Brock University Research Enterprise Strategic Plan
Implementation plan for strategic priority: Build Research Capacity Across the University

A. Introduction: The Brock research enterprise

The Office of the Vice-President, Research, oversees and facilitates research operations, facilitation, governance, and strategic planning for Brock University. The research enterprise encompasses a wide range research, scholarship, and creative activities, each requiring its own forms of support, and each with connections to teaching and learning, to research impact, and to engagement with non-academic partners. Both the University overall as a research institution and specific types of research activity are moreover subject to various compliance requirements set by external agencies and legal frameworks. The administrative units reporting into the Office of the Vice-President, Research, collectively support this wide range of scholarly activities and partnerships, assisting researchers in finding resources and in conducting inquiry within requirements of reportage and ethics guidelines.

The Office of the VPR currently comprises the Vice-President, Research and the Associate Vice-President, Research, as well as key staff support in financial management, strategic initiatives, equity, diversity and inclusion, and office management. Reporting into the Office are four main research facilitation units:

- Office of Research Services, responsible for grant facilitation, research grant accounting, and commercial and industrial research partnerships;
- Brock LINC, leading and coordinating Brock University's innovation, entrepreneurship and applied research ecosystems;
- Office of Research Ethics, facilitating the work of Brock University's Research Ethics Boards under the auspices of TCPS2, the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans;
- Animal Care Services, supporting the ethical and scientifically sound care and use of animals in research at Brock University, and liaising with the Animal Care Committee.

Complementing these units and functions are the research administrators and service providers housed within Faculties, Centres, Institutes, and other units such as the Library, Facilities Management, Human Rights and Equity, Advancement and Alumni Affairs, and Government Relations. Collectively these colleagues and groups facilitate research, scholarship, and creative activity across the university, support the infrastructure that enables it, provide training and policy guidance for researchers, and help broker and sustain community, government, and industry relations that enable Brock research to have their greatest impact and significance. These complementary units are in many cases subsumed under their own strategic plans, or the plans of other units.

BrockLINC is set to come online in 2019-20, a set of programs emphasizing innovation, creativity, entrepreneurship, and community integration. LINC programming and activities use the lens of innovation and entrepreneurship to view the intersection of two deep strengths at Brock: transdisciplinary research, and experiential learning. Through training and mentorship in areas ranging across digital scholarship, IP development, prototyping, AR/VR marketing, business development, intrapreneurship, and startup culture, the LINC invites students from all academic programs, as well as community members, into applied research and creative problem-solving. It will moreover serve as an incubator seeding Niagara's innovation ecosystem with promising small and medium enterprises.

B. Background and context

Brock University has pursued a goal of research intensification for the better part of two decades. That project has advanced with stunning rapidity in many respects, and more slowly in other respects. By hiring faculty members with outstanding scholarly and creative programs and strong research ambitions, including a cadre of world-class Canada Research Chairs, the University has established itself as a major centre of excellence in inquiry and graduate training. Its researchers have also been highly successful in developing partnerships with community groups, industry partners, and other research institutions. Some bold, ambitious strategic initiatives have had a significant impact on the institution, including the Transdisciplinary Institutes project, which invested five million dollars in five major research institutes over six years. This investment, along with support of existing industry- and community- engaged institutes, had a significant influence on research activity, building scholarly connections across Faculties, and strengthening connections and partnerships between the University and business and agencies in the Niagara Region and beyond.

At the same time, some challenges remain. The university has built and refined its human and physical infrastructure to support this dramatic increase in scholarly activity; the construction of the Cairns research facility is one clear example. Overall this infrastructure has not always kept pace with the intensification of research activity, however, and the organizational support elements that did grow up around research intensification have in some cases been localized and dispersed around the University, limiting their capacity to foster growth campus-wide. Institutional policy and internal practices have not always been aligned with the changes in institutional research activity. Research considerations in some respects are not yet fully synthesized into processes, planning, strategies, and relationships on campus. Research facilitation has sometimes been an afterthought to decision-making, resourcing, and university governance. Nor has the remarkable research depth and breadth that has developed at Brock University been effectively celebrated, promoted, and recognized in university rankings and in the public imagination. Each of these challenges represents an opportunity to meet Brock's aspirations over the term of the integrated strategic plan, through the actions identified in the plan and through the implementations identified within Research Enterprise Strategic Plan.

