WATERLOO AT 100 DISCUSSION PAPER

Fall 2022 Consultations

1. Why Waterloo at 100?

The University of Waterloo defied tradition by integrating academic and research excellence with work-integrated learning when it was founded by local community leaders in 1957. In our rapidly changing world, we can honour this legacy by being unconventional again as we imagine a bold future that addresses humanity's most pressing challenges. Waterloo at 100 is an exercise to develop a longer-term vision that will address: *What do we as an institution aspire to become by our 100th anniversary in 2057?*

During the first part of 2022, more than 1,000 people participated in preliminary consultations to develop initial ideas for Waterloo at 100. Students, faculty, staff, alumni, community and external partners shared their ideas about the future of Waterloo. These conversations have helped shape the direction the vision paper will take, which will be released early next year. These engagements form the basis of this discussion paper, which aims to stimulate more contributions to Waterloo at 100 through further consultations this fall.

2. An Evolving Institution in an Evolving World

The University of Waterloo has built a strong reputation for innovation and excellence in a relatively short period. Our founding years were marked by bold approaches to education that were well ahead of their time. Our founders, local community, and industry leaders saw the need to train engineers in a transformative manner to power the local and broader economy. We innovated the nature of learning through cooperative education and stand today as a global leader in work-integrated learning. In the sixties, a faculty uniquely dedicated to mathematics was established with the

foresight to house computer science, which today is internationally renowned for its research and specializations spanning mathematics and beyond. Our Faculty of Environment – the largest in Canada – founded more than fifty years ago adopted from its inception a truly interdisciplinary approach to teaching and research to foster sustainable solutions to the most complex challenges facing our planet. Today, all six faculties lead globally in diverse disciplines such as computer science, electrical and electronic engineering, optometry, psychology, philosophy, accounting and finance, environmental sciences, and recreation and leisure studies.

Over the decades, Waterloo's entrepreneurial spirit continues to grow and deepen, fueled by a distinctive innovation ecosystem that is itself constantly expanding. Students and faculty continue to be drawn to Waterloo because it is a research-intensive university motivated by and addressing challenges in the real world.

However, initial consultations have confirmed that the University must accelerate its evolution to become an institution fit for the future. The global pandemic we continue to weather has driven and exacerbated inequities and challenges in the constantly changing educational and global landscapes around us. Waterloo must work to both maintain excellence in its historic areas of strength while delivering on new directions and solutions desperately needed for our future.

3. A Framework for our Impacts, Strengths, and Differentiators

The Futures Framework is a key component of the Waterloo at 100 vision. It serves to organize and inspire our collaborations, activities, and outputs as we seek to address humanity's greatest challenges. The Framework is based on Waterloo's unique academic and research strengths working in tandem with our network of institutional differentiators: experiential education, entrepreneurship, and fundamental and applied research that's connected.

We need to also remind ourselves of our founding differentiator: a deep connection with the local region and community. The University was founded by local leaders who sought to propel the region's development. A commitment to the local community

enriches each of our other differentiators. Local connections initially powered Waterloo's cooperative education program and today continue to employ thousands of students at any given time. Connections to our surroundings help shape and sustain our entrepreneurial drive. The region and its people provide our researchers with important issues and topics for investigating and solving real-world problems. This connectedness remains a constant work-in-progress, especially as the region continues to evolve with new institutions and networks in academia, research, policymaking, and technology innovation. Into our future, Waterloo can continue to strengthen its reputation and credibility globally with its relevance and leadership locally.

FIVE INTERCONNECTED FUTURES

At the framework's core is the question of how we envision the future of humanity. Five Futures aligned to our present and growing strength areas are outlined, through which our impacts can be made. In developing these futures, we imagine the future for humanity. What will it mean to be human in a world being so rapidly transformed by so many forces?

We begin with a focus on **Societal Futures**, given the intention of asking first about the future of humanity. This focus will be sharpened over time based on existing and new interests shared by a growing proportion of students and scholars concerned for a more human-focused and progressive society for all. Waterloo will learn from and contribute to human and social development in our region where community, family, and personal relations are transforming rapidly.

