

Exponential growth in market-driven technologies.

Compelling deal-flow. Attractive valuations. That's what is attracting prominent venture capital firms and institutional investors to Waterloo Region and securing the area an increasing share of venture capital investment in Canada.

Making Magic

in Waterloo Region



WATERLOO REGION TECHNOLOGY

COMMUNITECH

WATERLOO REGION TECHNOLOGY ASSOCIATION

REPORT 2006

PRICEWATERHOUSECOOPERS

2006





Making Magic in Waterloo Region:

A Report on the Exceptional Investment and Entrepreneurial Potential of Canada's Hottest High-Tech Location

September 2006

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2006 Making Magic



About this Report

Iain Klugman, President

In the summer of 2005, Communitech, working with PricewaterhouseCoopers, commissioned this study to quantify the incredible growth and potential of the local technology start-up and investment scene in Waterloo Region.

Communitech is a front-row witness to the technology developments taking place in the region. We see the exciting innovation advances, the rise in investment, the success of early-growth entrepreneurs and large-scale worldwide firms, the firm-to-firm connections that create new opportunities, and the overall buzz that's in the air.

We also already had some great facts, including top rankings for competitiveness, data on our diversity, our top talent and the contribution of our prestigious post-secondary institutions. Together with partners, we decided to add more fuel to the fire.

This report provides an overview of the investment climate in Waterloo Region, quantifying the past performance of local tech firms and the size of the venture market. It also includes a summary of the exceptional business and educational infrastructure that is the foundation for continued innovation in our region.

The new information in this report is an exciting contribution to Waterloo Region's technology story, showing why this region is the best community in the country to start and grow a successful business.

"Waterloo Region has, without doubt, the most deeply ingrained community-wide entrepreneurial spirit I've seen! It is the best place to invest in Canada."

Steve McCartney,
CEO, Atria Networks

Executive Summary

Exponential growth in market-driven technologies. Compelling deal-flow. Great valuations. That's what is attracting prominent venture capital firms and institutional investors to Waterloo Region and securing the area an increasing share of venture capital investment in Canada.

Waterloo Region is one of the most significant and diverse technology clusters in Canada. Rich in high-growth, high-tech companies, this enterprising community is internationally renowned for innovation in both technology research and entrepreneurship. Over the past two decades, its reputation for successful commercialization of ground-breaking technology has also grown as countless companies achieve success on the world stage.

This report shows that:

Waterloo Region technology companies create more shareholder wealth

Technology companies in Waterloo Region have created more wealth for shareholders than their peers in other major tech regions. Here are the supporting facts:

Seven-fold increase in shareholder value

Investing in Waterloo Region tech companies pays. Investors in local technology firms received a more than seven-fold increase in shareholder value at the time of exit compared to an only five-fold average increase in value for technology companies from across Canada. See page 5 and Appendix A.

\$1.8 billion in acquisitions

In the past decade, more than \$1.8 billion has been spent to acquire 19 successful, privately-held technology companies in the region. See page 6.

Internal Rate of Return (IRR) of 26%

A portfolio of Waterloo Region public technology companies generated an IRR of 26 percent since 1994, out-performing both the Nasdaq Computer Index and the S&P/TSX Capped Info Tech Index. See page 8 and Appendix B.

A top five Canadian IT investment market

Waterloo Region has the sophisticated expertise and the well-developed infrastructure required to successfully develop commercially significant technologies.

Innovations originating at the University of Waterloo have been linked to hundreds of start-up companies in the region, some of which – including RIM, Open Text, and DALSA – have gone on to become global technology leaders. World-leading firms such as McAfee, Agfa, Sybase, Adobe, Siebel, and LSI Logic, have a strong local R&D presence. Respected as a centre for pioneering leaders in the knowledge economy, Waterloo Region is an appealing market for investors:

Highly active IT investment market

In 2004, Waterloo Region was with Toronto and Ottawa as the top three markets for IT investment in Ontario and the fifth most active market in Canada. IT investment in the area doubled over the past four years, reflecting the region's ability to consistently generate compelling deal-flow. See pages 7-8.

Concentration of M&A deals

Waterloo Region has been home to a higher level of merger and acquisition (M&A) activity than other technology centres, relative to the amount of venture capital invested in the area. Since 2000, four of the top 50 Canadian technology M&A deals were Waterloo-based companies. See page 5.

Completed 10% of technology IPOs on TSX

From 1996 to 2004, area companies were responsible for an impressive 10 percent of initial public offerings (IPOs) completed by technology companies on the TSX (6 of 62 completed IPOs). This total corresponds closely to the number of IPOs completed by technology companies in other major centres, such as Ottawa and Vancouver, during the same timeframe. These successful IPOs clearly demonstrate that the region has achieved critical mass in the high-tech sector. See page 6.

“The best place to invest... you bet! This place is bred for business success and growth with smart regional and area municipal government and the infrastructure and services needed to shape and support the fastest growing economy in Canada.”

Ken Seiling, Chair, Regional Municipality of Waterloo

A community that celebrates and supports entrepreneurs and tech companies

Waterloo Region has world-class infrastructure and support for entrepreneurs. Communitech, the Accelerator Center, business organizations, universities and professional service firms provide an extensive start-up ecosystem to help companies launch, grow and win in global markets. See page 11.



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Waterloo Region

A perfect place to start a business.

A perfect place to invest in one.

Over the past two decades, Waterloo Region has become a concentrated centre for high-potential seed and early-stage technology companies. The birthplace of world-renowned industry leaders such as RIM, COM DEV, DALSA and Open Text, the region has acquired a well-deserved reputation for developing and commercializing breakthrough technologies in wireless, photonics and software.