C. Environmental scan

Brock University research includes scientific inquiry, scholarship, policy development, community engagement, and creative activity spanning literature, film, music, theatre, and fine arts. Brock researchers' works have been cited in academic literature over 30,000 times in the past five years, with 665 new publications appearing in 2018 alone, while performance-based researchers in the Marilyn I. Walker School staged over 70 events in 2018. The range and diversity of research types and forms of excellence is a sign of Brock's rich culture and strong prospects.

Brock is home to more than twenty centres and institutes with research in their mandates, many of them facilitated by dedicated staff housed within the unit. From 2012-2018, five of these institutes were supported as Transdisciplinary Hubs, specially enfranchised to grow transdisciplinary research within the Brock community and to continue the University's trajectory of research intensification. The University's Tri-Agency grant revenue intake was approximately $6.4 million in 2018. (This excludes Canada Research Chair funding that varies significantly depending on whether Chairs are filled in a given year.) This amount has climbed from roughly $5.6 million in 2015. Total research revenue in 2018-19 was $16.2 million.

Brock has made considerable progress in forging research partnerships with industry and businesses. The Office of Research has facilitated 31 patents filed or granted since 2006, with 7 new disclosures or copyrights in 2018-19. Since 2010 these patents have generated over $800K in gross revenues. Over the same time period, the University has facilitated over 220 research partnerships, with more than 160 students trained in joint academic research and industrial settings.

In 2018, Brock was awarded two additional Canada Research Chairs, both for health-focused research (CIHR). This brings the total allocation of CRCs to thirteen. Currently, several of these positions are open with recruiting processes under way. At the same time, Brock has worked to devise and implement its Equity, Diversity, and Inclusion plan for the Canada Research Chairs program. An initial draft plan was posted in December 2017, with revisions made through 2018-19 on the basis of dialogue and review by the federal Tri-Agency CRC Secretariat. The VPR's Office is confident that the revised EDI plan is a good fit with Secretariat guidelines, and represents Brock's institutional values surrounding fairness, excellence, and a just academy.

D. Consultation process

The Research Enterprise Strategic Plan (RESP) holds an unusual position among the university's strategic unit plans. In part this is because no single unit facilitates the RESP; rather, a range of distinct support units report to the Vice-President, Research, while other key research supports are distributed across Faculties, departments, centres, institutes, and other central organizations. Moreover, Research itself is one of four main pillars of the overall Strategic Plan. The aspects of the RESP that are drawn from the main Brock University Strategic Plan were based on the consultation process for the university plan itself. The strategic planning elements unique to the RESP were drawn from extensive consultations with scholars, research support staff, and research administrators.

A survey of recent and legacy strategic documents with research elements generated a list of past priorities, objectives, and values. Beginning in the spring of 2018, this list was circulated to the research community (including research enterprise staff members) via the Associate Deans Research and the Vice-President Research, with a request for feedback on whether these items continued to reflect Brock's thinking on its research aspirations, and whether new items should be added or old ones pruned away. On the basis of this feedback, the ADRs Group created a draft set of strategic objectives and implementations, which was again sent back to the research community for review and feedback. The plan was again revised on the basis of this feedback, with Senate routinely informed kept of the progress of this process.

The results of this planning process form a schematic implementation plan for the Brock University Strategic Plan priority item *Build Research Capacity Across the University*. In the RESP, the goals and actions associated with this core priority are complemented by thematic areas under which multiple intended outcomes are described, along with likely implementations that will guide the research enterprise and serve as benchmarks over the life of the Strategic Plan. This is a living document, intended to be sensitive to new opportunities and to changes in the wider research ecosystem, to which Brock will need to be responsive. It represents a collective view and aspirations of researchers and staff from across Brock, as aggregated via the consultation processes.

E. Research Enterprise Strategic Plan: *Build Research Capacity Across the University*

Brock University is home to research that encompasses excellence in innovation, creativity, scholarship, and scientific discovery. This research has profound impact on Niagara Region and the entire world, in forms that include important theoretical knowledge and understanding, commercial and economic benefits, evidence-based policy and practices, and artistic and cultural insight. Brock researchers engage in mutually supportive collaborations within the university, and across universities; within the academy, and with private partners in industry and the non-profit sectors; between peers, and as part of mentorship and training partnerships with students and post-doctoral researchers.

