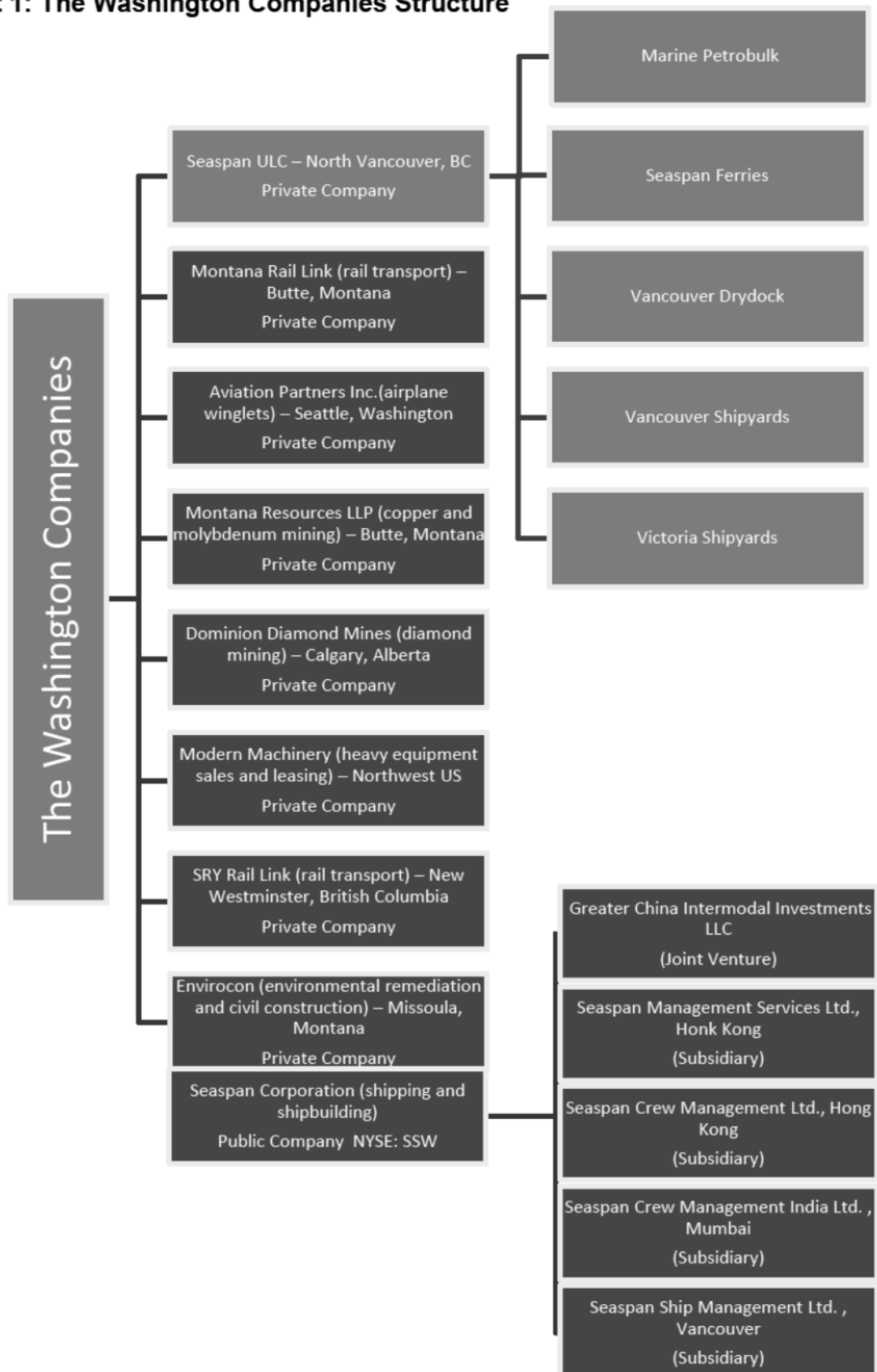
In 2016, Seaspan ULC had revenues of about \$275M and employed approximately 2,500 people, making it the biggest manufacturer in the Lower Mainland.

Seaspan ULC is run by Mr. Washington's son Kyle Washington, as Executive Chairman, who has become a Canadian citizen.

