Page 1 of 27



August 2016

# THE INNOVATION AGENDA AND CANADA'S R&T PARKS

## Innovation Districts, Clusters and Commercialization: Let's Make Canada a World Leader in Innovation

Budget Submission 2017

Larry Shaw, President Association of University Research Parks (AURP) Canada

## TABLE OF CONTENTS

Executive Summary
1. About AURP Canada
A. The R&T Parks4
B. Our Networks5
2. Opportunities in Clusters
A. History of Clusters in Canada7
B. Innovation Districts and Super Clusters7
3. Our Proposed Pan-Canadian Cluster Strategy
A. Our Projects
B. Biotechnology
C. Clean Technology
D. Digital Technology17
E. Natural Resources
4. The Ask
Schedules



## **EXECUTIVE SUMMARY**

Innovation clusters increase a region's competitiveness – helping to **drive innovation, new business creation, and overall economic growth**. These geographic concentrations of interconnected players – including companies, program and service providers, educational institutions, and research organizations –build on regional niche sector strengths. Clusters **stimulate innovative activity** through the promotion of intensive interactions, infrastructure-sharing, and knowledge exchange.

Canada's research and technology (R&T) Parks are clusters of innovation, scientific research, and entrepreneurship where like-minded companies and organizations build connections to drive competitive advantages, increase global exports, attract investments, commercialize ideas, and become leaders in niche priority sectors. The parks are integrated into a comprehensive network of global research partnerships and can enhance Canada's innovation agenda.

We are well positioned to **build out a robust platform for growth.** We are a collaborative group of locally driven communities of innovation that link industry with government and academia and have joined together to develop a Pan-Canadian approach for cluster development and expansion in four key priority sectors: biotechnology, digital technology, natural resources and clean technology.

Our parks currently house an estimated 1,400 companies, employ 65,000 knowledge-based workers and generate more than \$4.3 billion in GDP annually. We can grow these figures by more than 50% over the next three-to-five years.

In budget 2017, the R&T parks are seeking a **commitment from the federal government** to integrate the R&T parks into the new innovation agenda by improving and further growing the existing cluster, accelerator and incubator infrastructure to make Canada a global leader in innovation technology.



## **1.ABOUT AURP CANADA**

The **Association of University Research Parks (AURP) Canada** is the national not-for-profit association that advocates on behalf of the 26 research and technology (R&T) parks and Innovation Districts across Canada. Our mission is simple – to support and drive the Canadian knowledge economy. We do this by focusing on three pillars:

- Standardizing programs, services and amenities that are offered through the parks that support companies<sup>1</sup>;
- 2) Building domestic and international networks that bridge Canada to companies interested in expansion, and serve as soft landing spots;
- Cluster development within and between the park network to strengthen connections between industry, government and academia and focus on commercialization outcomes.

#### A. THE R&T PARKS

Canadian R&T parks are locally driven communities of innovation that link industry with government and academia. **Canada's 26 R&T parks house an estimated 1,400 companies and 65,000 knowledge-based workers**. Companies in the parks are among the most innovative and growth-oriented companies in Canada, with nearly 50% already exporting, 45% with expansion plans and over one-third of all employees with a masters or PhD level education.

<sup>&</sup>lt;sup>1</sup> See the attached Schedule A for more information



#### **B. OUR NETWORKS**

In the **domestic market**, AURP Canada has been developing partnerships between universities, governments and private entities in an effort to share ideas and resources leading to growth, development and internationalization of Canadian small and medium-sized enterprises (SMEs) located within the parks across Canada.

#### AURP Canada's Network Post-Secondary Institutions Government **Economic Development Organizations** U<sup>15</sup> National Research Council's Industrial Research Assistance Program | Global International Business Innovation Affairs Canada | Export Development University of New Brunswick | Dalhousie Association | Canadian Association of Canada CANARIE University **Business Incubation** Université du Québec à Trois-Rivières Cégep de Trois-Rivières Université du Zones Québec Innovation Association of University Research Parks Sherbrooke Université Laval University of Waterloo Queen's University University of Toronto York University Ontario Centres of Excellence | ORION | Ryerson University | OCAD University | Communitech McMaster University | Guelph University | Western University University of Saskatchewan University of Wavefront Regina | University of Calgary | Simon Fraser University | British Columbia Institute of Technology University of Victoria

#### Figure 1: Domestic Partnerships for National Knowledge Economy Growth

In 2015, AURP Canada introduced its **Soft Landing** program that integrates a collaborative approach with international accelerators and parks (in Europe, USA, and Brazil). AURP Canada has also been building its **international network** that includes businesses, community groups, sister park partnerships and associations around the world.