Waterloo's deepening experiences in supporting **Sustainable Futures** follows, given our aspiration to be positioned as leaders in education, research and application as important to advancing society. Today, much of the teaching, inquiry, and outreach taking place through our faculties and research centres and institutes focus on understanding and contributing to sustainability and the connections to be strengthened between a more sustainable environment and resilient economy. Of note are catalytic projects like the Sustainable Futures Initiative launched this year. The

Initiative is making possible discovery and application at the intersection of energy, climate, and water.

Health Futures represents another key application area for Waterloo. As with Sustainable Futures, the University's educational, research, and innovation activities focused on health directly and indirectly will continue and grow significantly into the decades ahead. Today, we are leaders in areas such as population and public health and aging in the community. Through our Innovation Arena developed in partnership with the City of Kitchener, Waterloo is defining today how the decades ahead will unfold. The Arena will house and leverage collaborations that turn novel ideas into breakthroughs that improve individual and societal health. These impacts align with Waterloo's goal to lead nationally and globally at the interface of health, society, and technology, particularly through the development and dissemination of digital and virtual care tools.

Technological Futures at Waterloo is a key thrust and a necessary driver for other areas – such as sustainability and health – to flourish. The University already boasts an impressive command in developing and applying technologies. Our achievements into the future in areas such as artificial intelligence, robotics, and nano- and quantum technologies will continue to evolve with more deliberate focus on defining what socially responsible technology looks like. In always appreciating a long-term view, these advancements will be furthered through our relentless commitment to fundamental research. We know from our experience that a commitment to fundamental science and research leads to the advancement of understanding of our ourselves, our planet, and our cosmos, and to enable the ongoing development of technologies we cannot imagine today.

Finally, we can commit the years and decades ahead to building **Economic Futures** – a fundamental driver to resource and sustain the desired outcomes across all Futures. Our future requires us to ensure our society generates greater resources and wealth in an equitable manner if we are to address the interrelated challenges before us. Put simply, we must help our nation address its productivity gap. At Waterloo, our strengths in technology complement a pervasive model of business and entrepreneurial education

and supports for learners and faculty alike. We observe how this dynamic model is responsible for Waterloo's ability to spur innovation in all spheres of human endeavor. Co-op at Waterloo and other modalities in experiential education endow us with insights and partnerships in industry, government, and civil society, enriching our innovation capability. Through scholarship and thought leadership on innovation and entrepreneurship we can significantly enhance our role in shaping a stronger, more productive, resilient, and inclusive economy in Canada and the world.

These five futures are all interconnected – it is at the intersections amongst the futures and building on our differentiators that we truly have opportunities to lead globally.

4. Our Journey to 2057

In our consultations, many expressed their appreciation for the capacity of the Futures Framework to be an organizing device that brings greater coordination to the outstanding efforts and activities of various groups within and connected to the University. At the same time, we heard from many who commented on the need for the institution to continue to evolve through innovation and improvements if it expects to make the impacts we desire.

What follows are the suggestions and ideas that came forward to help shape our evolving institution. These are organized into three 'forecasts' for our journey to 2057. Many of the ideas reinforce recommendations from reports and studies commissioned in the recent past to guide student success, campus wellness, strategic planning, and institutional performance.

The concept of three forecasts – Graduates, Knowledge, and Campus – aligns well to our current strategic plan, Connecting Imagination with Impact. These forecasts can serve as longer-term horizons for present and future strategic initiatives under the plan with its three themes of Developing Talent, Advancing Research, and Strengthening Community. The ideas presented combine those that help broaden and extend the work of our strategic initiatives today as well as signal new opportunities and intersections through which activities might be developed to address existing and emerging needs.

Indeed, there is great potential for a well-developed vision to confidently steer a broad range of initiatives that collectively help define the University's future.