A research-intensive institution with recognized strength in integrating disciplinary perspectives and partnering across sectors, Brock University will adopt a series of strategic approaches to its goal of achieving a new level of capacity and intensity in research excellence, research impact, and research training.

I. Goal: Nurture a culture of research and creative excellence.

Actions:
• Integrate research, knowledge, and creative values and processes into policy, governance and administration, and create a culture aimed at output, uptake and impact.
• Grow application rates, success rates and overall income for grant applications.
• Enhance recruitment of excellent graduate students, post-doctoral researchers and visiting scholars, within Canada and internationally.
• Connect research and scholarly activities conducted by members of the Brock community to global issues.
• Explore expanded undergraduate research and creativity opportunities.

Implementation themes and intended outcomes to include such elements as:

a. Intensity: *Increase research activity, creation, funding, training, impact, and recognition.*

Through deliberate investment, graduate program development, and excellence in faculty and research staff hiring, Brock University has greatly increased its research intensity in every respect over the past decade. From this strong basis of growth, Brock will enter a new phase of research intensification across all categories of activity.

Outcome: Increase the application rates, success rates, and overall income for grant applications
Implementations:
- Develop action plans for grant application rates, based on Faculty and departmental strategic plans and regular consultation.
- Research staff and ADRs jointly facilitate grant application mentorship and grant-writing support groups.
- Identify significant grant opportunities that strategic investment can help secure.
- Promote and support scholarly and graduate training work that maximizes grant-winning prospects.
- Sustain a campus conversation about the value of researcher grants in supporting students, creating shared infrastructure, and generating a research culture and emergent benefits for all scholars.

- Emphasize the eligibility and support for grant applications from post-doctoral fellows and other research affiliates of the university.
- Encourage and celebrate service on grant council adjudication committees.

Outcome: Diversification of sources of research funding
Implementations:
- Support private and industrial partnerships in research.
- Emphasize information sources and application resources for a wide range of funding opportunities; e.g., Pivot subscription.
- Enhance and regularize the links between Government Relations, Community and Research offices, to promote government, industry, and community-engaged research opportunities beyond the Tri-Agency.

Outcome: Increase internal research funding supports and small grants
Implementation:
- Increase external research grant funding and research-related revenue generation; research overhead to support investment in internal research funding allocations and infrastructure.
- Dedicate funding to support reapplications for unfunded grant applicants.
- Ensure follow-up on commitments to submit external grant applications, conditional on internal funding programs.

Outcome: Enhance international research activity
Implementations:
- Streamline and prioritize relations between Brock International and Brock Research.
- Dedicate seed funding to supporting promising international research partnerships.
- Track international partnerships and foster best practices and advice for success.
- Review and streamline processes for attracting and affiliating international research visitors and post-doctoral fellows.

Outcome: Increase the number and improve the experience of visiting researchers at Brock University.
Implementation:
- Regularize and streamline post-doctoral appointment processes.
- Create clear and user-friendly guidelines for appointing visiting scholars.
- Promote shared knowledge of how to foster successful post-doctoral experiences at Brock.
- Celebrate the research successes of post-doctoral researchers.
- Maintain scholarly relations and partnerships with former post-doctoral researchers, including by providing Brock email addresses beyond the conclusion of their research appointments.

b. Integration: *Strengthen and emphasize research in its connections to every aspect of Brock University.*

As one half of the core mission that animates a comprehensive university, research should inform, respond to, and be accommodated by virtually all activities, practices, regulations, norms, and aspirations of the university. Brock will focus on integrating research with all institutional elements, in a way that befits the increasingly research-intensive university it aspires to be.

Outcome: Integrate research, governance, and administration.
Implementation:

- Continue building research norms and priorities into university operations.
- Regularize meetings and set specific goals for work between VPR or research staff and offices of Secretariat, government relations, community relations, graduate and undergraduate recruitment, major governance committees.
- Develop fiscal framework and budgeting process for resource allocation that appropriately reflects the importance of research to Brock University's mission.

Outcome: Integrate research and teaching via experiential education.
Implementation:
- Develop and promote curricular programming that integrates research activity into teaching and learning.
- Develop and promote elements of co-curricular and work-integrated learning that are continuous with research methods and practices.