#### Figure 2: Examples of International Partnerships for Soft Landing Exchange

## THE CANADIAN RESEARCH & TECHNOLOGY PARKS SOFT-LANDING PROGRAM





## 2. OPPORTUNITIES IN CLUSTERS

#### A. HISTORY OF CLUSTERS IN CANADA

Since the early 90s, clusters are a development area for governments in Canada, though their development in the business community is longstanding and increasingly global. As just one example, Silicon Valley's emergence has its origins in the 1960s and it has developed multinational companies such as Cisco, Apple, Google and others. In 1991, a report by Michael Porter<sup>2</sup> from Harvard University commissioned by the Canadian government, led to the introduction of cluster-program funding by the Chretien government. Since then, clusters have been successfully evolving.

#### **B. INNOVATION DISTRICTS AND SUPER CLUSTERS**

**Innovation districts** are a relatively new direction for R&T Parks. According to the Brookings Institute, innovation districts "constitute the ultimate mash up of entrepreneurs and educational institutions, start-ups and schools, mixed-use development and medical innovations, bike-sharing and bankable investments—all connected by transit, powered by clean energy, wired for digital technology, and fueled by caffeine." In Canada, as an example, Toronto's MaRS Discovery District (@MaRSDD) is one of the world's largest urban innovation hubs.

<sup>2</sup> Titled "Canada at the Crossroads"



## 3. OUR PROPOSED PAN-CANADIAN CLUSTER NETWORK STRATEGY

The Canadian R&T parks ecosystem is comprised of a number of highfunctioning clusters but four main interconnected sectoral clusters have been identified for the purpose of this discussion paper and budget 2017:

- 1. Biotechnology;
- 2. Clean technology;
- 3. Digital technology;
- 4. Natural resources.

First, **biotechnology**, defined as any technological application that uses biological systems, living organisms or derivatives thereof, to make or modify products or processes for specific use.<sup>3</sup> Second, **clean technology** involving business sectors that use technology to produce clean energy, environmental, and sustainable products and services.<sup>4</sup> Third, **digital technology** which describes the use of digital resources to effectively find, analyse, create, communicate, and use information and services in a digital context.<sup>5</sup> Lastly, **natural resources** referring to the commercial utilization of resources that naturally occur on earth. Those include sunlight, atmosphere, water, land, air, minerals, vegetation and animal life.<sup>6</sup> Cumulatively, these four broad sectors currently represent over 1 million jobs and a staggering \$39 billion in revenues in Canada.

As evident by their definitions, the four sectors are in a cyclical codependence, co-influence, and co-production chain. This synergistic relationship heavily relies on – and continuously drives – sustainable progress and innovation.

<sup>&</sup>lt;sup>6</sup> Adapted from Wikipedia



<sup>&</sup>lt;sup>3</sup> UN Convention on Biological Diversity, Art. 2 (https://www.cbd.int/convention/text/)

 $<sup>^{\</sup>rm 4}$  Information and communication technology council (ICTC) publication (DIGITAL TALENT: ROAD TO 2020 AND BEYOND)

<sup>&</sup>lt;sup>5</sup> Adapted from a definition by the New Zealand Commerce and Economics Teachers Association

The four clusters converge in four main sub-sectors: healthcare, agritechnolgy, industrials, and energy. An example of the cyclical relationship is as follows: Biotechnological processes are improving natural resources by enhancing crop resistance to insects – thereby increasing yield and reducing the need for chemical pesticides that cause environmental harm. These natural resources can, in turn, be used to produce clean technology. As an example, Agrisoma Biosciences Inc. (from Innovation Place research park in Saskatoon) has commercialized Carinata - a nonedible industrial oilseed mustard genetically engineered to produce high-quality oil for biojet and biodiesel fuel.<sup>7</sup> The reduction in energy cost and power can enable the utilization of *digital technologies* for healthcare. For example, Sunnybrook Hospital (Toronto) is using the Honeywell Energy & Facility Renewal Program which includes the use of solar photovoltaic panels to convert solar energy into electricity. These energy improvements save \$2.6M and reduce CO<sub>2</sub> emissions by 8,965 tonnes annually.<sup>8</sup> These savings can be used to towards biotechnological advancements such as the digitization of the medicine. For example, Agfa HealthCare (operating out of the David Johnston Research + Technology Park in Waterloo) has developed an online tool called Portal,<sup>9</sup> where hospitals can offer care providers, referring physicians and patients "anywhere, anytime" access to the patient's health information from different sources.