Graduates 2057	Knowledge 2057	Campus 2057
1. with distinctive attributes 2. thinking and acting at intersections 3. develop and work with transformational tech 4. learning about oneself 5. who never stop learning	1. grows with collaborations 2. trusted publicly 3. mobilized through commercialization and policy 4. interdisciplinary 5. ...that counts	1. leading in Indigeneity and inclusivity 2. accessible 3. sustainable 4. transformational for its engagement 5. ...where change starts

GRADUATES 2057

Our students from 35 years ago are today's leaders and changemakers. The same will be said of today's students in 2057. What will be the characteristics of Waterloo's alumni in 2057? How will their leadership drive positive change?

1. **Graduates with distinctive attributes reflecting a Waterloo education** including, to name a few: (1) placing humanity and equity at the centre of inquiry, design, and action; (2) globally minded citizens; those who can act locally and who seek to adapt and refine their actions based on implications felt at home and abroad; and (3) leaders with an entrepreneurial spirit to drive change, communicate, take risks, and make positive impacts across all sectors in society.

2. **Graduates who discover, think, and act at intersections**. Our challenges now and in the future demand improvements and solutions by those who can produce new knowledge, integrate knowledge, and devise applications across and between traditionally defined fields and disciplines.

3. **Graduates who can develop or work with new and emerging transformational technologies** to investigate and solve problems spanning all areas of human endeavor, from social governance to digital cities.

4. **Graduates who have learned deeply and holistically about themselves**, the diversity of others around them, and the pluralist world they will impact. Learning and student engagement are to be transformative activities that integrate academic learning and student development. The former is not restricted to

academic programming nor is the latter separate from classroom learning. In this regard, health and wellness are priorities to bettering oneself and society.

5. **Graduates who never stop learning**, because fueling an inquiring mind and professional and personal development are already pursuits deemed necessary over the duration of one's life. Waterloo can become a place for open and flexible learning for our alumni and others around the world who seek to refresh and gain new knowledge and skills to navigate a dynamic future of work, technology, and transformations across society. As our alumni advance a better world through their conviction for continuous learning, they will constantly re-shape and improve their alma mater through myriad contributions and engagements over their lifetime.

KNOWLEDGE 2057

Knowledge production, dissemination, application, and mobilization exist in an interdependent system befitting the trusted leadership role universities must play in upholding the knowledge society of the 21st century. By our 100th anniversary, how will knowledge we generate, preserve, collate, and diffuse advance humanity?

1. **Knowledge that grows with collaborative relationships**, including: (1) co-op students looping back to the Academy insights from external partners and the community to shape education, research, and service; (2) with the region's businesses, government, and civil society organizations who go further and faster with Waterloo to test and apply solutions leading to greater prosperity for all; (3) our local stakeholders in health service delivery and sustainability, co-producing with them new business models for equitable health outcomes and a net-zero future; (4) research partnerships between and beyond universities; and (5) widely known processes and incentives for cross-departmental, cross-faculty, and cross-institutional proposals and activities.

2. **Knowledge that is trusted in physical and digital public spheres**. Scholars and students alike who proactively combat disinformation and polarization, capable of translating evidence and perspectives to inform and shape public opinion and policy making. This knowledge is also an outcome of fundamental inquiry and innovation with its capacity to open and broaden new perspectives and opportunities for the public good.

3. **Knowledge that is mobilized responsibly through commercialization and policy innovation**. Because entrepreneurship is in Waterloo's DNA, the future of our knowledge will necessarily be scaled to benefit society. This

knowledge can be mobilized with an expanded spirit of entrepreneurship that drives a mindset to innovate change and challenge the status quo where it is failing to make possible progress for all. In this respect, both commercialization and policy and program impact become effective avenues.

4. **Knowledge that is increasingly interdisciplinary and modular**. Waterloo will advance open and modular learning for our graduates and the world because learning never stops. Where appropriate within traditional undergraduate education, Waterloo can explore the development of a core curriculum that encourages foundational skills, networking, and interdisciplinarity across the humanities, arts, and social and natural sciences. This would be followed by flexibly arranged immersion in disciplines for mastery, critical thinking, and intellectual independence.