Driving the region's dynamic technology cluster is a supportive environment for tech entrepreneurs and their companies and a unique infrastructure that includes:

- prestigious universities and colleges, including the University of Waterloo, Wilfrid Laurier University, University of Guelph, Conestoga College;
- a mass concentration of high-tech research institutes;
- specialized and paired programs in technology management and entrepreneurship;
- a highly active technology business association; and
- strong peer-to-peer networks.

This infrastructure provides valuable strategic advantages for early-stage and fully-developed technology companies.

Global leaders invest in Waterloo Region

World-class companies based in Waterloo Region, such as Raytheon, NCR, ATS and Christie Digital, make significant investments in the area. Capitalizing on the competitive advantages offered by the region's resource-intensive technology cluster, they have established local manufacturing and research operations and believe strongly in maintaining global headquarters in the Waterloo area.

Entrepreneurs invest back into the Waterloo Region

Several highly successful local entrepreneurs also have committed to continue building the region's future. Not only have they invested funds in their own companies, but they have made substantial personal investments in pioneering facilities that are making a mark on the world-stage, including:

- Perimeter Institute for Theoretical Physics
- The Centre for International Governance Innovation
- Institute for Quantum Computing



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Regional companies create high exit value

Canada’s investment community has given Waterloo Region a strong vote of confidence – a confidence fully justified by the solid track record of performance delivered by the region’s tech firms.

Local technology companies **created more wealth for shareholders** than their peers in other major technology commercialization centres. According to our research using the invested venture ratio (IVR) methodology, Waterloo-based companies generated an IVR of 7.02, indicating that investors enjoyed a more than seven-fold increase in shareholder value at the time of exit. **Waterloo Region out-performed almost every major technology region** in Canada and the U.S.

“It’s the best place to do a start up in Canada because Canada’s leading venture capital firms are always close by. And they’re here for a reason!”

Rod Foster, CEO, Covarity

Waterloo Region compares favourably with U.S. technology regions

These calculations show that local technology entrepreneurs are very successful in creating shareholder value. With an IVR of 7.02, the region’s IT sector is clearly a performance leader among major technology regions in Canada and the U.S, as shown in the following chart:

Comparable Invested Venture Ratios

Waterloo Region Invested Venture Ratio			
Waterloo Region		7.02	
Comparable IVR Data Determined by Greenstone Study			
Canada		U.S.	
Ontario	5.13	California	5.14
Quebec	1.64	Massachusetts	4.47
Canada	5.43	New York	2.81
		Texas	2.87

¹ Researchers calculated the Waterloo Region IVR by dividing the value of Waterloo Region technology company exits from 1999-2004 by the amount of equity invested in Waterloo Region technology companies from 1995-1999. More detailed information about the Greenstone methodology and the research study is provided in Appendix A.



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“Is it a good place to invest? Well, we’re investing over \$10M in R&D here annually and our growth plan continues as we deliver digital cinema products to the world from Waterloo Region.”

Gerry Remers, President,
Christie Digital

High merger and acquisition activity relative to venture capital investment

More than \$1.8 billion has been spent on mergers and acquisitions (M&As) in Waterloo Region in the past decade. Since 2000, four of the top 50 Canadian technology M&A deals have involved Waterloo-based companies.²

According to these figures, Waterloo Region has been responsible for a higher level of M&A activity than other technology centres, relative to the amount of venture capital invested in the area.³ This high level of activity indicates that technology developed in the area has captured global markets and significantly impacted on global technology businesses.

Global industry leaders invest locally

You will recognize the names of some of the most prominent technology companies that made targeted acquisitions in the Waterloo area, including:

- Sybase
- Agfa
- Adobe
- Siebel
- AMI Semiconductor
- LSI Logic
- Cisco
- Google
- Oracle
- Leitch Technology
- Harris

Confident in Waterloo Region’s robust economy and prosperous tech sector, these global leaders have established a strong presence in the region and continue to maintain business divisions within the community.

In total, 19 emerging technology companies have been the subject of strategic acquisitions. All 19 were founded and developed in Waterloo Region. More importantly, **they were able to compete globally and generate significant returns** for their investment partners.

The following chart highlights recent notable acquisitions and the exit value of the acquired companies:

Waterloo Region Notable Acquisitions	Date of Acquisition	Acquisition Value (CDN\$)
PixStream acquired by Cisco Systems	August 2000	\$550 million
BlueGill acquired by CheckFree	April 2000	\$370 million
Mitra acquired by Agfa	September 2001	\$280 million
LivePage acquired by Janna Systems	September 1999	\$18.7 million ⁴
Inscriber acquired by Leitch Technology	December 2004	\$22 million
Dspfactory acquired by AMI Semiconductor	November 2004	\$60 million

Update: Siebel acquired by Oracle, September 2005; Reqwireless acquired by Google, July 2005

² Source: Capital IQ

³ Waterloo Region has received 2.4 percent of all venture capital invested in Canada since 2000. Source: Thomson Macdonald (formerly Macdonald and Associates)