<sup>&</sup>lt;sup>9</sup> University of Waterloo press release (https://uwaterloo.ca/research-technology-park/sites/ca.research-technology-park/files/uploads/files/NEW\_AGFA\_PRESS\_RELEASE.pdf)



<sup>&</sup>lt;sup>7</sup> Agrisoma company website (http://agrisoma.com/carinata/)

<sup>&</sup>lt;sup>8</sup> Sunnybrook website (http://sunnybrook.ca/content/?page=environment-home)

#### Figure 3: Sectors and Impact on Canada

Sector Definition	Impact on Canada
<b>Biotechnology</b> Any technological application that uses biological systems, living organisms or derivatives thereof, to make or modify products or processes for specific use.	Statistics Canada estimates in 2005 Canada's biotech sector employed over 13,000 people and generated \$4.2 billion in revenue.
<b>Clean Technology</b> An umbrella term used to describe business sectors that use technology to produce clean energy, environmental and sustainable products and services.	According to a 2014 study by the World Bank, the global market for cleantech is valued at approximately \$1.6 trillion. Canada is considered a small player in the global cleantech ecosystem and is home to more than 800 cleantech firms directly employing 50,000 people.
<b>Digital Technology</b> Used to describe the use of digital resources to effectively find, analyze, create, communicate, and use information and services in a digital context.	The ICT sector currently represents 5% of Canada's gross domestic product (GDP) and accounted for 11.5% of all real GDP growth since 2002. Employees in the ICT sector are well educated and earn on average \$62,000 or 47% more than the national average.
<b>Natural Resources</b> The utilization of resources that naturally occur on earth. Those include sunlight, atmosphere, water, land, air, minerals, vegetation and animal life.	Canada's enormous natural resource endowment represents a critical component of our current and future economic prosperity. The natural resources sector represented 15% of Canada's nominal gross domestic product (GDP) in 2011 and close to 800,000 direct jobs, with an estimated equal number of indirect jobs linked to these sectors in the construction, manufacturing, transportation, financial, technology and services sectors. Governments also benefit from substantial revenues in the form of taxes and royalties associated with major developments.



#### A. OUR PROJECTS

In building upon the existing cluster strength of the parks across Canada, AURP Canada has identified a total of **16** projects that fall into one of the four primary sectors of focus.

A total capital infrastructure investment of \$459 million is proposed, with \$168 million contribution from the federal government through its Innovation Agenda in budget years 2017 – 2019. Investments will include infrastructure, labs, acceleration programming, export market development and international partnership development to support both the primary sector and the specialized sub-sector of the park.

