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STRATEGY FOR THE LIFE SCIENCES

Case to Raise an Ontario Life Sciences Venture Capital Fund



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PROJECT SNAPSHOT: BUSINESS CASE

Every year a significant magnitude of private dollars are poured into Ontario's established commercial sectors including mining, real estate, aerospace and automotive. Ontario is also ripe with globally recognized innovative technologies in life sciences but Canadian venture investors have been hesitant to take the plunge. We invite our Ontario business leaders to delve into a fresh investment model that aims to transform a world-leading life sciences "research hub" into a credible and mature business ecosystem. A model that gives Ontario investors first access to North America's next lucrative biotech cluster.



Life sciences is a profitable and established investment platform

Life sciences is a 1.1 trillion dollar market with revenues forecasted to exceed \$1.4 trillion by 2016. The investment appetite for life sciences is exemplified by the near 200 venture capital firms that are either significantly or exclusively active in the field. The majority of these firms work with funds in the US \$1-3B range. Venture capitalists invest an average of US \$4-5B per year in the life sciences, making it the second most active VC subsector behind information technology. It is estimated that 60% of shares in the current US \$16B aggregate biotech market cap are owned by VC investors.

VENTURE CAPITAL FIRM (EXAMPLE)	YEAR FOUNDED	NUMBER OF INVESTMENT COMPANIES	INVESTMENTS SINCE 2010
LUTHER ASSOCIATES	1985 (San Diego/ New Jersey)	206	\$1.50B
BIO VENTURES	2007 (Boston)	33	\$1.31B
AVM INC.	2007 (Boston)	40	\$2.06B

The key driver for this robust VC industry is the consistently high returns. Studies have found that from 2000 to 2010, health care ventures yielded an average return of 15% - substantially more than the IT industry. Additionally, it is reported that big exits with unusually high returns of >\$50M and >\$100M are observed 50% more frequently for life sciences companies.

COMPANY (EXAMPLE)	SERIES A INVESTMENT (US \$); YEAR	CURRENT VALUE (US \$)
GENEBIO	\$0.1M; 1978	\$46.8B
BIOZYME	\$28M; 1986	\$20B
SOUTHERN BIO	\$8.45M; 1993	\$8.7B
FIND THERAPEUTICS	\$2.5M; 2007	\$232M
CLIO MEDICINE	\$33.5M; 2010	\$852M

Today the global investment community is gearing up to ride a new wave of interest in the life sciences sector. Life science VC dollar flows in Canada in particular have been the highest on record since 2007 and it is predicted that artificially low valuations resulting from a capital-poor landscape will present fortuitous opportunities for investors with cash in hand.



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The product in Ontario is high calibre and relatively abundant

Ontario houses Canada's largest concentration of life sciences research institutes, boasts more top-cited researchers than most regions in the world, and receives approximately CDN \$1B government dollars annually for its health-related R&D activities. It's globally recognized life sciences programs are diverse in nature and include efforts to fight human and animal diseases, address threats to the environment and improve crop production. This region has been home to ground-breaking scientific breakthroughs in brain health, transplantation, oncology and stem cells. Its innovation track record is similar to life sciences hubs such as Boston and San Francisco (both in productivity and quality) and is complemented by a suite of desirable business development assets including a world-class workforce, an amenable political climate, leading-edge research infrastructure and early seed funding for life sciences start-ups. Included in this are government-sponsored early technology programs and pharma-sponsored funds for early stage R&D (please see Appendix 1).



Availability of early stage funding and existence of appropriate support mechanisms have resulted in a portfolio of exciting Ontario biotechs waiting to enter the lucrative life sciences marketplace.

	Fortibio	BloodDx	MamX
PRODUCT	Technology to rapidly synthesize stable drug compounds that have been traditionally difficult to manufacture	Monitoring technology to aid in prediction of strokes in high risk patients	Digital imaging platform with a unique detection system
MARKET ADVANTAGE	Potential to revolutionize the speed, efficiency and effectiveness of drug manufacturing	Easy to use machine with high quality data generated in real time	Significantly lower cost and higher in performance compared to other products in its class
STAGE OF DEVELOPMENT	Received \$3M in seed funding in 2011, raising Series A round	Received 700,000 in seed funding in 2014, raising Series A round	Received \$700,000 in seed funding in 2011, raising Series A round



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Many Ontario companies in nascent stages of development have been swept up by US-based sponsors looking for ripe opportunities in the Canadian market.

	Moli-Q	QSB Science	DxBiologics
COMPANY DESCRIPTION	Toronto-based start-up with a rapid molecular diagnostic product	Academic lab instrument spin-off	Biomarker-based diagnostic testing company
FINANCING HISTORY	\$30M Series B from US-based Luther Associates	\$20M Series A from multiple American VCs	Financing from angel investors
IMPACT FOR INVESTORS	Company is working on submissions to the FDA	Recently acquired by US company for \$400M	Recently constructed 10,000sq facility and generating 5M/year revenue in US and Europe

The need for VC in the Ontario market is high

In comparison to successful biotech hubs with a similar population and research output, Ontario's life sciences venture capital investments are approximately 20 fold less.