⁴ Janna Systems was acquired one year later by Siebel Systems for \$1.8 billion

⁵ Leitch acquired by Harris in July 2005



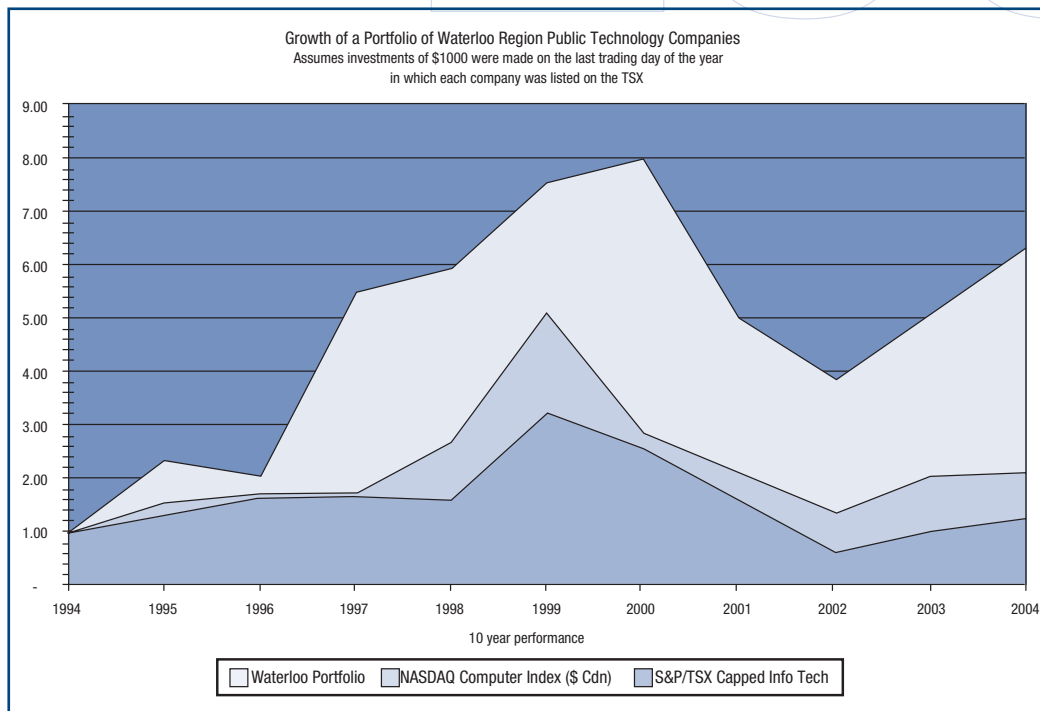
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Impressive IRR from a portfolio of local, public technology companies

Waterloo Region is responsible for an impressive **10 percent of all IPOs completed by technology companies** on the TSX over the past eight years.⁵ This closely corresponds to the number of IPOs completed by technology companies in other major centres, such as Ottawa and Vancouver, during the same timeframe.⁶

By 2004, 10 of the 125 technology companies listed on the TSX were based in Waterloo Region—an indication that the region has achieved critical mass in the high-tech sector.

As these companies matured, they generated sustainable, long-term value for their investors. A portfolio of **these 10 public companies would have out-performed both the Nasdaq Computer Index and the S&P/TSX Capped Info Tech Index, generating a remarkable 26 percent IRR** over the past decade.⁷ The significant growth delivered by this portfolio is illustrated in the following chart:



More information about the portfolio construction is provided in Appendix B.

⁵ Waterloo Region was responsible for 6 of the 62 IPOs completed by technology companies on the TSX between 1996 and 2004.
Source: Toronto Stock Exchange

⁶ Total technology IPOs completed on the TSX between 1996 and 2004: Waterloo – 6, Ottawa – 6, Vancouver – 9.
Source: Toronto Stock Exchange

⁷ If RIM, the biggest gainer, were removed from the portfolio, the IRR would still be a solid **16 percent**.

“Waterloo Region has had a long tradition of technical excellence and entrepreneurial spirit that goes back more than a century with companies like Seagrams, Electrohome and Schneiders. And this trend continues today with Waterloo Region as home to some of the top technology companies in the world.”

Tom Jenkins,
Chairman of the Board,
Open Text

A top five IT investment market in Canada

A vibrant and growing community of venture-backed companies, Waterloo Region has an envied reputation for supporting and nurturing entrepreneurship and fostering a wealth of spin-off companies.

The potential for sustainable deal-flow makes Waterloo Region a very appealing market for investors with 45% of the region’s growth occurring in the technology sector and more than 958 companies producing or facilitating local technology.⁸

An upward trend in IT investment

Disruptive Technologies + Attractive Markets = Compelling Investments

A consistent flow of compelling investments has attracted prominent venture capital firms to Waterloo Region. In 2004, Waterloo Region was:

- **the third most active market for IT investment in Ontario; and**
- **the fifth most active market for IT investment in Canada.**⁹

More than \$400 million in venture capital has been invested in the area since 1996 and the region keeps capturing an increasing share of IT investment in Canada.

Recent transactions show that IT investment is continuing its upward trend. Approximately \$25 million was invested in the region during Q1 2005, a clear indication that Waterloo Region has the capacity to absorb a significant amount of venture capital investment over the next five years.

⁸ *Waterloo Region 2001, Canada’s Technology Triangle, Techmap, PricewaterhouseCoopers LLP*

⁹ *Source: Thomson Macdonald (formerly Macdonald and Associates)*



“The region has internationally recognized research institutes complemented by commercially oriented post secondary institutions. This one-two punch has fostered a regional milieu that encourages and supports new technology ventures.”

Tim Jackson, Partner, Tech Capital Partners

University-generated spin-offs create economic wealth

A large part of Waterloo Region’s technology commercialization success is based on its prestigious post-secondary educational institutions.

- University of Waterloo
- Wilfrid Laurier University
- Conestoga College

Several of Canada’s largest research universities -- University of Guelph, McMaster University, University of Toronto, York University, and University of Western Ontario -- are within a half-hour to hour drive of Waterloo Region.

“Waterloo Region’s world-class post-secondary institutions and skilled workforce provide competitive edge to employers and prospective entrepreneurs.”

John Tibbits, President, Conestoga College

The University of Waterloo

Long respected as a powerhouse of innovation, the University of Waterloo provides a strong foundation for the local technology industry. Internationally renowned as the most successful technology commercialization university in Canada, the university’s inventor-owned intellectual property policy actively encourages researchers and inventors to pursue commercialization opportunities.

The university is widely credited for the rapid growth of the local tech sector, accounting for 28 percent of all high-tech firms born in Waterloo Region.¹⁰

And it continues to be the primary driver of economic wealth in the region. Eighteen of its largest spin-offs generated more than \$500 million a year in revenue according to a 2001 PricewaterhouseCoopers survey. University of Waterloo researchers and alumni provided the intellectual property that created such global leaders as Certicom, DALSA, Open Text and RIM now inspire a new generation of entrepreneurs.