#### Figure 4: Pan-Canadian R&T Park Projects

Location	Park	Project	Sector	Expertise	Value	Ask (\$)
Canada	AURP Canada (all parks)	Joint international partnership development	All sectors		\$5M	\$5M
London, ON	Western Research Park	Stiller Centre Expansion	Biotech	Diagnostics, medical devices, orthopaedics, brain health, pharmacology	\$25.5M	\$14.5M
			Cleantech	Lightweight materials, wind engineering, energy efficiency, bi-industrial products and processes		
Toronto, ON	MaRS Discovery District	Canadian Hub for Scaling Innovation with Impact	Biotech Cleantech	Robotics, power electronics, advanced materials, additive manufacturing, and more	\$32.5M	\$13M
			Digital		66284	620 FM
Hamilton ON	McMaster Innovation Park	Emerging Technologies Centre	Biotech	Neurotechnology, surgical invention	\$20M	\$52.5M
Hamilton, ON	Niciviaster Innovacion Park	Emerging recimologies centre	DIOLECTI	TOTAL BIOTECH	\$32M	\$16M
Waterloo, ON	David Johnston R+T Park	Centre for Sustainable Excellence	Cleantech	Green huildings – Net Positive Building	\$34M	\$10M
Peterborough	Trent Research and Innovation	Clearing the Waters: The clean	Cleantech	Green technology contaminant analysis wastewater	\$30M	\$8M
ON	Park	technology centre for contaminant analysis and treatment	oleunitetii	Green technology, contaminant analysis, wastewater treatment		çom
Montréal, QC	Technoparc Montreal	Éco-campus Hubert Reeves	Cleantech	Green transportation	\$12M	\$3M
Trois Rivières, QC	Innovation et Développement économique Trois-Rivières	Industrial and Technologic Parc LaPrade	Cleantech	Recycling, biofuel, alternative energy, bioprocessing	\$8.9M	\$4.45M
				TOTAL CLEANTECH	\$84.9M	\$25.45M
Canada	AURP Canada (all parks)	Intellectual property matchmaking program	Digital	ICT	\$2M	\$2M
Québec City, QC	High Tech Park Metropolitan	Innovation Hub	Digital	Optics, Photonics	\$10M	\$2.5M
Ottawa, ON	Kanata North Business Association	Innovation Hub	Digital	ICT	\$30M	\$7.5M
Becancour, QC	Innovation et Développement économique Trois-Rivières	Quarties des technologies (QTTR) (Digital Technology Square)	Digital	Communications, RFID, optic fibre, software, ERP system	\$58.2M	\$29.1M
Edmonton, AB	Edmonton Research Park	Digital Analytics Zone	Digital	Data analytics, artificial intelligence, machine learning	\$81.2M	\$7.5M
				TOTAL DIGITAL TECHNOLOGY	\$181.4M	\$48.6M
Saskatoon, SK	Innovation Place	Centre for Nuclear Innovation for Medical Isotopes	NR	Nuclear, medical isotopes	\$40-60M	\$20M
Bible Hill, NS	Perennia Innovation Park	Nova Scotia Food and Bio- Product Venture Park	NR	Agriculture and seafood, bioproducts		\$18M
Fredericton, NB	Knowledge Park	Institute for BioRefinery Innovation and Value-Chain Development	NR	Biorefinery, biomass, wood fibre		\$7.5M
				TOTAL NATURAL RESOURCES	\$98M	\$45.5M
				TOTAL	\$459.3M	\$168.05M



# THE CANADIAN RESEARCH & TECHNOLOGY PARKS SUPER CLUSTERS IN KEY SECTORS



		AURP CANADA's			LEGEND
		Pan-Canadian Projects:			Key Sectors:
	1 Join	t International Partnership Dev	velopment		Biotechnology
	2 Inte	llectual Property Marchmaking	g Program		Clean Technology
	Innovation Place	Technoparc Montréal	Innovation et Développeme	nt	Digital Technology
	NR	CLEAN	économique Trois-Rivières	;	Natural Resources
	Centre for Nuclear Innovati for Medical Isotopes Expertise in nuclear, medical isoto	es Eco-campus nubert Reeves Expertise in Green Transportation	CLEAN Industrial and Technological Parc La Expertise in recycling, biofuel, alternative energy, I	Prade bioprocessing	ALL SECTORS
		MaRS Discovery District	DIGITAL		
		Canadian Hub for Scaling	Digital Technology Square Expertise in com, RFID, optic fibre, software, El	RP system	
Edmonton Res DIGIT Digital Analy	search Park AL ytics Zone	Expertise in robotics, power electronics, advanced materials, additive manufacturing	Kanata North Business Association	High Tech	Park Metropolitan
Expertise in data an intelligence, mac	halytics, artificial chine learning		Expertise in ICT	Expertis	novation Hub se in Optics, Photonics
	Edmont	n		Know	vledge Park
McMaster	Innovation Park	Saskatoon		KIIOV	BIO
Wielwidster	BIO	ant Desearch and Inneuction D	ark	Institute for Bi	oRefinergy Innovation
Emerging Te Expertise in neuroted	chnologies Centre			Expertise in biore	finery, biomass, wood fibre
Western	Research Park	Clearing the Waters ertise in green technology, contaminant and wastewater treatment	alysis,	on Bible Hill	i la contra parte
Stiller Ce Expertise in diag orthopaedics, bra	ntre Expansion gnostics, medial devices, in health, pharmacology;	David Johnston R+T Park CLEAN	Hamilton to Particular Providence	Nova S	NR Scotia Food and Bio-
lightweight material efficiency, bio-indusi	ls, wind engineering, energy trial products and processes Expe	<b>Atre for Sustainable Excellence</b> ertise in green buildings – net positive	London Course	<b>Proc</b> Expertise	duct Venture Park in agriculture, bioproducts



#### B. BIOTECHNOLOGY

Three projects have been identified in biotechnology with a super cluster in London, Hamilton and Toronto. The global market for biotechnology could exceed \$400 billion by 2017,<sup>10</sup> making it a very attractive market for Canada. The Canadian R&T parks ecosystem is well positioned to support this endeavour, with twofold expertise. On the one hand are technologies for biological applications, including **neurotechnology**, **surgical innovation**, **diagnostics**, **medical devices**, **orthopaedics**, **brain health**, and **pharmacology**. On the other hand, **bio-based chemical industry** and green energy (solar) industry.

