Global forces: major trends and opportunities for B.C.

An organisation's odds of success depend on 3 key factors







"Who you are" – size, resources, structure, productivity

"Where you are" – industry and geographic trends *"What you do" –* strategic choices in M&A, capital expenditure, resource allocation

The 'power curve' of profit – the most successful companies see disproportionate rewards

Average annual economic profit generated from 2009-13, USD Billions N=2,243 companies, across industries



BC needs to make bold moves to fully capitalise on positive global trends and its strong starting point



Global trends

1

Five forces are changing the world at an unprecedented pace and scale



The world's economic centre of gravity is shifting back to Asia

Locations weighted in 3D space by GDP



There will be 2.2 billion new middle class consumers by 2030



SOURCE: United Nations World Population Prospects; McKinsey Global Institute CityScope 2.55

Emerging market cities will fuel nearly half of global growth

Percent contribution to global GDP growth, 2012–2025, 100% = \$42.5 trillion 100 45% 424 largest 28 = of global emerging market cities growth 25 4 4 6 26 3 2 China South Asia Southeast Latin Middle East Eastern Other Developed Global growth region Asia America & Africa Europe & emerging countries Central Asia regions In China, 18 MM people move to a city each year - equal to adding New York City proper twice

Emerging 424 (424 largest cities in emerging markets)

SOURCE: McKinsey Global Institute Cityscope 2.55

The pace of digital disruption is accelerating



SOURCE: Singularity University

Computer type

Disruptive technology will have substantial economic Range of sized potential economic impact by 2025

Economic impact of the 12 most significant disruptive technologies

\$ Trillions, annual

_	-		1	
1	×.	Mobile Internet		3.7–10.8
2	S)	Automation of knowledge work		5.2–6.7
3	88×82	Internet of Things		2.7–6.2
4	e p)	Cloud technology		1.7–6.2
5	- C	Advanced robotics		1.7–4.5
6	\$10 49 00	Autonomous and near-autonomous vehicles	0.2–1.9	
7	M?	Next-generations genomics	0.7–1.6	
8	3	Energy storage	0.1–0.6	
9	4 81	3D printing	0.2–0.6	00)
10	\$33233	Advanced materials	0.2–0.5	
1	and the second s	Advanced oil and gas exploration and recovery	0.1–0.5	
12	-{#	Renewable energy	0.2–0.3	

High

X–Y

Low

SOURCE: McKinsey Global Institute

Technology is disrupting every aspect of our lives Cybersecurity threats (*) SnapScan 🗱 slack 😂 Dropbox box Instamojo **Q**Palantir Square ZENEFITS DNUMBER26 100 bitcoin Casper HOUSING needle Sy thread airbnb mint ∩est. **WATCH** POSTMATES 748 2 😑 Spotify + fitbit C neuvenoo DOSCH 1 -Tencent Mill grubHub 🍃 Coogle play . FANUC O amazon Blue Apron \bigcirc Rolls-Royce Coamazon HBONOW. NETFLIX



Digitization is driving massive improvements in efficiency



Typical Improvement Digital-enabled

Data analytics – optimized scheduling and predictive maintenance reduce downtime, increasing velocity

 mile per hour increase in velocity potentially worth
\$250 M in annual profit

Digitization has significant ripple effects



Not all challengers will survive, but incumbents will still have to respond – banking example



Extent of disruption over the next 5 years



Average lifetime of companies is declining



2011

1935 1958 1980

New technologies are upending the "fundamental truths" of business



How companies can adapt



1. Prepare for disruption – e.g., assess your Digital Quotient; develop radar for shifts



2. Think about data holistically, and at the top – e.g., appoint a Chief Digital Officer; provide digital immersion for the senior team



3. Experiment and innovate at speed – e.g., crowdsource ideas; A/B test concepts



 Redesign the organization – e.g., flatter, smaller, more autonomous structures



5. Invest more in education – e.g., subsidize "nanodegree" programs for employees; ensure lifelong learning



6. Manage risks – e.g., incumbent business loss; cybersecurity

BC's starting point

2

BC has considerable strengths...



...but also faces headwinds



Turbulent commodities markets



3

CONTRACTOR STORE STORES

Global forces create 5 potential 'bold moves' for BC



Aggressively pursue agrifoods growth to quadruple export value by 2025



Total BC agrifoods exports, 2011-2025E



Key drivers of improved productivity:

- Harnessing the power of sensors and the Internet of Things
- Leveraging advanced genomics
- Transforming food waste into a resource

SOURCE: British Columbia Ministry of Agriculture Statistics and Research; MIT Observatory of Economic Complexity

Brazil's tremendous growth in agrifood offers lessons for BC





How Brazil has grown

11% growth p.a. in agrifood exports since 1995 – among top 3 producers of soybeans, sugar, coffee, citrus, beef, and poultry

Driven by:

- Public sector policy established R&D centers, subsidized credit for investment, and invested in universities and technical schools
- Private sector investment in innovation shared R&D centers, developed infrastructure, and invested in advanced inputs and processing

Lessons for BC

 Co-invest in innovation – with public and private sector R&D centers

- Encourage private sector innovation – with favorable policies for making investments
- Invest in education

Match the performance of top European destinations for Asian tourists to double total tourist visits – and raise \$2.5B



Foreign tourists per year, Millions



SOURCE: Euromonitor; BC Stats; China National Tourism Administration

Dubai provides a model for successfully investing in tourism



Capital International investment, \$B tourists, M 10 14 12 10 8 5 6 4 2 0 1995 2000 2005 1990

Government, hotel chains, airlines, and investors cooperated to **invest heavily in tourism** starting in the mid-1990s

Dubai's revenues from tourism are **~\$6B** today, and have **grown 10-15% p.a. since 2010**

SOURCE: OAG; Reuters

Aspire to overtake Seattle as 2nd most prolific Americas tech hub





Sweden successfully became the 2nd most prolific tech hub through targeted investment and entrepreneurial drive



Stockholm tech champions

Spotify

How they got there

High ambition: "Due to the size of our population we needed to go global from day 1"

Public sector investment: huge improvements in technology infrastructure (e.g., open high-speed internet) and favorable tax policies (e.g., tax breaks for IT equipment)

Private sector collaboration: shared working spaces for tech companies (e.g., Sup46, THINGS), idea-sharing and investment forums (e.g., STHLM TECH Meetup), VC funding

Klarna

Create a BC "research quadrangle" between UBC, UVIC, SFU, and BCIT

Work together to promote:

- Improved performance UBC in top 25 universities, UVIC and SFU in top 50, and BCIT as a global innovator
- Industry collaboration in all technical curricula
- BC exporting education





North Carolina's Research Triangle is 'greater than the sum of its parts'



SOURCE: Times Higher Education; Center for World-Class Universities

Australia has adapted its K-12 curriculum to encourage links to emerging markets – and now exports \$17B in international education



In Australia...

Asia is a **cross-disciplinary priority from kindergarten to grade 10**

Every Australian child has the opportunity to **study an Asian language** (Mandarin, Hindi, Bahasa or Japanese)

Australian business leaders visit local secondary schools to **build awareness of the importance of Asia**

Australia-Asia BRIDGE **connects schools** in both regions – 400 teacher exchange, 250+ virtual classrooms

Continue to develop as a logistics hub – e.g., build on current momentum to become North America's 2nd-largest port





Rotterdam supported local industries to create 'pull' for its port





Major investment in oil and chemicals sector:

- 4 world-scale oil refineries
- 40+ chemical and petrochemical companies
- Operational integration between chemical plants and tank storage terminals
- Investment in further growth Maasvlakte 2 project underway to reclaim 2,000 hectares and expand the port



Liquid bulk throughput, Mio. t



Successfully making 'big moves' will require BC to make full use of its assets





Talent retention: Yale-New Haven's partnership provides a model for cooperating to retain students







Scientific research originates in the University – \$400M+ in annual funding for basic scientific research Private sector partnerships help to launch businesses – 40 new ventures based on student research in the last decade, raising \$3B+ in funding



The University and City provide incentives to remain in Connecticut – e.g., 80-acre subsidized "Science Park" lab space

Asian links: British Columbia can take a number of steps to make the most of its ties to Asia



Expand 'sister city' pairings to strengthen ties with Asian countries

- 45 BC city pairings today, including 26 in Asia – should aspire to 25 additional pairings with Asian cities
- 20 of 26 current Asian pairings are with Japan – opportunity to expand ties with:
 - China (from 5 today to 10)
 - SE Asia (from 1 to 10)
 - India (from 0 to 5)

Vancouver with Guangzhou, China Yokohoma, Japan

Victoria with Suzhou, China & Morioka, Japan



Singapore's Economic Development Board provides a model for successful public, private, and institutional collaboration







 Integrated government, business, and institutional planning – e.g., cross-sector meetings to align on development priorities



 Networking and knowledge-sharing – e.g., Global Investor Programme to facilitate expansion to Singapore



 Incentives for businesses to grow in Singapore – e.g., tax breaks for companies that make priority investments

Raising the ambition – 3 mindset shifts







In the short-term...

Commodities are down 28% in the last year, discouraging investment in extractive industries

Bloomberg Commodities Index



Over the long-term...



2.2 B people will join the middle class by 2025



225 M Chinese will move into cities by 2025



African **electricity consumption will rise 4x** by 2040

SOURCE: Bloomberg; McKinsey Global Institute; New York Times

Our goal: help Vancouver continue to develop into a global hub



Who we are – office leadership







Miklos Dietz

Mingyu Guan

Matias Marcote

What we bring

- Global knowledge and expertise
- Global talent and opportunities for local talent
- Focus on building client capabilities
- Most importantly long-term commitment to BC