Seaspan Shipyards consists of three separate entities:

- Vancouver Shipyards focuses on new construction but also maintains and repairs all types of vessels. The yard's facilities include a major steel forming shop, a large fabrication and assembly hall, a totally enclosed paint facility, and a SyncroLift capable of lifting vessels up to 1200 tonnes.
- Vancouver Drydock focuses on ship repair and ship refits, operating two floating drydocks the Vancouver harbour with lifting capacities of 36,000 tonnes in a Panamax beam dock, and 30,000 tonnes in a self-contained deployable dock.
- Victoria Shipyards, utilizing the federal government's Esquimalt Graving Dock, drydocks and repairs vessels up to 100,000 Dead Weight Tonnes. Recent work includes: Halifax Class frigate modernization project; cruise ship work; LNG conversions of two TOTE Maritime Alaska vessels.

Chart 1: The Washington Companies Structure



Appendix 3: Advanced Manufacturing in a Modernized Shipyard

Seaspan Vancouver Shipyards, located on 40 acres in North Vancouver since 1968, was reopened in 2014 after a complete modernization with Seaspan's investment of \$170 million. The modernization project included Canada's largest permanent gantry crane, six new buildings and a load-out pier.

The new shipyard uses block assembly vessel construction methods and advanced manufacturing processes. Advanced manufacturing processes include:

- In the Computer-Aided-Design (CAD) loft, Seaspan's naval architects and marine engineers work with virtual 3-D models of the ships' design. They divide the models into blocks that can be fabricated and outfitted before being consolidated.
- In the Sub-Assembly Shop, the steel plate is cut with a computer-controlled plasma-arc cutting machine; a robotic profile line automatically cuts, bevels and marks angle bars for subassemblies; employees can get personal equipment from vending-type machines located right in the shop.
- In the Panel Shop, a triple-headed submerged arc welder butt welds 12mX12m panels with just one pass. The angle-bar reinforcements are tack-welded, held in place by a PEMA panel line machine's magnetized vertical yellow arms, then completed in a continuous weld.
- In the Forming Shop, the hydraulic plate press has a 1,000 tonne rating and can cold-form plate into compound curves. Two synchronized pairs of gantry cranes move plate through the press. The press machine's manufacturer provided Seaspan operators with three month's training.
- In the Block Assembly Shop, the blocks are turned over so most of the welding can be done down-hand. There are 40 electric welding feeders suspended from 20 jib cranes, keeping cables up off the surfaces. The pieces of steel move every eight hours, getting heavier as they progress through the shop.
- Blocks and vessels are moved between shops and around the yard by six self-propelled mobile transporters. Operators guide them remotely with joystick chest pads.
- In the Blast and Paint Shop, a dedicated ventilation system handles dust from the blasting process and the steel blast grit is collected and reused.

Appendix 4: Michael Byers' UBC Report on the NSS - "Onto the Rocks"

On Dec. 14, 2017, a print media outlet reported the findings of a study published by the University of British Columbia that says the National Shipbuilding Strategy (NSS) is years behind schedule and billions of dollars over budget due to absence of true cost competition and incentives to control costs, among other ills.

The UBC report suggests the federal government should open-up the NSS agreements with BC's Seaspan Shipyard (non-combat vessels) and Nova Scotia's Irving Shipyard (combat vessels). The report recommends the federal government:

- Cancel the Canadian Surface Combatant design work underway by Irving Shipyard and initiate a fixed-cost, off-the-shelf design competition.
- Cancel the Joint Support Ship design work underway by Seaspan Shipyard and initiate a competition to convert a second container ship into a supply ship (similar to the conversion of MV Asterix conversion or *Project Resolve* by Quebec's Davie Shipbuilding).
- Shelve the plan to build a large polar icebreaker at Seaspan Shipyard and initiate a fixed price competition for more, smaller-sized icebreakers (the report notes Davie Shipbuilding is well positioned to compete with Seaspan for such a contract).

The report suggests the federal government consider fixed-cost contracts for the Canadian Surface Combatant vessels, such as the one proposed by an Italian-French shipbuilding consortium to build 15 new frigates at Irving Shipyard, which the consortium have said would save the government \$30 billion.