Outcome: Integrate entrepreneurship, creativity, and innovation opportunities from student, faculty, and community-based research into the scholarly and educational operations across campus and across Niagara.
- Design, build, and resource BrockLINC programming and infrastructure to be a hub of entrepreneurship training, intellectual property development, and commercialization opportunity.
- Enhance the recognition and credentialing associated with research- and innovation-specific training across campus.

Outcome: Integrate research into core institutional branding and messaging
Implementation:
- Celebrate research successes and scholarly accomplishment internally.
- Formalize and regularize working relationships, with specific goals, between VPR/ORS and offices of marketing, communications, branding, and advancement.

Outcome: Clearly integrate research revenues and expenditures into responsibility-based budgeting model.
Implementation:
- Undertake historical analysis of revenue sources and expenditures.
- Regularize information-sharing between Office of Research Services, Finance, and Institutional Analysis to enable accurate automatic report generation.

c. Culture: *Deepen the culture of scholarship, creativity, discovery, and innovation at Brock University.*

Brock University has rapidly evolved into a research-intensive and graduate-intensive institution. Its policies, structures, attitudes, and practices have generally adapted to accommodate these changes, and should continue to do so. The University's aspirations as a research-intensive institution will involve further changes, shaping the university all the way from its daily routines to its high-level commitments in order to more clearly place research at the heart of Brock's institutional mission. The integration of teaching with research, the increased normalization of research accomplishment and activity, and emphasis on the importance of research in governance structure and procedures are some ways in which an institution can weave a culture of research into its every aspect.

Outcome: Support an informed pluralistic understanding of research diversity across the campus community.

Implementation:
- Foster a sustained internal conversation about scholarly norms and various forms of excellence in distinct fields and sub-fields.
- Ensure that excellence in research (scholarly/creative) work is supported in all forms.

Outcome: Promote the scholarly norm of consistent research activity as the default expectation for faculty members.
Implementation:
- Provide on-boarding and mentorship of junior faculty members that emphasizes the expected research intensity of Brock University, as appropriately implemented in their field or department.
- Offer dedicated resources to mid-career and senior researchers to plan for expanding research programs.

Outcome: Enhance collegial involvement and academic-driven oversight and engagement with research administration.
Implementation:
- Coordinate activities between Animal Care users, the Animal Care Committee, and research staff and administration, emphasizing the role of researchers themselves in ensuring the highest standards of research and care.
- Coordinate a grassroots involvement of researchers involved in REB-based inquiry, in facilitating the operations of ethics boards.

II. Goal: Invest in research infrastructure and support to ensure sustainable and accessible research services for the Brock scholarly community.

Actions:
• Identify and invest in strategic initiatives with the greatest potential to enhance Brock's research intensity.
• Integrate research and experiential education, in part by developing BrockLINC's capacity to enhance student innovation, entrepreneurship, research and commercialization.
• Invest strategically in major research tools and associated infrastructure.
• Increase internal research funding supports and small grants.

Implementation themes and intended outcomes to include such elements as:

a. Infrastructure: *Develop strategies to ensure that critical research infrastructure is acquired, maintained, and efficiently used.*

Scholarship, creativity, discovery, and innovation typically require expert support staff, specialized research tools, including digital tools, and research space. Often these research tools represent considerable expenses in acquisition, training, housing, maintenance, and facilitation. Accessing the resources to provide this infrastructure requires strategic thinking, awareness of opportunities for

special grants or private partnerships, and significant institutional investments. In turn, ensuring that the investments have the greatest intended effect on research intensity requires careful planning and an institution-first ethos of collaboration.

Outcome: Ensure that the Library is appropriately resourced and staffed to support research infrastructure.
Implementation:
- Develop the Library as a partner in innovative research practices and techniques, enabling Brock to adapt to the changing scholarly, technological, and communicative environment.
- Support the Library in its endeavor to build, make available, and preserve appropriate research collections.
- Support and promote the research functions of the Library's digital infrastructure, including Digital Repository, Digital Preservation, Discovery Tools, and Research Data Management Tools.

Outcome: Invest strategically in major research tools and associated infrastructure.
Implementations:
- Take advantage of opportunities for major public grants and private partnerships to secure key research tools and infrastructure.
- Track and evaluate the wider research funding context to determine the best sources of support for key infrastructure.
- Consider alternative funding and usage models to keep tools and equipment on the technological cutting edge.