More information about the University of Waterloo’s size and student body is provided in Appendix C.

¹⁰ Stephen Xingang Xu, “Knowledge Transfer, Interfirm Networking and Collective Learning in High Technology Cluster Evolution: A Network Analysis of Canada’s Technology Triangle,” 2003



Wilfrid Laurier University

In the world of higher education WLU exemplifies the adage that “good things come in small packages”. A relatively small campus community with full time enrollment just over 10,000 students has a reputation for academic excellence and quality, especially in business administration. The Laurier School of Business and Economics boasts enrollment of over 3200 students. But it’s not all just ivory tower. The business administration program is characterized by integrated case exercises and over 50% of business students get real world working experience as part of the school’s co-operative education component. There are also interdisciplinary offerings between business administration and computing and business and mathematics.

In addition to its strong business studies program, emphasis is growing on science and research with Laurier’s new \$11.4 M Science Research Centre serving students in mathematics, physics and computer science. There is also a new Canada Research Chair in Mathematical Modelling whose findings will impact advances in nanotechnology, biotechnology, aerospace and environmental engineering. National Science and Engineering Research Council grant holders have increased 230% over the past five years -- that’s 70% of eligible faculty members. Between 2002 and 2003, sponsored research income grew by 124%, the largest rate of increase in Canada’s top 50 research universities. This little engine is revving up to generate some big ideas.

More information about Wilfrid Laurier University is provided in Appendix D.

University of Guelph

The University of Guelph is home to the nation’s leading school in veterinarian medicine, but the spotlight on science doesn’t just shine there. Funding from the Ontario Ministry of Agriculture and Food to the tune of \$36M is highlighting the school’s academic prominence in a wide range of agri-sciences, biosciences and enviro-sciences. Right next-door is the University of Guelph Research Park where faculty and students get down to business with professionals in areas of agri-business, chemicals and animal health.

Science rules at the University of Guelph. The \$144M Science Complex is one of the largest science-facility projects in North America and will provide 33,570 sq. m. of enhanced teaching and multi-disciplinary research. Phase 1 of the project centralizes physical, biological and computational sciences. And in the \$27M Edmond C. Bovey complex of greenhouses and laboratories horticultural scientists and environmental biologists work on new food production and environmental protection technologies that are destined to make the world safer, cleaner and healthier.

More information about Guelph University is provided in Appendix E.

Conestoga College Institute for Technology and Applied Learning

The number one ranked college in Ontario for seven years running is Conestoga College located just off the 401 in Kitchener. Over the years it has evolved a level of academic excellence that is hard to match in the province. It’s career-related Continuing Education program is top notch and has benefited from involvement by local businesses to help define the courses to address recognized labour force needs. Over 128,000 students have taken advantage of career-related courses offered by Conestoga’s continuing education programs.

Conestoga offers a broad spectrum of first-rate educational opportunities to the local community. The college is committed to Engineering and “IT-related” education and has recently instituted new Applied Degree Programs through its Engineering Technology Department. Conestoga College is a key contributor of high caliber, practically-trained talent making the Tech sector successful in Waterloo Region.

More information about Conestoga College is provided in Appendix F.

Research centres leading the world in emerging technologies

“If you look back through history, every industrial revolution has come from a breakthrough in theoretical physics.”

Mike Lazaridis, Founder, President and Co-CEO, RIM

Exceptional access to private and public research is another hallmark of Waterloo Region. In addition to more than 150 research centres, three facilities for study and experimentation in theoretical physics, quantum computing and nanotechnology call Waterloo home.

- **Perimeter Institute for Theoretical Physics** focuses on cutting-edge research and technology in theories of space, time and matter. The Institute has raised over \$174 million in private and public funding since it began in 1999.
- **The Institute for Quantum Computing** at the University of Waterloo examines how quantum mechanics can be used to transcend current limits on information processing and technology. This centre represents the world’s largest and **most advanced foray into quantum information theory**.
- **The Nanotechnology Engineering Program** at the University of Waterloo has recently established a program to train nanotechnology engineers and scientists to manipulate and control materials at the atomic and molecular scale.

The Institute for Quantum Computing and the Nanotechnology engineering program recently received more than \$50 million in private funding. Research conducted in these centres will lead to **the development and application of ground-breaking technologies that will change our world in unparalleled ways**.

These three closely-linked research facilities are fertile ground for emerging technologies and are blazing a research trail that may **exponentially increase the investment potential** of the region over the next decade.

“The Waterloo Region is in the midst of high tech growth that in itself attracts the best and brightest talent from around the world.”

John Baker, CEO, Desire2Learn

Making Magic

“Why is this the best place to invest in Canada? Talented people! Our region is a magnet for talent.”

David Johnston, President,
University of Waterloo

High-tech talent fast-tracks development and commercialization

In addition to fostering innovation, the University of Waterloo’s leading edge programming in computer science, engineering and mathematics and Wilfrid Laurier with leading business acumen provide early-stage companies and entrepreneurs with **access to a highly specialized talent pool**.

Many local technology companies improved their competitive edge by capitalizing on the intellectual resources of local university graduates and researchers, recruiting heavily from area universities and drawing on the expertise of skilled co-op students and graduates to fast-track development and commercialization of their technologies.

The intellectual capital produced at the region’s post-secondary institutions is one of the region’s most valuable assets and drivers for its future prosperity.

WATERLOO REGION TECHNOLOGY



“Waterloo Region has all the ingredients required for start ups to succeed: an educated and skilled workforce, major research talents at the local post-secondary institutions and the availability of business skills necessary to ensure their financial success.”

