

UNIVERSITY OF WATERLOO
economic
IMPACT STUDY

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highlights

LEED-platinum certified Environment 3 is home to cutting-edge research into climate change and other global issues.



UNIVERSITY OF
WATERLOO

The business leaders who founded the University of Waterloo in 1957 knew about economic impact. In a time of rapid societal change, highly-skilled graduates were desperately needed for industries in an increasingly technological world. Waterloo's founders envisioned an institution of higher learning where first-rate academics were combined with the hands-on experience of co-operative education — a first in Canada — producing workers with skills for the new economy.

Fast forward to the present. The University of Waterloo has risen to prominence as one of the world's most respected universities, lauded for its dedication to innovation, culture of entrepreneurship, high-technology expertise and the pursuit of new ideas.

Waterloo has become a model for its strong record of engagement with industry, innovative technology and research, world-leading research, and graduates and professors who love to start their own spin-off companies.

The University of Waterloo is a research-intensive university, dedicated to fuelling prosperity and improving the human condition.



built to drive prosperity



UNDERSTANDING WATERLOO'S ECONOMIC IMPACT

Early in 2013 the University of Waterloo commissioned respected professional services firm PricewaterhouseCoopers (PwC) to conduct a wide-ranging economic impact assessment of the University of Waterloo on Waterloo Region and Ontario.

THE FOCUS

“Characterizing and quantifying the role University of Waterloo plays in the Waterloo Region Innovation Ecosystem.”

THE GOALS

- » *Estimate and assess economic impacts generated by WATERLOO'S OPERATIONS AS A UNIVERSITY*
- » *Estimate the economic impacts generated by WATERLOO SPIN-OFFS or ASSOCIATED COMPANIES ATTRIBUTABLE TO THE UNIVERSITY*
- » *Assess other INNOVATION AND COMMERCIALIZATION IMPACTS and BENEFITS associated with the university*

PwC took a hard look at the university's operational spending impacts, its ability to attract funding for things like research, and the impact of its culture of entrepreneurship and innovation on the “Waterloo Region Innovation Ecosystem.”

Data was collected from the university and public sources including Statistics Canada, and PwC conducted a first-ever comprehensive survey of most companies in Waterloo Region to better understand the University of Waterloo's impact.

The results are in, and the news is very positive for the University of Waterloo, Waterloo Region, and Ontario.

\$556 | *MILLION in University of Waterloo operating spending*

\$265

MILLION in third-party spending

\$642

MILLION in total Innovation Ecosystem spending impacts

\$1.51

BILLION in indirect and induced spending impacts

\$2.614

BILLION in total spending economic impacts

The \$15-million Centre for Intelligent Antenna and Radio Systems could lead to the creation of new wireless technologies in smartphones, cars, healthcare and more.

“The Waterloo Region Innovation Ecosystem does not happen without the University of Waterloo, and this is due to UW’s IP policy and its co-op program.”

— TOM JENKINS, Chairman, OpenText Corporation

an economic engine



PwC measured the total economic impact of the University of Waterloo in Waterloo Region and Ontario by assessing university operating spending, third-party spending and Innovation Ecosystem impacts.

THE RESULT

*Total University of Waterloo annual economic impact — **\$2.614 billion***

PWC REPORT

- » *University of Waterloo “GENERATES SIGNIFICANT ECONOMIC IMPACT FOR WATERLOO REGION AND ONTARIO, AND PLAYS A CRUCIAL ROLE IN ANCHORING THE WATERLOO REGION INNOVATION ECOSYSTEM”*
- » *“The Waterloo Region Innovation Ecosystem is considered a world-leading example, in 2009 alone generating \$18 billion in technology sector revenue and \$84 billion deal flow, and was granted 631 patents per million — THREE TIMES THE NATIONAL AVERAGE”*

\$2.614

BILLION in total spending economic impacts

\$297

MILLION in funding from
the Ontario Government

\$1 = \$8.80

in *TOTAL SPENDING ECONOMIC IMPACTS*
per \$1.00 in Ontario Government funding

University of Waterloo's *RETURN ON INVESTMENT*
relative to Ontario Government Funding:

Innovation Ecosystem impacts \$939 MILLION

46%

University of Waterloo
operating spending
\$797 MILLION

39%

Third party spending
\$298 MILLION

15%

“Probably 60% of the world’s GDP is touched by technology from companies in the David Johnston Research + Technology Park.”

– TERRY STEPIEN, President, iAnywhere Solutions Inc.

investment that pays off



Universities are engines of growth, increasingly considered important contributors to regional and provincial economies. PwC found that University of Waterloo generates **“\$8.80 of total spending economic impacts” in the province, for every one dollar of investment by the Ontario government.**

The PwC study shows that almost half of the university’s total GDP impact by spending – 46 per cent – was generated as a result of its role in helping anchor the Waterloo Region Innovation Ecosystem.

JOBS AND TALENT

University of Waterloo builds a stronger region and province:

- » *The source for **OVER 20,000 JOBS**, and **\$1.4 BILLION IN LABOUR INCOME***
- » ***\$2.6 BILLION** contributed to Ontario’s GDP*
- » ***\$1.5 BILLION** contributed to Waterloo Region’s GDP in 2011, or 6.1 per cent of the region’s total GDP*
- » ***\$444 MILLION** in tax revenues for Ontario and Federal governments attributable to University of Waterloo*

Companies in Waterloo Region that depend on University of Waterloo graduates and co-op students as a **SOURCE OF EMPLOYMENT**

72%

Of that 72%:



UP TO 100% of employees are from University of Waterloo

25.8% 32.6%

UP TO ONE-QUARTER of employees are from University of Waterloo

18%

UP TO THREE-QUARTERS of employees are from University of Waterloo

23.6%

UP TO HALF of employees are from University of Waterloo

“The University of Waterloo’s IP policy creates an environment that encourages innovation.”