Outcome: Optimize institutional benefits of research infrastructure.
Implementations:
- Ensure maximum researcher access to infrastructure that may be shared among users.
- Support infrastructure and training linked to novel research methods and techniques.
- Foster LINC programming and space as key elements of research, innovation, and partnership development infrastructure at Brock University.

b. Operations: *Strengthen, rationalize, and update the administrative and procedural support for research at Broc*k.

The research enterprise at Brock has grown dramatically over the past decade and more, to the point that its supporting infrastructure is stretched, or evolving in place without adequate planning. This growth in research intensity is only going to increase, and far more rapidly, in the coming years. In order for this to happen, the research support infrastructure – staffing, support units, policies, practices – that facilitate research need to be reviewed and developed through investment, training, and efficient organization. We will start now in building the expert, responsive, and scalable research support infrastructure that will characterize Brock in ten years.

Outcome: Ensure strong staff support for the research enterprise
Implementation:
- Prioritize research appropriately in institutional staff planning.
- Invest in professional development and mentorship opportunities for research staff.
- Foster and maintain an environment of innovation and creativity in research services.
- Ensure organizational structures that enable staff to make their strongest contributions.

- Ensure sufficient staff capacity, with strong organizational, educational, editing, and grant-writing skills, to increase the number, kind, size, and impact of our research grants and projects.

Outcome: Ensure regulatory compliance support in research that is recognized as promoting excellence, protecting researchers and the institution from risks of breach, without blocking the path of inquiry.
Implementation:
- Review and optimize policies and practices of Research Ethics Boards
- Conduct workshops and provide other resources to inform researchers about the role and obligations of REBs
- Inaugurate a system of Responsible Conduct of Research training opportunities.
- Foster an ongoing campus conversation about rationales and processes for research finance procedures.
- Ensure well-managed and secure operational systems for biosafety and hazardous materials research.
- Streamline administrative processes and simplify them where due diligence permits.

Outcome: Ensure rationalized, sustainable, and accessible research services for the Brock scholarly community.
Implementation:
- Review the structural organization of research services distributed across the University to ensure appropriate resourcing, reporting, and planning.
- Review existing research support programs, including internal awards and honours, to ensure a sustainable workload associated with their administration.
- Modernize ORS processes, especially through the addition of an enterprise system for grants management and ethics review.
- Route research support queries and information through an internal portal system to free staff to focus on working directly with researchers in grant development.

c. Accessibility: *Embracing equity, diversity, and inclusion as core research values*

The strength of research, and of a research institution, is in its openness to contributors and practitioners of diverse insights, backgrounds, skills, and perspectives. The inequities and closed doors of broader society have often held back a true culture of inquiry and scholarship. Explicit policies and practices, focused on outcomes rather than good intentions, will help Brock develop a research culture open to reconciliation and decolonization, a culture welcoming to and safe for vulnerable and equity-seeking groups, in promoting not only a just and fair institution, but one that achieves excellence through the strength of all its members.

Outcome: Ensure equitable access and representative outcomes in the appointment of Canada Research Chairs at Brock University, in keeping with the Equity, Diversity, and Inclusion guidelines of the CRC Secretariat.
Implementation:
- Develop, support, and refine an effective and consultative EDI Action Plan focused on achieving mandated EDI targets and promoting hiring, workplace, and academic practices for successful recruitment, retention, and research success of a diverse range of Chairs, including from traditionally underrepresented and equity-seeking groups.

Outcome: Foster an understanding of the role of research in all domains as essential to reconciliation and decolonization at Brock University.
Implementation:
- Formalize or regularize connections between Vice-President, Research, and Vice-Provost, Indigenous Engagement, setting specific goals for action.
- Work with Indigenous representatives and community members to develop resources for researchers on ways to integrate academic inquiry with reconciliation and decolonization.

Outcome: Promote fair and equitable access to research resources and opportunity at Brock University.
Implementation:
- Collaborate with Office of Human Rights and Equity to ensure effective anti-bias resources for scholarly evaluation/assessment committees.
- Regularly review formal procedures and outcomes of research resource distribution to assess the effectiveness of equity-promoting strategies.