There have been similar articles about delays and cost overruns at Seaspan Shipyard in the media over the past several months. MPs from Quebec have been lobbying the federal government in an attempt to get some of the non-combat work package from Seaspan and other federal ship refit and repair work for Davie Shipbuilding. Seaspan made a presentation to a House Standing Committee in Ottawa updating them on their progress.

MINISTRY OF JOBS, TRADE AND TECHNOLOGY

MEETING NOTE

Cliff #: 138390

Date: February 6, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology and Honourable George Chow, Minister of State for Trade

DATE AND TIME OF MEETING: February 23rd at 3:00-4:00pm, JTT Vancouver offices

ATTENDEES: The Honourable Yuen Pau Woo, Senator

ISSUE(S): Discussion with Senator Woo on British Columbia

BACKGROUND:

Mr. Woo has three decades' experience in strategy and policy for business, government and not-for-profit organizations. Widely recognized as a leading thinker on international economic issues and Canada-Asia relations, he was appointed to the Senate of Canada in November 2016, and sits as an independent representing British Columbia.

Prior to joining the Senate, he was President of HQ Vancouver, a public-private partnership that promotes British Columbia as a location for head offices of international companies. From 2005-2014, he was President and CEO of the Asia Pacific Foundation of Canada, where he continues to serve as Distinguished East Asia Fellow. He is also Senior Resident Fellow at the Beedie School of Business, Simon Fraser University; Senior Fellow in Public Policy at the Institute of Asian Research, University of British Columbia; as well as co-founder and President of China Global: The Vancouver Society for Promotion of Chinese Art and Culture. He is chair of the board of the Vancouver Academy of Music, and a member of the Global Council of the Asia Society, as well as on the Advisory Boards of the Mosaic Institute and the Canadian Ditchley Foundation.

From 2002-2012, he was Canada's representative on the Pacific Economic Cooperation Council and served as the founding chair of PECC's flagship State of the Region report. Mr Woo has previously worked for the Institute of Southeast Asian Studies, the Monetary Authority of Singapore, and the Government of Singapore Investment Corporation; and he has been an advisor/consultant to the Asian Development Bank, the World Bank, APEC, and the OECD. He has published widely on international economic issues and contemporary Asian affairs. His previous board appointments include the Public Policy Forum, the Ontario Brain Institute, the Standards Council of Canada, and the Greater Vancouver Advisory Council for the Salvation Army. In 2012, he was honoured with the Queen's Diamond Jubilee Award for his contributions to Canada-Asia relations.

DISCUSSION:

Senator Woo may be able to provide timely insights into several areas of interest to BC:

- Provincial supporters - Senator Woo has commented previously that BC Senators will actively support the interests of BC at the Senate table; any updates and insights into such matters would be of interest. Senators currently representing BC in addition to Senator Woo are Larry Campbell, Nancy Greene Raine, Mobina Jaffer, Yonah Martin and Richard Neufeld.
- Trade Policy – TPP, NAFTA and any insights that may be provided on the ongoing discussions.
- Invest in Canada Hub - The federal initiative to develop a new investment hub, with \$218 million dedicated from 2016 through 2021, to create a new investment promotion agency with single-window client support targeted at high impact investors. (Please see Attachment A)

This meeting also presents the opportunity for the Ministers to share information on:

- Priority markets in Asia - BC's recent mission out and the insights gained.
- Innovation Commissioner - Appointment of Dr. Alan Winter who will be developing relationships with senior government leaders in Ottawa and focused on championing BC's case for federal support.

SUGGESTED RESPONSE / KEY MESSAGING:

- Express BC's appreciation for the support in the Senate by the group of Senators from British Columbia.
- British Columbia appreciates the opportunity to receive ongoing updates from Senator Woo on matters of interest to the province.
- British Columbia would value the assistance of Senator Woo in supporting Innovation Commissioner Winter's efforts to develop relationships with senior government leaders in Ottawa.