— KURTIS MCBRIDE, Chief Executive Officer and Co-founder of Miovision

the heart of an innovation ecosystem



PwC found that the University of Waterloo plays a “central and critical part” in anchoring the Waterloo Region Innovation Ecosystem. These impacts are generated from spending “undertaken by companies that form part of the region’s Innovation Ecosystem that can be attributed to the existence of the university. In other words, this is spending that would not likely occur in Waterloo Region were it not for the university.”

THE RESULTS

Almost half the university’s total economic impact is a result of the role it plays in the ecosystem:

- » *Directly **GENERATING SPINOFF COMPANIES** and helping attract businesses*
- » *Encouraging innovation and commercialization through its **UNIQUE CREATOR-OWNED INTELLECTUAL PROPERTY POLICY***
- » *Generating a **CULTURE OF ENTREPRENEURSHIP** at the university and in Waterloo Region*
- » ***PRODUCING THE NEXT GENERATION** of entrepreneurs, technology leaders and inventors*
- » ***PRODUCING AND ATTRACTING WORLD LEADING** researchers, and talented workers for Waterloo Region*
- » ***FACILITATING LINKAGES AND COLLABORATIONS** across the Ecosystem, further enhancing the innovation process*

PWC'S SURVEY of local companies showed that:

47%

had **STRONG LINKS** to the University of Waterloo

196

COMPANIES were
classified as Level
1 and 2 spinoffs

162

COMPANIES were
classified as
associated companies

More than

30%

of companies in Waterloo Region
rely on University of Waterloo
students and graduates for **MORE
THAN HALF OF THEIR WORK FORCE**

“Large international technology companies like Google have established operations in Waterloo Region to take advantage of the deep pool of talent available here. Fuelled by uWaterloo, Waterloo Region has become one of the most prolific producers of young engineering talent in the world.”

entrepreneurial spirit: spinoffs and talent



The University of Waterloo is a magnet for inquiring minds and people with zeal for invention. Their passion ignites a new generation of companies that will hire even more bright young minds and make a positive impact on the economy and society. But more than that, Waterloo provides a deep and growing pool of highly skilled and uniquely driven talent that companies in the region depend on for their ongoing success.

Number of University of Waterloo **SPINOFF** and
ASSOCIATED COMPANIES in Waterloo Region

Associated company: 45%

162

Level 1 spinoff: 8%

Level 2 spinoff: 47%

29 | 167

*On driving innovation, economic growth
and prosperity “...The University of
Waterloo is acknowledged to be a leading
Canadian example of the positive impact
universities can have in this regard.”*

— PwC

Entrepreneurship has a long history and a bright future at the University of Waterloo. Left to right: Larry Smith, Popy Dimoulas-Graham, Howard Armitage, Alroy Almeida, Mike Kirkup, Hongwei Liu, Tobiasz Dankiewicz, Elizabeth Nenniger, Michael Chiang



*Definition of SPINOFF and
ASSOCIATED COMPANIES*



» **ASSOCIATED COMPANY**

Company that indicated benefit from locating close to University of Waterloo (i.e. to take advantage of critical mass of high skilled talent in and around University of Waterloo).

» **LEVEL 2 SPINOFF COMPANY**

Company created through venturing (i.e. where university faculty launches new company) and/or via contract research.

» **LEVEL 1 SPINOFF COMPANY**

Company created by technology licensed from University of Waterloo, which is consistent with the definition used by Association of University Technology Managers.

University of Waterloo spinoff and associated companies have a **DIVERSE IMPACT ON THE LOCAL ECONOMY:**

INFORMATION AND COMMUNICATIONS TECHNOLOGY

33%

17% each
**CLEAN TECHNOLOGY,
ADVANCED MANUFACTURING,
LIFE SCIENCES**

**DIGITAL
MEDIA
8%**

More than 16,000 University of Waterloo students were enrolled in co-operative education in 2013. Experiential learning is a key focus of the university's new Strategic Plan.

“Benefits of the co-op program relate to the ideas students bring and also the ability to recruit from the University of Waterloo.”

— KURTIS MCBRIDE, CEO and Co-founder, Miovision

leader in innovation, driving change



The findings of the PwC economic impact should come as no surprise to people and businesses that are part of the Waterloo Region Innovation Ecosystem. The University of Waterloo is a wellspring of talented co-op students and graduates, many involved in entrepreneurship, invention and commercialization. The university’s intellectual property policy and wide range of entrepreneurial supports help to enable “the effective transfer of knowledge, know-how and ideas among members of the Waterloo Region Innovation Ecosystem,” and encourage the development of “companies that are important to the materialization of economic impacts.”

The University of Waterloo’s role as an economic engine traces back to 1957 and the decision to make co-operative education a key component of the university experience. It was heresy at the time. Now, the majority of companies in the Innovation Ecosystem employ University of Waterloo graduates and co-op students, and over a quarter depend on the university for more than 75 per cent of their employees.

The University of Waterloo continues to succeed in its mission to drive economic prosperity and improve the human condition.

The Mike & Ophelia Lazaridis Quantum-Nano Centre, which opened in 2012, is home to the Institute for Quantum Computing and the Waterloo Institute for Nanotechnology.