Robert G. Rosehart,
President, Wilfrid Laurier
University

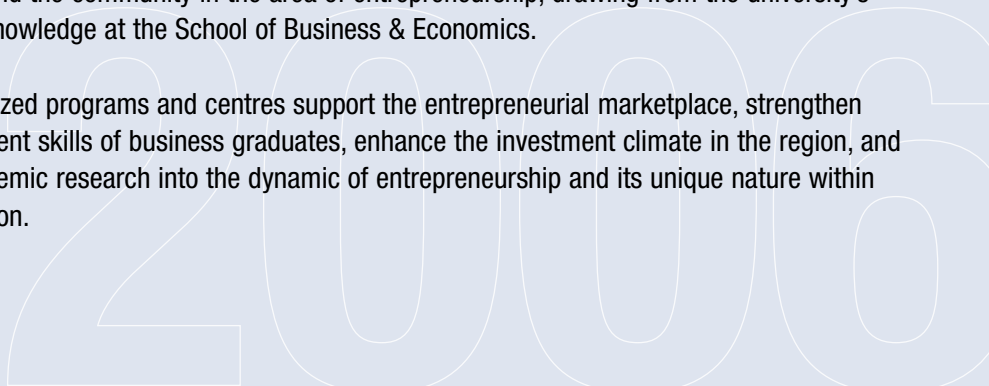
Fostering entrepreneurship improves investment value

The importance of skilled business management to the success of new venture start-ups and technology commercialization is undeniable. Early-stage companies perform better under the guidance of experienced business managers, especially those trained in high-tech corporate management.

Recognizing the vital role that business graduates play in the tech industry, **local universities have established business management and entrepreneurship programs to foster leadership, research and innovation**. These initiatives include:

- The Master of Business, Entrepreneurship and Technology (MBET) program at the University of Waterloo is for technology-oriented students who want to enhance an existing entrepreneurial orientation with new business skills critical to identifying and exploiting commercial opportunities. MBET is surrounded by, and draws from, a rich innovative and technology culture at the university and within the region – Waterloo’s defining traits.
- The Schlegel Centre for Entrepreneurship at Wilfrid Laurier University. In the heart of Waterloo Region’s vibrant entrepreneur-driven environment, the centre is educating and preparing students and the community in the area of entrepreneurship, drawing from the university’s depth of knowledge at the School of Business & Economics.

These specialized programs and centres support the entrepreneurial marketplace, strengthen the management skills of business graduates, enhance the investment climate in the region, and advance academic research into the dynamic of entrepreneurship and its unique nature within Waterloo Region.



“Waterloo Region is at the core of an unmatched matrix of business and technology success facilitators:

- a pool of top talent from Canada’s best constellation of post-secondary schools
- Canada’s most direct routes to multiple crossing to US markets
- Canada’s largest international airport
- a tremendously contagious community spirit of success
- one of the best networks of businesses and support organizations anywhere

And, all this is neatly wrapped up in an outstanding, safe, economical place to live.”

John Keating, CEO, COM DEV

A supportive infrastructure nurtures emerging companies

Seed and emerging technology companies in Waterloo Region have **access to an exceptionally supportive business infrastructure**. Two important contributors are the region’s high-profile technology business association and a newly developed research and technology accelerator centre:

- Communitech is a member-based technology association that operates over 20 peer-to-peer groups in the community. These peer groups provide much-needed mentoring and inspiration to the leaders of growing companies and young startups.

Communitech promotes the growth of Waterloo Region’s technology sector by fostering industry connections and business leadership. A roster of initiatives develop entrepreneurs, expedite commercialization, build export capacity, recruit appropriate talent and provide ongoing workforce development—activities essential for sustaining and directing the momentum that drives a top North American technology cluster.

- The Accelerator Centre houses and grows businesses that will bring new technology and products to market. The centre’s tenants can focus immediately on development and commercialization of technology within a supportive environment.

Located on the University of Waterloo campus, the Research + Technology Park is one of the largest research parks in Canada. Although it operates as a private company, tenant firms have access to a multi-disciplinary support faculty from the university and a leadership team of alumni.

- World-class professional service firms on the ground in Waterloo Region provide the expertise and advice to help companies launch and compete anywhere in the world.

“I came from the USA and picked Waterloo Region to start my business because it has a unique combination of critical factors that guarantee it will be one of the fastest growing high tech centers in North America over the next 10-20 years.”

Eric Meger, President, Broadband Learning Corp.



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Robust and diverse economy, and strategic location offer competitive advantages

Waterloo Region is home to a diverse economy, with strengths in the advanced manufacturing, insurance, automotive, high technology and service sectors. Identified as a key economic growth area, the region's technology cluster is also highly diversified, with areas of specialty including: alternate energy, biomedical, enterprise software, Internet, nanotechnology, new media, photonics, quantum computing, telecommunications, video and wireless.

Waterloo Region's robust and adaptable economy is attractive to investors and entrepreneurs. Its diversity protects it from the uncertainties of an economic downturn. Centrally located in Southwestern Ontario, Waterloo Region also offers the competitive advantage of strategic location.

WATERLOO REGION TECHNOLOGY



Situated on the west side of Toronto, **Waterloo Region is an ideal gateway for companies serving the U.S. market.** It is less than one hour away from Toronto Pearson International Airport, Canada's largest airport, and supports a 24/7 regional airport that provides both domestic and international flights. **Well positioned on the U.S. trade corridor,** Waterloo links directly to major border crossings at Detroit and Buffalo via an extensive network of superhighways.

The most cost-effective location in Canada to start and manage a business

The Financial Times Group, in its *fDi Magazine*, recently named Waterloo the most cost-effective community in which to do business in Canada. Companies that locate in the area benefit from low real estate costs, reasonable wages and a stable work-force.

Simply put, it costs less to develop a company in Waterloo Region than in many other locations across the country. Technology companies can deploy their capital resources more efficiently, allowing them to achieve more significant milestones before having to raise additional capital. Investors benefit by getting more mileage out of each dollar they invest.