ATTACHMENTS:

A. Invest in Canada Act – hub information

ADM Contact: Brian Krieger, (604) 660-0220

Prepared by: Eric Ommundsen, A/ Senior Director, Natural Resources, International Business Development Division 250-216-9277

Reviewed by			
Dir:	ED: LT	ADM: BK	DM:

MEETING NOTE

Cliff #: 139044

Date: February 14, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology

DATE AND TIME OF MEETING: February 15, 2018, 11:30 a.m., Minister Ralston's Office (Room 138).

ATTENDEES: Paul de Jong, President; Rieghardt van Enter, BC Regional Director; Mike Martens, Director of Public Affairs (See Appendix 1: Biographies).

ISSUE(S): Introductory meeting with Executives from the Progressive Contractors Association of Canada (PCA) to discuss mandate, activities, and public procurement.

BACKGROUND:

Staff spoke with Mike Martens on Tuesday, February 13, to confirm discussion topics for the meeting which include:

1. Introduction to PCA, their model and benefits for BC;
2. Competitive tendering on public infrastructure projects and taxpayer benefit; and
3. Best practices for hiring of under-represented groups.

Founded in 2000, PCA represents unionized employers in Canada's construction industry and provides advocacy, labour-management advice, networking opportunities, and organizational services to its members. Member companies employ more than 25,000 skilled construction workers across Canada, represented primarily by the Christian Labour Association of Canada; a labour union for workers in the construction, health care and food industries on the basis of 'Christian social principles'. (See Appendix 2: Progressive Contractors Association of Canada Profile)

While the BC Building Trades is generally estimated to represent 25-30 percent of the provincial unionized labour force, PCA is considered to represent the balance (70-75 percent). Further, PCA represents large construction companies that employ thousands of workers. For example, Peace River Hydro Partners (PRHP), the company that holds the main civil works contract for the Site C Clean Energy Project, is a member of PCA. PRHP employs close to 1,000 people on the Site C project.

In June 2017, PCA submitted an open letter to the Honourable John Horgan, Premier and Dr. Andrew Weaver in support of continuing construction on Site C.

In December 2017, PCA met with Deputy Minister Fazil Mihar and more recently PCA met Minister Bains on January 31, 2018 supported by Ministry of Transportation and Infrastructure staff.

DISCUSSION:

Labour Model and Opportunities for Input on Provincial Hiring Practices

PCA advocates for its 'progressive labour' model, which aims to ensure fair access to work opportunities for members by promoting a legislative framework and industry practices that "establish a level playing field for all construction industry participants".

PCA proposes a "unique and cooperative approach to labour relations" that involves the elimination of labour laws that, in their view, favour certain craft unions over other industry participants. A key component is the establishment of one union that represents all workers rather than having (the current) multiple unions. PCA advises this approach would increase cooperative labour relations and increase labour mobility.

When a Premier's LNG Working Group was established in 2013, the BC Federation of Labour and BC Building Trades were selected to represent organized labour on the Working Group Board. No PCA member representative was appointed. However, the open shop community is currently represented on two Working Group sub-committees: Training Advisory, and Data and Labour Supply.

PCA has expressed concerns about their lack of representation on the Working Group. Over the past year, PCA has demonstrated a willingness and ability to work with government.

On February 6, 2018, the BC Government announced the appointment of special advisers that will review the Labour Relations Code to ensure British Columbia's unionized workplaces support fair laws for workers and businesses, and are consistent with the labour rights and protections enjoyed by other Canadians. The appointment of the review panel supports commitments in the 2017 Confidence and Supply Agreement (CASA) with the BC Green caucus.

The panel is tasked with consulting interested stakeholders from all regions of the province, and reporting back to government by August 2018, with recommendations on any amendments to the Labour Relations Code that will better support a growing, sustainable economy. There will be an opportunity for consultation with the labour relations community and an online consultation process in which stakeholders, such as PCA, could provide their input.

Competitive Tendering on Public Infrastructure Projects

The BC Government procurement policy aims to increase competitiveness and economic growth across British Columbia. Fair treatment for BC workers includes creating opportunities for BC businesses to bid on government contracts.

In 2018, government will update its procurement policies to give BC businesses a chance to compete for, and win, government contracts that create jobs and opportunities in communities throughout our province.