5. **Knowledge that counts rather than being counted**. Traditional metrics leaning on the volume of scholarship should evolve to give way to research that matters by making positive changes in society. Knowledge at Waterloo will continue to count by being outward facing, while continuing our commitments to fundamental science and scholarship. In addition to knowledge that knows no boundaries, Waterloo can be known globally for capacity to act locally in addressing our biggest challenges.

CAMPUS 2057

We must aim to improve quality of life for those in our community on our campus and beyond. The campus of 2057 should reflect what we envision for society both through in-person and remote interactions. What is our vision today for our campus of the future?

1. **A campus that leads on Indigeneity and inclusivity** modelling for the sector and society the policies, procedures, programs, and infrastructure that define a decolonized institution, one that assertively removes barriers for groups traditionally facing discrimination and injustice. An innovation mentality should be applied to resolve equity concerns. Waterloo's community of students, faculty, staff, and governance will mirror Canada's diversity doing so always based on merit. Inclusivity will give way to pluralist exchange and belonging whilst celebrating difference.

2. **An accessible campus – economically, physically, and digitally**. To attract the most meritorious and well-rounded in society and enhance diversity on campus, Waterloo will facilitate supports for students in need both here and abroad to access an excellent education. New and existing buildings and infrastructure will be fully accessible to our community and visitors of all abilities, backgrounds, and orientations. Waterloo's future will be one that thrives in the appropriate design, curation, sharing of and access to online and digital modes and resources for working, teaching, learning, and research. To constantly improve accessibility and institutional performance, our data should be leveraged as a strategic resource for informed decision making.

3. **A sustainable campus – environmentally and financially**. We will: (1) fulfil our obligations for carbon neutrality as per *Shift:*Neutral targets; (2) become an exemplar for others in sustainability through community and industry engagement and empowerment, research, and innovation; (3) establish diverse funding and support including from philanthropy aligned with our vision to realize a future for all of humanity; and (4) incentivize collective and interdisciplinary approaches to teaching and learning across faculties, research, innovation, and service.

4. **A campus that transforms how we engage**. Universities develop the whole person and create meaningful belonging that endures beyond graduation. Waterloo will match rigor of academics with a deep sense of care for its people, delivering on the value of engaged interaction to deepen learning, inquiry, and work while leveraging digital technologies, pedagogies, and services to complement an excellent experience. We will extend our care, engaged interaction, and services to substantiate the alumni experience.

5. **A campus where change starts here**. Where we embrace our own knowledge resources to constantly make better design decisions and improvements to infrastructure and the campus experience. Tapping the outstanding knowledge produced at Waterloo so it seeds ideas, practices, and facilities that help future-proof our campus and where everyone thrives.

5. Discussion

Since our unconventional founding 65 years ago, the University of Waterloo has developed into a remarkable institution. And the impacts from being unconventional have followed in all aspects of our mission. Waterloo at 100 is ultimately about setting a vision for the next 35 years and beyond that will help guide our highest aspirations and priorities to ensure the University continues to evolve, innovate, and make significant impacts to humanity's greatest challenges.

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The questions below are provided to support discussion, input, and feedback on the Waterloo at 100 visioning work underway. Of course, your own questions and comments are welcome and encouraged to enrich our engagements and consultations over the fall term.

1. Waterloo innovated how learning is defined through co-op education. What could be Waterloo's next institutional innovations that enable the kind of future desired in Waterloo at 100?

2. How can Waterloo refine and reshape the way we approach and make education, learning, and research meaningful? Which technologies might serve our goals for relevance, access, and impact?

3. With respects to the five interconnected Futures for impacts in society, sustainability, health, technology, and the economy, what strategies and initiatives can we implement to help address the most pressing challenges today and into the future?

4. How and where can our values be refined and made more reflective of the emergent Waterloo at 100 vision?

5. What should we prioritize from among the aspirations in Waterloo at 100? What can be done in the short term to achieve early gains?

6. For many of the impacts we desire, our institution will need to evolve its management and operational culture. Where can changes be made to ensure success?

7. How will the institution measure progress and describe and recognize impact? Doing so should address the full range of activities at Waterloo, from institutional activities to contributions by our faculty, staff, students, and alumni.

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