"I have set up plants in Europe and the US – two of the most valuable assets of our community are the closeness and availability of industrial infrastructure - from a bolt to a building, a truck to a transformer, an ad agency to an auditor – they are all within half an hour – makes a business and especially a start-up very efficient."

John Bell, CEO,
Polymer Technologies

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Conclusions

Exceptional investment potential in Waterloo Region

Already renowned as a leader in the knowledge economy, this new investment data shows that Waterloo Region offers exceptional opportunities for investors interested in exponential growth in market-driven technologies, compelling deal-flow and attractive valuations.

Waterloo Region is one of the most active technology clusters in the country and continues to attract an increasing share of IT investment in Canada. Investor interest in Waterloo Region is growing because of the region's well-deserved reputation for:

- successfully commercializing technology companies;
- historically generating more wealth for shareholders than other major technology clusters;
- sustaining a network of world-class post-secondary institutions;
- founding three of the most leading-edge research facilities in the world;
- out-performing other regions in generating university spin-off companies;
- providing a highly-specialized pool of talent to fast-track development of emerging technologies;
- offering a supportive technology infrastructure to nurture entrepreneurs from start-up to exit; and
- providing one of the most cost-effective business environments in the country.

As Waterloo Region continues to attract more capital and create greater critical mass, investment opportunities in the region will become even more abundant. Companies in the region will have access to additional resources, increasing the probability they will generate substantial returns for their investors.

“The Waterloo Region has a great resource infrastructure for start up technology companies: a critical pool of highly skilled people, excellent communications and transportation systems, reliable sources of energy, and an enterprising spirit that permeates the community.”

Savvas Chamberlain, CEO, Dalsa



Appendix A Invested Venture Ratio (IVR) Study

Study design

The Invested Venture Ratio (IVR)¹² methodology was developed by Greenstone Venture Partners and Leading Edge BC (Greenstone).

Greenstone conducted the initial IVR study in response to questions from U.S. investors about the investment potential of British Columbia and Canada, compared to better known, technology-rich regions in the U.S.

To answer the question: Are there good investment opportunities in British Columbia and Canada?, researchers at Greenstone calculated the total exit value created from venture investments or the IVR for selected regions across Canada and the U.S.

For each given region, the IVR was calculated using the following formula:

$$\frac{\text{The value of technology company exits from 1999-2004}}{\text{The amount of equity invested in technology companies from 1995-1999}} = \text{IVR}$$

Greenstone used the IVR measurement as a proxy for the amount of shareholder value created by technology companies in the region.

The Greenstone methodology was replicated by Tech Capital Partners in a study for Waterloo Region. An extensive search was conducted to identify:

- Waterloo Region technology companies that received equity financing;
- Waterloo Region technology companies that have exited; and
- the corresponding values of these technology company exits.

¹² The Waterloo Region IVR was calculated by dividing the value of Waterloo Region technology company exits from 1999-2004 by the amount of equity invested in Waterloo region technology companies from 1995-1999. More detailed information about the Greenstone methodology and the research study is provided in Appendix A.

The resulting IVR calculations indicate that Waterloo Region technology entrepreneurs have been very successful in creating value for shareholders. With an IVR of 7.02, the region's IT sector is clearly a performance leader among the major technology regions in Canada and the U.S., as shown in the following chart:

Comparable Invested Venture Ratios

Waterloo Region Invested Venture Ratio			
Waterloo Region		7.02	
Comparable IVR Data Determined by Greenstone Study			
Canada		U.S.	
Ontario	5.13	California	5.14
Quebec	1.64	Massachusetts	4.47
Canada	5.43	New York	2.81
		Texas	2.87

Since the Greenstone methodology considers only exit data between 1999 and 2004, the Waterloo Region IVR calculation does not include the following high-profile IPOs that were completed prior to 1999:

Company Name	Date of IPO	Symbol	Market Capitalization at IPO (\$ CDN)
ATS Automation Tooling Systems Inc.	1993	TSX: ATA	\$106 million
COM DEV International Ltd.	1996	TSX: DCV	\$249 million
DALSA Corporation	1996	TSX: DSA	\$65 million
The Descartes Systems Group Inc.	1998	TSX: DSG	\$206.8 million
MKS Inc.	1997	TSX: MKX	\$105.1 million
Open Text Corporation	1996	TSX: OTC	\$311 million
Research In Motion Ltd. – RIM	1997	TSX: RIM	\$448.6 million
More Recent IPOs			
ARISE Technologies Corp	2003	TSX: APV-X	
Broadband Learning Corp	2005	TSX: BLC-X	
Sandvine Inc.	2005	AIM:SAND	

Had the more recent IPOs been included in the calculations, Waterloo Region's IVR would be significantly higher.