Further, the BC government is committed to continue to comply with its obligations under the *Canadian Free Trade Agreement* and the *New West Partnership* as well as any other trade agreements. That is, British Columbia will ensure that procurement obligations based on the principles of non-discrimination, openness and transparency continue to be followed for the effective management of public resources.

KEY MESSAGING:

- Government is working to grow a sustainable economy in which people from all regions of the province benefit from well-paying jobs and investment.
- Infrastructure projects are part of a sustainable economy because they help to grow the province and support economic opportunity. Government is working to make sure that infrastructure projects benefit people and communities through good jobs, skills training and apprenticeships.
- We look forward to receiving input from PCA through the consultation process related to the review of the Labour Relations Code and the development of new procurement policies.
- What specific role do you see for the provincial government to support higher productivity, innovation and job creation for your membership?

ATTACHMENTS:

Appendix 1: Biographies

Appendix 2: Progressive Contractors Association of Canada Profile

ADM: Christine Little

A/ED Contact: Jeff Rafuse, 's.17

Reviewed by			
Dir: --	A/ED: JR	ADM: RM	DM:

Appendix 2: Progressive Contractors Association of Canada Profile

The Progressive Contractors Association of Canada (PCA) describe themselves as the voice of progressive unionized employers in Canada's construction industry. Their member companies employ more than 25,000 skilled construction workers across Canada. In PCA's membership directory, seven companies are headquartered in BC.

The PCA represents large construction companies such as the following:

- Kiewit. Began in 1884 by two brothers and has grown into a Fortune 500 construction, mining and engineering company.
- PCL Construction. Guiding principles enhance the organization's internal culture, and maintains PCL's reputation as a construction leader, an employer of choice, and an active community member.
- Flatiron. Known for safety, environmental stewardship, productive partnering relationships, community involvement and charitable giving.
- Ledcor. A diversified construction company that designs, builds, transports, operates, and maintains projects all over North America.
- JV Driver. Established in 1989, the JV Driver Group a wide range of contractor and fabrication services and engineered products in these sectors; industrial, commercial, multi-unit residential and industrial buildings, and public infrastructure.

PCA also represents over 100 other companies, some of which are headquartered in BC. These companies have built much of Western Canada's major industrial projects (such as CNRL Horizon, Imperial Oil Kearn Lake, Suncor, Husky Sunrise among others), infrastructure projects (such as the Port Mann Bridge and Sea-to-Sky highway in BC and the Stoney Trail NW section in Edmonton) and commercial projects (such as the Bow tower in Calgary).

MEETING NOTE

Cliff #: 135685

Date: February 1, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology, Honourable George Chow, Minister of State

DATE AND TIME OF MEETING: Global Container Terminals at Deltaport Terminal
March 16, 2018 3:00-4:15pm

ATTENDEES: Mr. Marko Dekovic, Vice President, Public Affairs

ISSUE: Opportunity to brief the Ministers on recent and future developments at the Global Container Terminals facilities in Greater Vancouver.

BACKGROUND: Global Container Terminals (GCT) is headquartered in Vancouver and is the largest terminal operator in British Columbia. GCT is the third largest terminal operator in North America, with two other terminals on the U.S. east coast (Staten Island, New York and Bayonne, New Jersey). The west coast facilities operated by GCT collectively form an important part of British Columbia's gateway to the Asia Pacific, supporting significant trade with key markets for BC goods.

GCT Canada is the subsidiary (formerly TSI Terminal Systems Inc.) that operates Vanterm and Deltaport, which is the busiest terminal in Canada. GCT Canada provides service for over 75 per cent of the containerized cargo that passes through Port Metro Vancouver and is wholly-owned by the Ontario Teacher's Pension Fund.

Deltaport added a third berth in 2010 which increased terminal capacity by 50 per cent, from 1.2 million to 1.8 million twenty-foot equivalent units (TEUs). In 2015, the Vancouver Fraser Port Authority (VFPA) issued a project permit to GCT Canada for the \$300 million Intermodal Yard Reconfiguration project which will increase rail capacity by over 50 per cent and includes installation of two additional ship-to-shore Megamax cranes. The Reconfiguration project is the second, privately-funded stage of the multi-phased expansion under the Deltaport Terminal Road and Rail Improvement Project, an overarching project between the Port of Vancouver, the Province and GCT, which will support the increase in terminal capacity from 1.8 million TEUs to 2.4 million TEUs.