### THE CANADIAN RESEARCH & TECHNOLOGY PARKS SUPER CLUSTERS IN BIOTECHNOLOGY



<sup>10</sup> PRNewswire (September 24, 2014). "Global biotechnology market value USD 414.5 billion in 2017: Transparency market research."



#### C. CLEAN TECHNOLOGY

Six projects have been identified in clean technology with a super cluster between London, Waterloo, Peterborough, Toronto, Montreal and Trois-Rivières. The global clean technology market is currently valued at approximately \$1.6T,<sup>11</sup> and is growing rapidly. The Canadian R&T parks ecosystem is an active participant in the sector, with activity spanning several sub-sectors including recycling, alternative energy production, green buildings, and green transportation. All sub-sectors are in a synergistic cycle, with the ultimate goal of securing a cleaner, more sustainable environment and, as well as sustainable economic growth and social prosperity. This translates to the minimization of natural resources depletion, greenhouse gas emissions, solid waste, and water, land and air pollution.

<sup>&</sup>lt;sup>11</sup> The World Bank (September 24, 2014). New Report Identifies Major Clean-Tech Market Opportunity for Small Businesses in Developing Countries



#### THE CANADIAN RESEARCH & TECHNOLOGY PARKS SUPER CLUSTERS IN CLEAN TECHNOLOGY AURP CANADA's LEGEND Pan-Canadian Projects: Key Sectors: 1 Joint International Partnership Development 2 Clean Technology Innovation et Développement Technoparc Montréal économique Trois-Rivières Natural Resource CLEAN CLEAN Éco-campus Hubert Reeves Industrial and Technological Parc LaPrade Expertise in Green Transportation Expertise in recycling, biofuel, alternative energy, bioprocessing Western Research Park MaRS Discovery District Trent Research and Innovation Park BIO CLEAN DIGITAL CLEAN CLEAN Stiller Centre Expansion Canadian Hub for Scaling Clearing the Waters: The clean Lightweight materials, wind engineering, energy Innovation with Impact technology centre for contaminant efficiency, bio-industrial products and processes analysis and treatment Expertise in green technology, contaminant analysis, wastewater treatment Expertise in robotics, power electronics, advanced materials. additive manufacturing HIGHLIGHTS David Johnston R+T Park CLEAN Centre for Sustainable Excellence Expertise in green buildings – net positive building 6 projects in Clean Technology Super cluster in London, Waterloo, Toronto, Peterborough, Montréal, and Trois-Rivières With expertise in green transportation, recycling, alternative energy, optics, Toronie nontreal Rivieres photonics, contaminant analysis terborough Waterloo London 00 and green buildings



#### D. DIGITAL TECHNOLOGY

Six projects have been identified in digital technology with super cluster between Edmonton, Toronto, Ottawa, Montreal, Quebec City and Trois-Rivières.

Digital technologies allow for the automation, scaling, and refining of existing industries, as well as introducing new industries. The work done at the Canadian R&T parks ecosystem aligns perfectly with these outcomes, with activities in information and communications technology (ICT), optics and photonics, radio-frequency identification systems, enterprise resource planning (ERP) systems, quantum computing, data analytics, robotics, artificial intelligence, and machine learning.

The digital technology sector is crucial for Canada's economic development, and will need to be further grown in order for Canada to be a major player in the global market. For example, Canada's ICT sector represents 5 % (\$68.26 billion) of Canada's gross domestic product (GDP).<sup>12</sup>

<sup>&</sup>lt;sup>12</sup> INFORMATION AND COMMUNICATIONS TECHNOLOGY COUNCIL publication (BIG DATA & THE INTELLIGENCE ECONOMY)







#### E. NATURAL RESOURCES

Three projects have been identified in Natural Resources with a super cluster in Saskatoon, Fredericton and Bible Hill. In Canada, natural resource firms have contributed \$26 billion per year in revenue (2013), representing 20% of nominal GDP. In terms of employment, the sector contributes 900,000 direct jobs.<sup>13</sup> However, in the face of climate change, deforestation and increased pollution, the global trend is shifting towards sustainable usage of natural resources. Work done at the Canadian R&T parks ecosystem goes hand-in-hand with this goal with sub-sectors that include **nuclear, agriculture** and **seafood, bioproducts**, and **biorefinery**.