III. Goal: Enhance transdisciplinary research and high-impact research practices.

Actions:
• Support collaborative research activity across disciplines and academic institutions, as well as non-academic partners.
• Build on Brock's institutional experience of transdisciplinary research.
• Enhance and promote awareness of transdisciplinary, impact-focused, and problems-based research.
• Develop and promote areas of strategic focus on research, balancing specialization with diversity in strategic research development.

Implementation themes and intended outcomes to include such elements as:

a. Experience: *Integrate research with experiential learning and collegial mentorship.*

Students at Brock enjoy experiential education that deepens their understanding, enhancing their learning, and helps them apply their knowledge to the world around them. Research training can be one of the core elements of experiential learning; mentorship in scholarly and creative practices is an indispensable element of training the next generation of Canada's creators, innovators, scientists and scholars. Similarly, researchers themselves learn from one another and develop as scholars through collegial mentorship and collaboration. By planning and investing in these relations and practices, Brock can take its leadership in experiential learning and research to new level of accomplishment.

Outcome: Promote research-focused experiential learning
Implementation:
- Expand the number and kind of opportunities for research-based student employment.
- Review curricular and co-curricular options for enhancing the experiential learning elements of research, and emphasizing the existing elements in current practices.

Outcome: Develop and grow programming for the LINC that integrates research and innovation with teaching and learning
Implementation:

- Develop operational planning for the LINC
- Ensure appropriate staffing and resourcing for LINC activities
- Inaugurate credentialing for LINC participants through appropriate curricular or co-curricular pathways.

Outcome: Increase researcher mentorship opportunities
Implementation:
- Expand the number and kind of opportunities for research-based student employment.
- Organize and support collegial mentorship practices between researchers.

b. Impact: *Celebrate and enhance the difference-making features of Brock research*

Research fundamentally aims to make a difference. Within a discipline, across disciplines, through community engagement, via commercialization and the marketplace, through new policies and practices, or through popular media, research has intended outcomes, and succeeds best when these outcomes are achieved. At Brock University we will continue to challenge ourselves to national and international academic leadership with respect to supporting research that has strong impact, and is recognized for the differences it makes.

Outcome: Support and facilitate research as an activity aiming at intended outcomes.
Implementation:
- Adopt a full conception-to-impact model of the scope of research and review the types of facilitation apt to sustain the enterprise at every stage.
- Provide training and mentorship for researchers in methods of promoting the uptake, accessibility, and application of research, scholarship, and creation/performance.
- Support open scholarship, including open access publication and alternative dissemination of results, as key drivers of the accessibility and uptake of research.

Outcome: Increase the volume, diversity, and impact of commercialized IP and innovation.
Implementation:
- Develop a broad understanding the prospects for commercial development of research in all fields.
- Ensure IP development and marketing expertise, and staff support for commercialization of innovations.
- Support student, researcher, and community partner opportunities to create, prototype, test, and commercialize their ideas.

Outcome: Ensure the institutional messaging, branding, and communications reflect the full range of impacts characterizing Brock research.
Implementation:
- Conduct a general 360-degree review of teaching, service, community engagement, and institutional life to assess the effects of the research enterprise.
- Maintain database of research impacts, in the broadest sense, for use in Marketing and Communications, Advancement, and Government Relations.

Outcome: Increase activity and reputation for community-engaged research.
Implementation:

- Identify, support, and scale-up successful community engagement practices already existing at Brock.
- Canvass best practices for community-engaged research not currently in use at Brock.
- Celebrate successes in community-engaged research.
- Seek the widest range of grant supports available to support community-engaged research.

c. Transdisciplinarity: *Expand Brock University's commitment to transdisciplinary research, and ensure that Brock is recognized nationally and internationally for its leadership in this domain.*

Practical and intellectual problems are typically sprawling affairs that do not shape themselves to the artificial boundaries between disciplines. Brock University has taken this seriously by explicitly adopting transdisciplinarity as a key research strategy. This approach respects the proven role of disciplinary research in grounding expertise, generating knowledge, and supporting creativity. Leaders in disciplinary research and creativity collaborate with colleagues across the academy, and with communities beyond the academy, focusing on whole problems rather than disciplinary fragments. By following the path of inquiry where it leads, Brock University scholars will be crucially positioned to deliver new knowledge, perspectives, collaborations, and high-impact research.

