



# Strategic Plan 2022 – 2026

W Booth School of Engineering Practice and Technology  
McMaster University | Faculty of Engineering

Complete Version; November 1, 2022



## Strategic Plan 2022 – 2026

**The first destination for the engineering, technology, and community innovators of tomorrow.**

The working group for the SEPT Strategic Plan has prepared this document after receiving comments from the SEPT community. We propose the following goals for the Booth School:

- Goal: Establish a culture that promotes EDI, Empathy, and professional growth of students, staff, and faculty.....3
- Goal: Be a leader in practice-based education .....5
- Goal: Deliver programs that produce highly sought graduates with stellar reputations, ready to evolve their careers in tune with societal needs..... 7
- Goal: Excel – and be seen as excelling – in applied research .....9
- Goal: Achieve international recognition as a centre of excellence in Practice-Based Education and Applied Research..... 11

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Goal: Establish a culture that promotes EDI, Empathy, and professional growth of students, staff, and faculty

### Strategy

- Create a vibrant scholarly and intellectual atmosphere in the School
- Train faculty/staff/students on the Canadian culture and diversity practices

### Implementation Plan

Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	Action 2025
Promote scholarly activities	# of pedagogical research grants awarded in a year.  \$/year spent to support a conference attendance, representing the School/Faculty	\$25K per year to support faculty/staff/eligible students and PDFs to attend conferences	Information bulletin to be sent out once every 2 months, identifying opportunities	Annual budget allocation for conference/professional growth support	Define and conduct a biennial review of the processes and procedures to provide the support funds
Create a mentorship program for faculty and staff	# of faculty/staff mentors and # of mentees enrolled per year	All new members enrolled in mentorship programs	Create a resource centre for faculty and staff members for their career growth processes	Create a mentorship program for faculty and staff members	Approximately 40% faculty members have taken at least one faculty leadership course



Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	Action 2025
Making our education and education materials accessible (WCAG guidelines)	% of faculty/staff who have taken the training and # of WCAG compliant course content, documents	All materials WCAG compliant	Provide biennial training to faculty and staff members on WCAG guidelines		Review courses that are compliant and courses that are pending compliance
Train everyone on Canadian culture and diversity practices	# of training sessions offered and participants per year	Everyone trained and practicing best practices	Create and deliver EDI training sessions to faculty and staff		Lunch-workshop to share EDI practices undertaken by members in the school



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Goal: Be a leader in practice-based education