## THE CANADIAN RESEARCH & TECHNOLOGY PARKS SUPER CLUSTERS IN NATURAL RESOURCES



<sup>13</sup> Natural Resources Canada



## 4. THE ASK

In budget 2017, the R&T parks are seeking a commitment from the federal government to **integrate the R&T parks into the new innovation agenda** with a budget allocation of **\$168 million** between the period of 2017 and 2019 to deliver on 16 strategic projects across the country.

Location	Park	Project	Sector	Expertise	Value	Ask (\$)
Canada	AURP Canada (all parks)	Joint international partnership development	All sectors		\$5M	\$5M
London, ON	Western Research Park	Stiller Centre Expansion	Biotech	Diagnostics, medical devices, orthopaedics, brain health, pharmacology	\$25.5M	\$14.5M
			Cleantech	Lightweight materials, wind engineering, energy efficiency, bi-industrial products and processes		
Toronto, ON	MaRS Discovery District	Canadian Hub for Scaling Innovation with Impact	aling Biotech Robotics, power electronics, advanced materials, ct Cleantech additive manufacturing, and more		\$32.5M	\$13M
				TOTAL MIXED SECTORS	\$63M	\$32.5M
Hamilton, ON	McMaster Innovation Park	Emeraina Technologies Centre	Biotech	Neurotechnology, surgical invention	\$32M	\$16M
				TOTAL BIOTECH	\$32M	\$16M
Waterloo, ON	David Johnston R+T Park	Centre for Sustainable Excellence	Cleantech	Green buildings – Net Positive Building	\$34M	\$10M
Peterborough, ON	Trent Research and Innovation Park	Clearing the Waters: The clean technology centre for contaminant analysis and treatment /	Cleantech	Green technology, contaminant analysis, wastewater treatment	\$30M	\$8M
Montréal, QC	Technoparc Montreal	Éco-campus Hubert Reeves	Cleantech	Green transportation	\$12M	\$3M
Trois Rivières, QC	Innovation et Développement économique Trois-Rivières	Industrial and Technologic Parc LaPrade	Cleantech	Recycling, biofuel, alternative energy, bioprocessing	\$8.9M	\$4.45M
				TOTAL CLEANTECH	\$84.9M	\$25.45M
Canada	AURP Canada (all parks)	Intellectual property matchmaking program	Digital	ІСТ	\$2M	\$2M
Québec City, QC	High Tech Park Metropolitan	Innovation Hub	Digital	Optics, Photonics	\$10M	\$2.5M
Ottawa, ON	Kanata North Business Association	Innovation Hub	Digital	ICT	\$30M	\$7.5M
Becancour, QC	Innovation et Développement économique Trois-Rivières	Quarties des technologies (QTTR) (Digital Technology Square)	Digital	Communications, RFID, optic fibre, software, ERP system	\$58.2M	\$29.1M
Edmonton, AB	Edmonton Research Park	Digital Analytics Zone	Digital	Data analytics, artificial intelligence, machine learning	\$81.2M	\$7.5M
				TOTAL DIGITAL TECHNOLOGY	\$181.4M	\$48.6M
Saskatoon, SK	Innovation Place	Centre for Nuclear Innovation for Medical Isotopes	NR	Nuclear, medical isotopes	\$40-60M	\$20M
Bible Hill, NS	Perennia Innovation Park	Nova Scotia Food and Bio- Product Venture Park	NR	Agriculture and seafood, bioproducts		\$18M
Fredericton, NB	cton, NB Knowledge Park Institute for BioRefinery NR Biorefinery, biomass, wood fibre Innovation and Value-Chain Development		\$30M	\$7.5M		
				TOTAL NATURAL RESOURCES	\$98M	\$45.5M
				TOTAL	\$459.3M	\$168.05M

#### Figure 5: Pan-Canadian R&T Park Projects



## 5. CONTACT

We welcome the opportunity to review this discussion paper with you.