LIFE SCIENCES CLUSTER	TOTAL VENTURE CAPITAL INVESTMENT	TOTAL NUMBER OF COMPANIES	TOTAL REVENUE
CALIFORNIA	\$2.70B	2,323	\$115B
MASSACHUSETTS	\$1.11B	1,039	\$23B
ONTARIO	\$106M	650	\$4B

Today, there are only a handful of Canadian VC firms actively investing in life sciences technologies and many are overseeing the distribution of cursory institutional and government dollars. This is partly due to an assumption that top tier Ontario start-ups often seek and successfully secure Series A and B financing in the US. However primary and secondary research indicates that this assumption is false. With many familiar entrepreneurs and compelling ventures in close vicinity, 70% of American dollars stay within the US. Additionally, the chronic lack of Canadian private sector partners at the table puts Canadian start-ups at an even greater disadvantage of closing American deals.

These companies are primed for growth but they need personally vested local stakeholders to provide individualized mentorship and access to enabling contacts and leveraged capital.



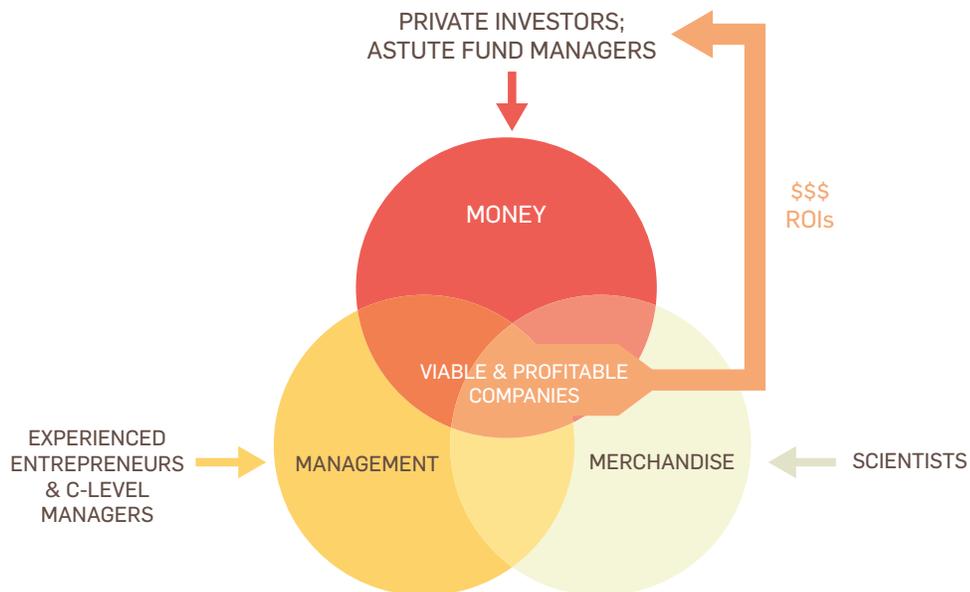
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The competition among investors is low

There is currently little competition among venture capitalists for Ontario life sciences companies and this could be attributed in part to the lack of a robust life sciences business network including seasoned leaders and entrepreneurs and powerful industry players. As such, there exists a low grade worry that start-ups might struggle to align R&D programs with regulatory requirements, that they may not recognize or connect with their customers, that they may have limited success with engagement of partners and receptor industries or have difficulty making diligent and efficient use of investment dollars.

Our model allows investors to be first at the table to benefit from this expansive and exciting portfolio without the historical worries that have held back the competition

We call our proposition the “3M model”, where the full potential of the Ontario life sciences **M**erchandise become unlocked with **M**oney that is linked to stringent opportunity and milestone evaluation and a comprehensive cadre of experienced **M**anagers including CEOs, CFOs and business development experts - to administer the disciplined expenditure of investment dollars, forge appropriate partnerships, guide targeted product development, establish relationships with potential customers and finally serve as the foundation for a steadfast and synergized life sciences business community.





PROJECT SNAPSHOT: BUSINESS CASE

We propose the institution of an Ontario-based venture capital fund with an initial CDN \$300M sum targeting 30 start-up life sciences companies seeking “Series A and B” financing.

The investors behind this fund will consist primarily of wealthy Ontario-based individuals who are willing to become stakeholders and decision makers in the development of Ontario's life sciences economy (CDN \$10-15M per individual for a total of CDN \$150M). It is absolutely essential that our local investor community becomes meaningfully engaged in this exercise. We need Ontario investors who believe in the potential of this product and who are willing to stand behind this conviction. We intend to match these dollars in part by the Ontario government (CDN \$75M) and in part by an established American VC (CDN \$75M) to provide automatic leveraged capital for the investment companies and to further reduce investment risks for our Ontario community. This initial (\$300M) fund will be distributed to 30 companies within a span of approximately 3 years.