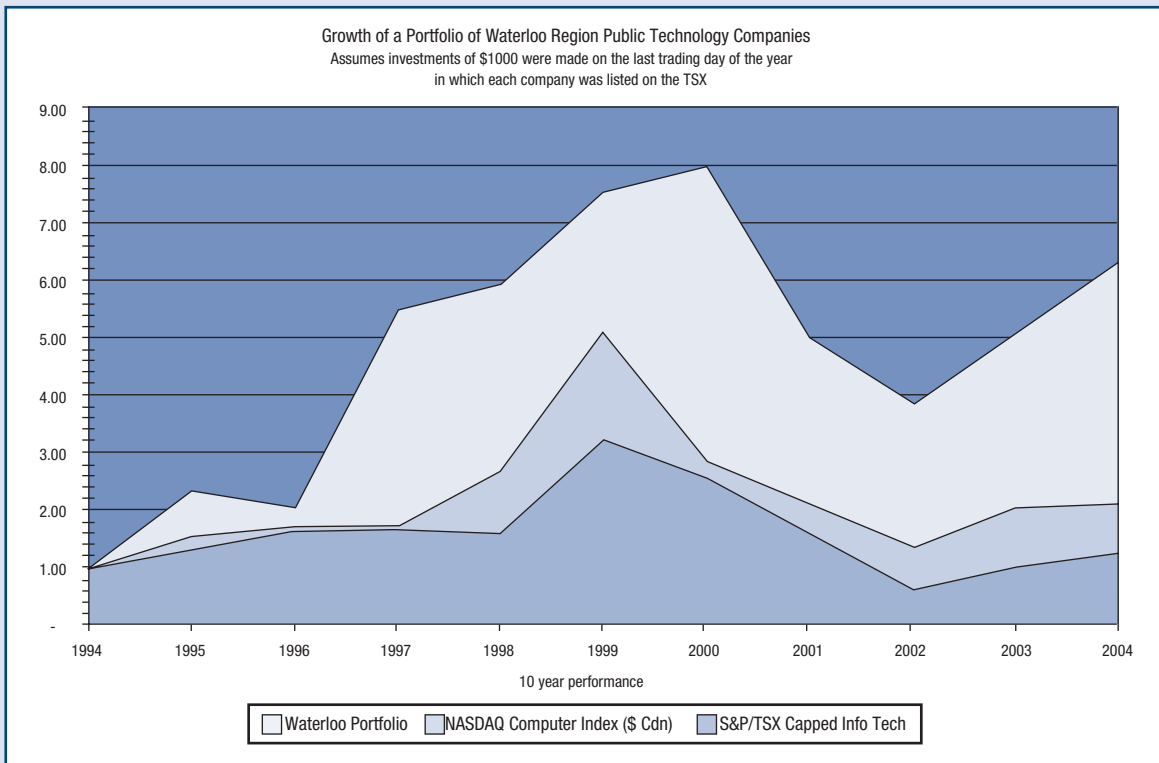


Appendix B Internal Rate of Return (IRR), Analytical Research

Research design

To determine the overall performance of 10 local technology companies listed on the TSX, a model portfolio was created that included only these 10 companies. The research was based on the premise that investments of \$1,000.00 were made on the last trading day of the year in which each company was listed on the TSX.

An analysis of the resulting data indicated that the portfolio would have generated an IRR of 26 percent since 1994, out-performing both the Nasdaq Computer Index and the S&P/TSX Capped Info Tech Index, assuming that investments were made in the indices at the same rate as investments in the portfolio. The following chart illustrates the significant gains delivered by this portfolio:



Appendix C

University of Waterloo: Generating Knowledge Through People

University of Waterloo – the “MIT of Canada”

The University of Waterloo is widely known as one of Canada’s premier universities, with strengths in engineering, mathematics and computer science.

Undergraduate students

- Over 20,000 full-time undergraduate students
- 4,467 in engineering
- 4,300 in mathematics

Graduate students

- 2,039 full-time graduate students
- 994 in engineering
- 400 in mathematics

Faculty

- 856 full-time faculty
- 207 in engineering
- 220 in mathematics¹³

National and global perspective

University of Waterloo accounts for:

- 10 percent of Canada’s engineering graduates
- 15 percent of Canada’s mathematics PhDs
- 15 percent of Canada’s computer science PhDs
- Home to the world’s largest enrollment in mathematics, 30 percent of all mathematics graduates in Ontario get their degrees from the University of Waterloo.¹⁴
- Recognized as the most successful technology commercialization university in Canada, the University of Waterloo is responsible for 28 percent of all high-tech firms born in Waterloo Region.¹⁵

¹³ Source: *The University of Waterloo, 2005*

¹⁴ This percentage includes the School of Computer Science.

¹⁵ Stephen Xingang Xu, “Knowledge Transfer, Interfirm Networking and Collective Learning in High Technology Cluster Evolution: A Network Analysis of Canada’s Technology Triangle,” 2003



Appendix D **Wilfrid Laurier University:** **Educating Leaders of Tomorrow**

Wilfrid Laurier University

Wilfrid Laurier University is widely known as one of Canada's premier teaching schools with strengths in business administration and economics with new emphasis on the Faculty of Science.

Undergraduate students

- Over 10,000 full-time undergraduate students
- 2,500 in business administration and economics
- Over 2,000 in sciences and mathematics

Graduate students

- Over 500 full-time graduate students
- 72 in MBA studies
- 80 in Doctoral studies

Faculty

- 436 full-time faculty
- 29.5 % in the Faculty of Business and Economics

National and global perspective

According to Maclean's Annual Survey of Canadian Universities (2004), WLU ranks #1 in quality of undergraduate studies, and #2 in innovation in education.

A focus on educating entrepreneurs, WLU is home of the nationally recognized Schlegel Centre for Entrepreneurship whose programs boast partnerships with leading technology and business professional companies in Waterloo Region including Research in Motion, Tech Capital Partners, Gowlings and Ernst and Young.

On the international front, WLU has student exchange agreements with more than 80 institutions around the world including Jinan University in China, University of Limerick in Ireland, Kansai University in Osaka, Japan, and Ohio State university in Columbus.

(Sources: Laurier Annual Report, Wilfrid Laurier University,, 2005: Office of the Registrar, WLU, 2005)



Appendix E

University of Guelph: A Safer, Cleaner, Healthier World

University of Guelph

The University of Guelph is widely known as Canada's premier agri-sciences university, with strengths in veterinarian medicine and other biological and environmental sciences.

Undergraduate students

- Over 16,000 full-time undergraduate students
- Over 5,500 in engineering and sciences

Graduate students

- 1,916 full-time graduate students
- 784 in science disciplines

Faculty

- 830 full-time faculty

National and global perspective

Guelph University is renowned in Canada and around the world as a research intensive and learning centered institution with leading edge programs in biotechnology and life sciences:

- College of Biological Science is unique in Canada – cutting edge programs in molecular and cellular biology, integrative biology
- The largest MBA in Agriculture in North America is awarded by the Ontario Agricultural College

(Sources: Office of Registrar, University of Guelph, 2005; Blue Chip Cluster; Guelph – Waterloo Partnership in Biotechnology)

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Appendix F **Conestoga College Institute Of Technology and Advanced Learning:** **Fueling Community Prosperity**

Conestoga College – The #1 College in Ontario seven years running
Conestoga College has a solid reputation as a leader in providing life long learning skills and developing programs to support local industry.