GCT Canada also operates the Vanterm container terminal facility in Burrard Inlet. Vanterm is a 31-hectare (76-acre) container terminal with 619 metres (2,030 feet) of berth, with six high-speed, super post-Panamax dock gantries, and an on-dock intermodal rail yard with nine tracks totalling 2,962 metres (9,600 feet). GCT has also invested \$160 million at Vanterm in shore power, two ship-to-shore container cranes,

and improved equipment. These improvements will increase terminal capacity by 220,000 TEUs to approximately 860,000 TEUs.

JTT Ministry staff have consulted and received information from the Ministry of Transportation and Infrastructure on this file.

DISCUSSION:

Roberts Bank Terminal 2 Project is the VFPA-proposed three berth container terminal adjacent to Deltaport and Westshore Terminals in Delta that could provide an additional capacity of 2.4 million TEUs and is scheduled for completion in 2023.

s.13,s.17

SUGGESTED RESPONSE/KEY MESSAGING:

- The Government of British Columbia continues to support building and strengthening the Asia Pacific Gateway infrastructure.
- GCT provides a vital link between BC/Canada and its important trading partners in the Asia-Pacific.
- GCT is recognized as a key stakeholder and terminal operator within the gateway, and Government.

ATTACHMENTS: Attachment 1. Mr. Marko Dekovic, Vice President, Public Affairs

ADM Contact: Brian Krieger, Phone #s.17

Prepared by: Jim Anholt, International Business Division

Reviewed by			
Dir:	ED: LT	ADM: BK	DM: FM

MARKO DEKOVIC, Vice President, Public Affairs, GCT Global Container Terminals Inc. -
Biography

Copyright

MEETING NOTE

Cliff #: 116121

Date: February 19, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology

DATE AND TIME OF MEETING: March 2, 2018 - 1pm – 1:30 PM – Surrey Office

ATTENDEES: Olga Stachova, Chief Operating Officer, Mitacs
Ernest Yee, Senior Advisor, Partnerships, Mitacs
Rick Glumac, Parliamentary Secretary for Technology

ISSUE: Introductory meeting with Mitacs - Interns and technology research projects

BACKGROUND:

Mitacs is a national not-for-profit research organization based in British Columbia, and works with the federal government and with other provinces. Mitacs requested a meeting with Minister to provide an overview of their programs and update on initiatives. Mitacs delivers the largest national academic-industry graduate research internship program in Canada. Over the past sixteen years, Mitacs has supported more than 3,000 research internships, trained more than 7,000 student and postdoc participants, and supported more than 470 international research collaborations in BC.

Mitacs administers five core programs: Mitacs-Accelerate, Mitacs-Globalink, Mitacs-Elevate, Mitacs-Step and Mitacs-Converge. They address innovation in Canada and align with Government's technology and innovation goals.

- **Accelerate:** Internships for graduate students and postdoctoral fellows to apply their expertise to business-related research challenges. \$15,000 per internship (50 percent from industry, 50 percent from Mitacs). Accelerate is Mitacs' largest program.
- **Globalink:** Funds students' research abroad and internships for international undergrads. Globalink offers two-way mobility for senior undergrads and grad students.
- **Elevate:** Two-year funding for postdoctoral fellows, in which they lead and undertake research projects and long-term research collaborations with industry.
- **Step:** Designed to help grad students and postdocs with workshops that teach skills such as project management, professionalism, and communication.
- **Converge:** Growing Canadian small to medium-sized enterprises through R&D projects with multi-national companies and Canada's post-secondary institutions.

According to the Mitacs database, there are 1,709 projects in BC under the categories of Engineering (26 percent), Natural Sciences (22 percent), Social Sciences & Humanities (20 percent), Mathematical Sciences (18 percent) and Life Sciences (14 percent).

DISCUSSION:

The Province has been supporting Mitacs since 2004 with average annual funding of \$3 million (primarily from AEST). In 2016, Mitacs requested an increase in provincial funding (to \$5 million) to better leverage increased federal funding.