The fund will be executed through carefully designed parameters to mitigate historically-perceived risks associated with investing in local life sciences start-ups

Parameter 1: astute investment oversight

We intend to engage our American VC partner to nominate seasoned life sciences venture capitalists to serve as fund managers for the proposed investment pool in Ontario. We also plan to engage 1 or 2 US-based Canadian entrepreneurs with exceptional life sciences track records as potential candidates to help manage the portfolio. These individuals are currently residing in hubs such as Boston and San Francisco and our repatriation strategy will focus on community allegiance, family, and finally the unique and high calibre job opportunities which are a direct function of the outstanding science and the private sector commitment to the industry.

Implication for Investors

- Existence of experts who can identify novel technologies that will generate high returns at an early stage.
- Availability of skilled individuals to monitor company spending and correlated commercial milestones.
- Ability to influence key decisions in the investment companies.



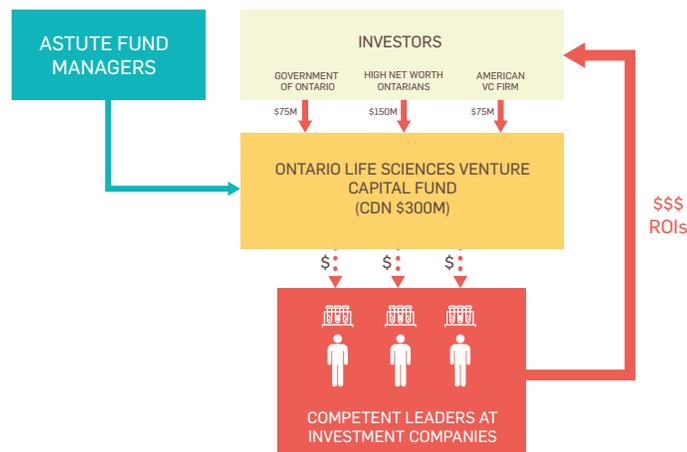
PROJECT SNAPSHOT: BUSINESS CASE

Parameter 2: access to a pool of exceptional Ontario-based life sciences business leaders to enhance the management of the investment companies

We expect that the proposed fund will be available only to companies with capable management. We intend to put forward a pool of proven leaders adept at various aspects of the life sciences business (e.g. business development, regulatory, technology development, finance) who are willing to become an integral part of Ontario start-up companies (10-15 individuals). These individuals will be sourced from renowned global life sciences hubs and in some cases may be Canadian ex-pats. The fund can access this talent pool to establish a tailored portfolio led by exceptional life sciences business people.

Implication for Investors

- Assurance that investment companies are led by experienced leaders with a track record of ushering companies to profitable exit points.
- Expedited growth in investment companies with the emergence of a strong and capable business community.



We anticipate a lucrative return on this fund with our investors positioned at the very start of a booming regional biotech industry

We anticipate this fund will foster the germination of a hand full of extremely successful biotechs that will serve a pivotal function in turning Ontario's world-renowned research hub into a credible and mature place for business. These success stories will be the nucleus for the development of an Ontario-born entrepreneurial know-how and the creation of a firmly planted and deeply interconnected network of life sciences business leaders. This will in turn result in the attraction of big industry players who will eagerly seek to adopt early technologies stemming from Ontario. For our investors this will mean lucrative returns on investment and a first investor seat in a self-perpetuating and booming innovation cluster akin to California and Boston where investment dollars are turned into products and products into revenue.



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Appendix 1

LIFE SCIENCES SECTOR ASSET	ONTARIO'S ADVANTAGE
INTELLECTUAL CAPITAL	Home to world-first discoveries (e.g. Alzheimer's gene), technologies (e.g. artificial kidney) and care practices (e.g. genetic testing for colorectal cancer).
INSTITUTIONS OF HIGHER LEARNING	Home to 44 universities and colleges (many rank top in the world for life sciences) and 25 research and teaching hospitals.
EDUCATED WORKFORCE	~160,000 people working in medical technologies, biotech and pharma, contract services, universities and hospitals.
GOVERNMENT FUNDING	Beyond ~1B in research funds, provincial business-focused programs include ~30M for early stage biotechs and clinical trials.
EXISTENCE OF CUTTING EDGE INFRASTRUCTURE	Home to leading-edge technological research platforms as well as world-renowned modern research facilities.
AVAILABILITY OF ASSOCIATIONS AND SUPPORT MECHANISMS	Hosts many supporting organizations, technology transfer offices and incubators to accelerate IP commercialization.
INDUSTRY-FRIENDLY POLITICAL STRUCTURES	Tax incentive initiatives include the Scientific Research and Experimental Development (SR&ED) program and the Ontario Business-Research Institute Tax Credit.