Primary contacts:

- Larry Shaw, President
  - President, Canadian Association of University Research Parks (AURP Canada)
  - CEO, Ignite Fredericton and Knowledge Park Inc.
  - Email: <u>larry.shaw@knowledgepark.com</u>
  - Phone: (506) 462-5021

#### • Ms. Laura O'Blenis

- Co-Founder and Managing Director, Canadian Association of University Research Parks (AURP Canada)
- Email: laura@aurpcanada.com
- o Phone: (506) 206-2149



## SCHEDULE A: SAMPLE PARK PROGRAMMING

									ļ	<b>\U</b> R	P C	ana	ıda	Ser	vic	es					
							Ons	ite a	icces	s to s	uppo	ort:				Li	nks t	to:	Ex Se	porti ervice	ng :s:
	Research Parks in Canada	AURP Canada Membership	Years in Operation (years)	IRAP	CECR	NCE	Testing & Prototyping Facilities	Laboratories	Tech Transfer Services	Accountants and Business Consulting	Web Design Services	Software Development Services	Marketing Services	Library Services	Trade Commissioner	Access to Concierge Service Program	Access to Building Canada Innovation	Part of the CANARIE/DAIR Program	Global Affairs Canada	Assistance in Linking to Global Markets	Other
	Vancouver Island Technology		10-14					1	1					~							
	Discovery Parks Vancouver	1	3-6				~	~	1											1	
	Edmonton Research Park	~	15+	~			~	~													
	Innovation Place	1	15+	~			~	~	1	~	~	~	~					~		~	
ESI	Innovate Calgary		15+	~			~	~	~	~				~				1		1	
3	Manitoba's Smart Park	1	10-14					~		~			~								
	MaRS Discovery District	1	10-14	~			1	1		1									1	1	
	David Johnston R+T Park	1	10-14	~	~	~		~	~					~					1	1	
	McMaster Innovation Park	~	1014	~	1		1	1	1	~	1	1	~							~	
_	Innovation Park at Queen's University	1	7-9	~	~	~	1	~	1		~	~	~	1		~		1		1	~
R	Kanata North Technology Park	1	15+				~	~		~	~	~	~			~	1			1	
NTA	Western Research Parks	~	15+	~	~	~	~	~	~	~	~	~	~			~				~	~
ō	University of Guelph Research Park	1	15+				~	1	1	1	1	1	1								
s	Fredericton's Knowledge Park	1	15+							~						~	~	1		~	
E	Perennia Innovation Park	~	15+				~	1												~	



				P	rog	ram	IS
	Research Parks in Canada	AURP Canada Membership	Years in Operation (years)	Accelerator	Incubator	Mentorship	Coaching
	Vancouver Island Technology	~	10-14		~	1	
	Discovery Parks Vancouver	✓	3-6	~	√	1	
	Edmonton Research Park	~	15+		√		
	Innovation Place	✓	15+		√	√	~
/ES	Innovate Calgary	✓	15+	~	✓	1	~
\$	Manitoba's Smart Park		10-14		✓	1	1
	MaRS Discovery District	~	10-14	~	1	1	
	David Johnston R+T Park	✓	10-14	✓	✓	✓	✓
	McMaster Innovation Park	✓	10-14	✓	✓	√	✓
	Innovation Park at Queen's University	✓	7-9	✓	√	√	√
RO	Kanata North Technology Park	✓	15+	✓	✓	√	1
Į	Western Research Parks	✓	15+	✓	✓	√	
ō	University of Guelph Research Park	✓	15+			1	1
ST	Fredericton's Knowledge Park	~	15+	✓	✓	✓	✓
E	Perennia Innovation Park	✓	15+		✓	~	√