In March 2017, the Province provided Mitacs with \$5 million to support its activities in 2017/18. Confirmation of funding for two subsequent years is anticipated in the coming weeks. This funding is expected to come from the Ministry of Advanced Education, Skills and Training.

The federal government renewed and expanded support for Mitacs in Budget 2017 by committing \$221 million over five years to help provide 10,000 work-integrated learning placements for post-secondary students and graduates each year.

Government Mitacs Programs

Support for Mitacs is part of the Talent pillar of the #BCTECH Strategy. In March 2017, Government committed to increase the number of placements in Mitacs programs by two-thirds.

In September 2017, a new partnership program between the BC Public Service and Mitacs welcomed its first cohort of Science Policy Fellows. The 12-month fellowship gives PhD-level researchers the opportunity to learn the mechanisms of policy-making, hone their academic expertise, and gain practical policy experience. Ministries currently hosting a fellow include: AGRI, AEST, BCPSA, MCF, FLNR, JTT, PSSG and MAH.

KEY MESSAGING:

- Mitacs plays an important role bridging academia and industry and provides postsecondary students with valuable experiential learning opportunities.
- The Province recognizes Mitacs as a valued partner in meeting Government's priorities of supporting and deepening the technology talent pool.
- Government is committed to supporting technology and innovation. A new Innovation Commissioner has been appointed and the government will be establishing an Innovation Commission this year.

ATTACHMENTS: Attachment A – Attendees Biographies

ADM Contact: Christine Little, Economic Development Division, 250 217-1683

Prepared by: Esther Rzeplinski, Policy Analyst, Technology & Innovation

Reviewed by			
Dir: C Lacombe	ED: KB	ADM: CL	DM:

Copyright

MEETING NOTE

Cliff #: 139799

Date: February 22, 2018

PREPARED FOR: Honourable Bruce Ralston, Minister of Jobs, Trade and Technology
Honourable Melanie Mark, Minister of Advanced Education and Skills Training

DATE AND TIME OF MEETING: March 2, 2018 9:00-11:00am 3033 Beta Ave, Burnaby

ATTENDEES: Vern Brownell, President and CEO of D-Wave Systems Inc.

ISSUE: Quantum Computing and the Digital Supercluster: Tour of D-Wave Systems' Facility

BACKGROUND:

- Founded in 1999, D-Wave Systems is an offshoot of the University of British Columbia (UBC) and is the world's first commercial quantum computing company (See Appendix B).
- D-Wave released its first commercial quantum system in 2010, made up of 16-qubits. With successive generations, the number of qubits has been growing exponentially: the 512-qubit D-Wave Two™ system was released in 2013, and the 1000+ qubit D-Wave 2X™ system in 2015.
- In 2017, D-Wave released the D-Wave 2000Q™ system with 2000 qubits and advanced control features. See Appendix C for a background on quantum computing.
- D-Wave is redesigning its fifth generation processor to increase connectivity between qubits significantly. This upgrade will involve a hardware overhaul, allowing it to expand beyond the 10,000-qubit limit imposed by current processor design.
- D-Wave is putting their quantum computers to work solving industry-scale classification, machine learning, and optimization problems with their customers and collaborators in areas such as pattern recognition and anomaly detection, cyber security, image analysis, financial analysis, etc.
- D-Wave holds over 140 US patents, has published more than 90 papers in scientific journals, and has raised over \$170 million from investors.
- D-Wave employs over 150 people and has offices in Vancouver, BC; Palo Alto, California; and Hanover, Maryland.
- JTT's Trade and Investment Representatives in the US, Europe and Japan have supported D-Wave's international efforts, introducing them to companies such as Airbus, Rolls Royce, Waseda University, German Aerospace Centre (DLR), and Helmholtz Association of German Research Centres and Samsung Americas.