Outcome: Increase collaborative research activity across disciplines.
Implementation:
- Review outcomes of the Transdisciplinary Research Hubs and apply generalizable models of collaboration.
- Expand the breadth and membership of existing research centres and institutes, as appropriate.
- Capitalize on strategic opportunities to establish connections between related research projects; for example, by seeking Canada Research Chairs in mutually supporting themes.
- Foster an effective, engaged Associate Deans Research Group, to encourage cross-Faculty communication and planning research opportunities and operations.

Outcome: Support transdisciplinarity as problems-based research.
Implementation:
- Ensure well-staffed and effective operations of Commercialization, Business Development, and Community Relations as research relationship-building with non-academic partners.
- Inaugurate the LINC as a hub of innovative, entrepreneurial, creative research activity.
- Strategically seek special project funding for dedicated research themes, both within and without the Tri-Agency framework.

Outcome: Take a leadership position in transdisciplinary research, nationally and internationally.
Implementation:
- Promote Brock's existing track record of leading transdisciplinary research.
- Develop a communications strategy to attract, promote, and celebrate transdisciplinary researchers, funding, outputs, and impact.
- Support transdisciplinary research initiatives as appropriate.

IV. Goal: Build awareness of Brock University as a centre of research excellence.

Actions:

• Promote awareness of Brock as a research, training and mentorship destination for excellent graduate students and
postdoctoral researchers.
• Enhance international research activity and partnerships.
• Create strategies and practices for the celebration and recognition of scholarly accomplishments of research faculty, students, visiting researchers and staff.
• Facilitate global knowledge exchange by participating in and hosting international symposia.
• Highlight the global impact of research and scholarly activities conducted by members of the Brock community.

Implementation themes and intended outcomes to include such elements as:

a. Reputation*: Develop effective methods of promoting Brock University's reputation as a centre of excellence in research.*

Reputation is a proxy for concrete factors of great significance for a research institution. A strong research reputation is essential to the success of Brock University in securing grant funding, developing industry collaborations, recruiting excellent colleagues and students, inspiring donors, creating international research partnerships, and advancing strong career opportunities for graduates. Recent work by both Senate and Senior Administration committees on reputation rankings have generated promising strategies for ensuring that the excellence and impact of Brock research, in all its forms, is recognized and celebrated nationally and internationally.

Outcome: Enhance Brock's reputation as a home for a diversity of excellent researchers.
Implementation:
• Nominate researchers for academic honours and awards, and celebrate successes.
• Recognize and support university members taking on leadership roles in academic organizations.
• Celebrate researchers' successes.

Outcome: Enhance Brock's reputation as a research, training, and mentorship destination for excellent graduate students.
Implementation:
• Nominate graduate students for academic honours and awards.
• Publicly celebrate research, impact, and grant-winning successes for graduate students.
• Facilitate an institutional strategy for graduate recruitment and support.
• Foster long-term academic relationships with graduate alumni.

Outcome: Build national and international awareness of Brock as an excellent research institution.
Implementation:
• Develop and promote areas or kinds of strategic focus on research.
• Ensure an effective, externally accessible web presence for research across the Brock University website.
• Balance specialization with diversity in strategic research investment.
• Develop communications and branding plans based on both institutional strengths and aspirations, and analysis of the wider context of research institution branding and reputations.
• Review recommendations of 2018 Senate Sub-Committee on Macleans Rankings for effective action items.

Quantitative metrics of research activity and success[*†]

- Total annual research funding (cash received)
- Total annual research funding per FTE research faculty
- Annual Tri-Agency research funding (including: as a proportion of total research funding)
- Total number of external research grants held in year
- Total number of external research grants per FTE research faculty in year
- Proportion of tenure-stream researchers holding external grants in year
- Number of research partnerships with non-academic organizations (industry, govt, NFP, community groups)
- Number of major external awards to Brock graduate students and postdoctoral researchers
- Total overhead received in year
- Total annual research publications
- Total annual citations of Brock research publications
- Total annual number of creative events and performances
- Number of patents/patent families held by Brock researchers

[*] For global and longitudinal assessment only; individual metrics or single year results are apt to be spurious.
[†] Quantitative metrics provide partial information regarding progress towards strategic plan goals. Milestone achievements and qualitative reports are particularly important in this domain.