Student Enrollment

- Over 6,000 full-time students
- Over 33,000 part-time students
- 1795 full time students in “IT-related” Programs in 2004

Applied Degree Programs in Technology

- Bachelor of Advanced Manufacturing – 4 year co-op program
- Bachelor of Telecommunications and Computer Technologies – 4 year co-op program

Regional and Community perspective

Conestoga College is the single largest supplier of skilled labour to the local economy:

- 40 percent of local labour force received training by Conestoga College
- 60 percent of Conestoga graduates live in Waterloo Region, Guelph and Stratford areas
- estimated 36% of labour force is renewed through Conestoga continuing education programs

Conestoga College provides more Training and Development programs customized for local employers than any other educational institution.

- 21,300 participants have been served in the last decade by programs done in partnership with local employers to address specific workplace needs

(Sources: Registrar's Office, Conestoga College, 2005; "The Economic and Social Value of Conestoga College"; Conestoga College)



2006



Canada's
Technology
Triangle

Where business is heading

Waterloo Region Cambridge Kitchener Waterloo

About Canada's Technology Triangle

The Organization:

Canada's Technology Triangle Inc (CTT Inc) is the not-for-profit public-private economic development partnership marketing the Waterloo Region and the cities of Cambridge, Kitchener and Waterloo to the world. CTT Inc provides confidential site location services and vital research about the economy to new businesses and individuals looking to locate in Waterloo Region.

The Vision:

"To position Canada's Technology Triangle as a leading location in the world for investment, and to keep and attract the most innovative businesses, entrepreneurs and talent."

The Area:

Canada's Technology Triangle is a strategic location:

- an hour west of Toronto
- 45 minutes to Pearson International Airport
- home to the Region of Waterloo International Airport
- astride highway 401
- close to three major USA border crossings
- one hour to two international harbours
- within a day's drive of a market of more than 130 million

The CTT area is the Waterloo Region which encompasses the cities of Cambridge, Kitchener and Waterloo, and the townships of North Dumfries, Wellesley, Wilmot and Woolwich.

Canada's Technology Triangle Inc
57 Erb Street, 2nd Mezzanine
Waterloo Ontario Canada N2L 6C2
T: (519) 747-2541 or Toll Free: (866) 233-5133
F: (519) 576-4333
info@techtriangle.com
www.techtriangle.com

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PRICEWATERHOUSECOOPERS

About PricewaterhouseCoopers

PricewaterhouseCoopers is a world leader in providing professional assurance, advisory and tax services to technology companies of all sizes.

PricewaterhouseCoopers brings a unique approach to the market, providing the appropriate financial accounting and tax planning and compliance services to clients based upon their stage of development.

Our practical solutions, developed by being a market leader advising technology companies of all sizes, help early stage companies in maximizing the financial and managerial resources available to achieve their critical goal – bringing new technologies to market as quickly as possible.

Paul Hendrikse, CA, CPA (Illinois)
Partner, Audit and Assurance Group
South Western Ontario Technology Practice Leader
55 King Street West, Suite 900
Kitchener, Ontario N2G 4W1
T: (519) 570-5736
paul.hendrikse@ca.pwc.com



2006

About Communitech

Communitech is a member-based organization driving the growth and success of Waterloo Region's tech sector through leadership, connections and promotion.

Our members include big names in the global technology industry, including Research In Motion (RIM), Open Text and COM DEV. But equally important are our start-up enterprises and growing firms, and the investors, service firms, educational institutions and governments that boldly support their growth.

Communitech started in 1997 to support the region's early tech cluster. In just eight short years, we've championed the commercialization and industry support that's rocketed our technology community a top innovation centre in North America.

Today, close to 400 tech companies proudly call Waterloo Region home, from sectors including information technology, biomedical, aerospace, environmental technology and advanced manufacturing. Together, they employ more than 26,000 employees. And the numbers keep growing!

Communitech is committed to continuing that trend. It's an ultra-competitive market out there – we're making sure our companies, their employees and our technology industry flourish and are ready to take bigger, bolder steps to growth. We want to inspire and support more tech start-ups, encourage smarter, faster growth for our small and medium-sized companies, and help large companies reach more world markets.

We're doing that by leading on critical industry issues, by connecting members and the broader community for know-how, contacts, talent and expert advice, and by promoting Waterloo Region around the globe as a world-class tech centre.

Get growing with the most active high tech association in Canada!

Communitech has been fuelling the growth of Waterloo Region's tech industry for more than eight years with programs and services that fit the needs of member companies and professionals. Join us and grow your business, grow a start-up, grow your skills and grow your network.

Visit communitech.ca to learn more or contact:

Sherryl Petricevic
Executive Director, Membership and Marketing
Communitech: Waterloo Region Technology Association
T: (519) 888-9944, x25
sherryl@communitech.ca



“Waterloo Region is the premier place for technology start ups simply because the people here believe in what they are doing, are committed to technical excellence, and have seen what hard work and the support of a vibrant tech community can achieve... the pursuit of excellence is a way of life – and success always feels within reach.”

Dave Caputo, CEO, Sandvine

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WATERLOO REGION TECHNOLOGY



Making Magic
in the Waterloo Region

REPORT 2006

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COMMUNITECH
WATERLOO REGION TECHNOLOGY ASSOCIATION

tel. 519-888-9944

fax. 519-888-7007

email. info@communitech.ca

www.communitech.ca