DISCUSSION:

- Despite increasing activity for quantum computer research in other provinces and countries, BC is competitively positioned: it has the only large quantum computing company worldwide; emerging hardware quantum computing research at Simon Fraser University (SFU); and intensive quantum materials research at UBC.
- A quantum computing research team led by SFU (collaborating with UBC and D-Wave) is developing a silicon-based new type of revolutionary quantum computer (capable of running algorithms that the D-Wave technology cannot yet run).
- The team has gathered \$19 million for the research equipment necessary to join the race to create the first silicon-based quantum computer in the world. Funding comes from the BC Knowledge Development Fund (\$7.6 million), the Canada Foundation for Innovation (CFI, \$7.6 million), and other partners (\$3.8 million).
- s.13,s.17

•

•

•

•

KEY MESSAGING:

- D-Wave is a valuable asset to BC's economy and an excellent example of BC's world-class innovation.
- The Province is impressed with D-Wave's accomplishments and supports continuing research and commercialization in the field of quantum computing.
- s.13,s.17

ATTACHMENTS:

- Attachment A – Attendee Biography
- Attachment B – Company Profile (separate PDF)
- Attachment C – Quantum Computing Background

ADM Contact: Christine Little, Economic Development Division, 250-217-1683
 Prepared by: Esther Rzeplinski, Policy Analyst, Technology & Innovation

Reviewed by			
Dir: Cecile Lacombe	ED:kb	ADM: CL	DM: FM

Appendix C – Quantum Computing Background

- We are living in an era of “big data”, where large amounts of data is generated, collected, stored and analyzed. Classical computers are limited to doing one thing at a time (using ones and zeros), so the more complex the problem, the longer it takes. A problem that requires more power and time than today’s computers can accommodate is called an intractable problem. These are the problems that quantum computers are predicted to solve.
- When you enter the world of atomic and subatomic particles, things begin to behave in unexpected ways. In fact, these particles can exist in more than one state at a time. It’s this ability that quantum computers take advantage of.
- Instead of bits, which conventional computers use, a quantum computer uses quantum bits—known as qubits. To illustrate the difference, imagine a sphere. A bit can be at either of the two poles of the sphere, but a qubit can exist at any point on the sphere. So, this means that a computer using qubits can store an enormous amount of information and uses less energy doing so than a classical computer. By entering into this quantum area of computing where the traditional laws of physics no longer apply, scientists will be able to create processors that are significantly faster (a million or more times) than the ones used today.
- Financial journals suggest that investors have a strong interest in quantum computing, but few companies yet exist. Emerging commercial competitors include QxBranch (Australia), and Rigetti Computing (California), a small start-up.
- In Canada, Waterloo (Ontario) and Sherbrooke (Quebec) are rapidly developing quantum information capabilities, with the potential to further develop competing companies to D-Wave.
- BlackBerry billionaire Mike Lazaridis has made the quantum computer the key goal of his investment in Waterloo, through a \$100 million Quantum Valley Investment Fund created in 2013 and through other investments in academic quantum science.

Appendix B: Company Profile

D-Wave Systems Inc.	
100 - 4401 Still Creek Drive, Burnaby, BC., V5C 6G9	
Key Contact:	Vern Brownell, President and CEO
Email:	vbrownell@dwavesys.com
Direct Phone:	(604) 630-1428
Website:	www.dwavesys.com



Year Incorporated:	1999
Private or Public Company:	Private
Number of Full Time Employees:	150
Annual Revenue:	Revenue positive; revenue not public.
Business Stage:	Start-up, Commercialized Product
Business Model:	1. Sales of computers; 2. Lease of computers; 3. Hourly service agreements.
Product/Service Description:	D-Wave's quantum computers are used to solve industry-scale classification, machine learning, and optimization problems with their customers and collaborators in areas such as pattern recognition and anomaly detection, cyber security, image analysis, financial analysis, etc.
Current export markets:	US, Europe, Japan
Major Customers:	Lockheed Martin, Volkswagen, NASA, Google, the Universities Space Research Association Collaboration, Los Alamos National Laboratory, University of Southern California, Temporal Defense Systems, Oak Ridge National Laboratory
Competitive Advantages:	Users of quantum computers can process large amounts of data faster than traditional computers. DWave's computers could give their customers an advantage over their competition.
Known & Potential Competitors:	IBM, Microsoft, Intel, Google, Rigetti Computing, UK and other Governments and various consortia.

Key Personnel:	1. Vern Brownell, President and Chief Executive Officer 2. Bo Ewald, President, D-Wave International Inc. 3. Warren Wall, Executive Vice President, Corporate Affairs
-----------------------	---