									1	Ame	eniti	es						
				5	pace	:				Food	:	Tran	spo			Ot	her:	
	Research Parks in Canada	Security	Reception/Admin support	Meeting Rooms	Video Conferencing	Property Management	Convention Space/Event Areas	Hotels	Food Court	Commercial Restaurant/Coffee Shop	Catering Services	Free Parking	Access by public transportation	Fitness Facilities	Daycare	Massage Therapy	Group benefits and insurance	Access to Lawyers
	Vancouver Island Technology	~	~	~	~	~	~			~	1			~				
	Discovery Parks Vancouver	~		1	~		1		1	~			~	1				
	Edmonton Research Park				~													
	Innovation Place	1	1	1		1	1			1	1		1	1		1		1
EST	Innovate Calgary	1		1	1		1			1	1		1					
3	Manitoba's Smart Park	1		1	1		1			1	~	1	1	1	~			
	MaRS Discovery District			1	1		1	1	1	1	1		~					
	David Johnston R+T Park		1	~	1	1	~					1	~		1			1
	McMaster Innovation Park	1	1	1	~	~	1	*	1	1	1	*	1	1				1
	Innovation Park at Queen's University	1	1	1	1	1	1			~	~	1	1	1			1	1
RO	Kanata North Technology Park	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
VTA	Western Research Parks	1		~	1	1	1	1	1	1	1	1	1			1	1	1
ō	University of Guelph Research Park				~	~	~	~	~	~		1	~	1		1	1	1
₹	Fredericton's Knowledge Park	1	1	1	1				1			1	1	1	1			1
Ш.	Perennia Innovation Park																	



Page	25	of	27
------	----	----	----

		So	cial A	ctivi	ties
	Research Parks in Canada	Networking Events	Connection to alumni networks	International S&T Events and Linkages	Seminars and Boot Camps on Entrepreneurship
	Vancouver Island Technology	1			1
	Discovery Parks Vancouver	1		1	~
	Edmonton Research Park	1			~
_	Innovation Place	1			~
/ES1	Innovate Calgary	1			~
\$	Manitoba's Smart Park	1			1
	MaRS Discovery District	1			~
	David Johnston R+T Park	✓	✓	✓	✓
	McMaster Innovation Park	1	~	~	~
_	Innovation Park at Queen's University	1		1	~
RIC	Kanata North Technology Park	1		1	~
NT^	Western Research Parks	1		1	~
0	University of Guelph Research Park	1	1	1	1
ST	Fredericton's Knowledge Park	~			~
EA	Perennia Innovation Park	1			



		S	calir	ng In	nov	atio	n
	Research Parks in Canada	Export development programming	In-bound investment programming (e.g. Start-up Visa)	Education and Training	Networking	Match making	Intellectual Property Access
	Vancouver Island Technology			1	1	1	
	Discovery Parks Vancouver						
	Edmonton Research Park						
	Innovation Place	√		~	1	~	1
2	Innovate Calgary	1	1	1	1	1	1
\$			•	•	•	•	
	Manitoba's Smart Park		•	✓	1	√	
	Manitoba's Smart Park MaRS Discovery District		•	* * *	√ √	√ √	
	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park		·	* * * *	* * *	√ √ √	✓
	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park		•	* * *	* * * *	* * * *	✓ ✓
	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park Innovation Park at Queen's University		•	* * * *	* * * * *	* * * * *	* * *
KIO	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park Innovation Park at Queen's University Kanata North Technology Park		•	* * * * *	* * * * * *	*****	* * *
NIARIO	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park Innovation Park at Queen's University Kanata North Technology Park Western Research Parks	✓	√	* * * * *	* * * * * * *	* * * * * * *	* * * *
UNIARIO	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park Innovation Park at Queen's University Kanata North Technology Park Western Research Parks University of Guelph Research Park	•	• •	* * * * * *	* * * * * * * *	******	* * * *
ISI ONTAKIO	Manitoba's Smart Park MaRS Discovery District David Johnston R+T Park McMaster Innovation Park Innovation Park at Queen's University Kanata North Technology Park Western Research Parks University of Guelph Research Park	* *	* * *	* * * * * *	* * * * * * * *	******	* * * *



		Un	iver	sity	En	gag	em	ent
	Research Parks in Canada	Land owned by university	Division of department at university	Separate entity of university	Tech transfer formalized agreement	Access to Laboratories and Libraries	Park Admin formal outreach to researchers	Program btw researchers and park companies
	Vancouver Island Technology						1	~
	Discovery Parks Vancouver							
	Edmonton Research Park	-	-	-	-	-	-	-
	Innovation Place	✓		~				
EST	Innovate Calgary				~	1		
3	Manitoba's Smart Park	✓						
	MaRS Discovery District							
	David Johnston R+T Park	✓	✓					
	McMaster Innovation Park	✓		~		~		
	Innovation Park at Queen's University	✓	1			~	~	1
RIO	Kanata North Technology Park	~					~	
NTA	Western Research Parks	✓		~		1		✓
ō	University of Guelph Research Park	✓	~			~		✓
ST	Fredericton's Knowledge Park	~		~				~
EA	Perennia Innovation Park							