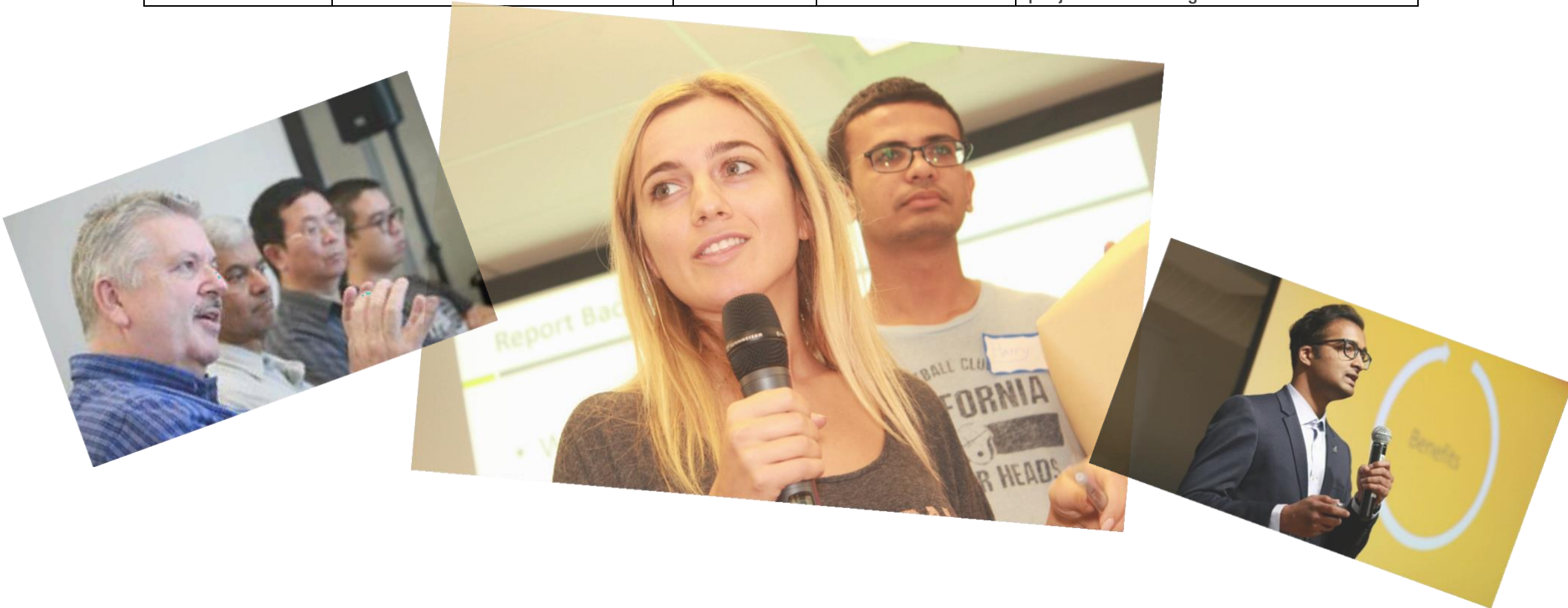
### Strategy

- Expand our research program(s) in practice-based education
- Increase capacity (amongst faculty) for practice-based approaches in education
- Expand community-engaged projects and learning to all programs, levels, and faculty

### Implementation Plan

Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	
Expand our research program(s) in practice-based education	# of faculty that have worked on the concept (papers, courses, etc.)	Be a leader in practice-based education	Establish a baseline. Write a white paper (team effort) on what we think is practice-based education (broad definition). Submit to an engineering education conference	Following white paper develop a framework for practice-based learning	
	2023 onward - # of publications (academic and practice-based, but with impact)				
Increase capacity (amongst faculty) for practice-based approaches in education	2023 onward - # of courses with such approaches		Offer workshops on practice-based learning		
	2024 - # of faculty taking workshops in practice-based learning				

Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024
Expand community-engaged projects and learning to all programs, levels, and faculty	2023 onward -# of courses/streams adopting new framework	Be a leader in practice-based education	Promote community-engaged projects at the undergraduate level	<p>Establish a baseline</p> <p>Create opportunities for undergraduate and graduate students from different streams/programs to jointly undertake the projects</p> <p>Prepare a plan on how in 2023/24 the schedules for capstone and MEng projects will be aligned to enable this</p>
	# or % of u/g students participating in community-engaged projects			
	# of projects that have a mixed group of students (between streams and/or levels)			



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**Goal: Deliver programs that produce highly sought graduates with stellar reputations, ready to evolve their careers in tune with societal needs**

### Strategy

- Ensure that the curriculum of each of our programs leads to "Pi" shaped graduates. (see Appendix for "Pi" definition)
- Expand beyond traditional degree-based education
- Make our programs more flexible

### Implementation Plan

Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	Action 2025
Implement curriculum that leads to "Pi shaped" graduates	"Pi shaped" target vs. actual implementation	Full implementation of "Pi shaped" programs, with corresponding PLOs	Prepare tri-annual curriculum review plan	Define "Pi shaped" PLOs and review all programs; identify the changes and propose curriculum changes	Implement curriculum modifications to include missing pieces of "Pi"
Expand beyond traditional degree-based education	# of micro credentials we are ready to offer	Offer stackable micro-credentialed programs as a flexible and affordable education		Assess how to offer this within McMaster regulations or propose changes in regulations	Identify topics that can be modularized and propose 1 micro credential certificate
Make our programs more flexible	% of elective courses in each M.Eng. & 4 <sup>th</sup> year of B.Tech. program	70% of M.Eng. curriculum to be elective courses. 50% of B.Tech. 4 <sup>th</sup> year to be elective courses	Define a roadmap for the program to achieve this target	Modify curricula/get approval as needed to allow students to select courses	Implement curriculum modifications to allow 70% of courses in M.Eng. and 50% of the courses in the 4 <sup>th</sup> yr B.Tech to be electives







## Strategic Plan 2022 – 2026

The first destination for the engineering, technology, and community innovators of tomorrow.

**Goal:** Excel – and be seen as excelling – in applied research

### Strategy

- Establish and nurture a sustainable research cluster
- Gain visibility among academic community for our research
- Gain visibility in the community and within industry for our research

### Implementation Plan

	Performance Indicator	2026 target	Action 2022	Action 2023	Action 2024
Evolve BRIC as a sustainable research cluster	% of Booth members involved in the cluster	60-70% faculty members	<p>Launch BRIC symposium &amp; bulletin</p> <p>Involve undergrads (through iThink program and faculty research projects)</p>	<p>Involve 2-3% undergrads and 5-7% MENG students in X research projects</p> <p>(2-3% undergrads = 25-35 undergrads 5-7% MEng = 6-8 students per stream mainly from Manufacturing and Systems &amp; Technology)</p>	Involve industry and government partners in BRIC

	Performance Indicator	2026 target	Action 2022	Action 2023	Action 2024
Gain visibility in the academic and scientific community	# of publications and citations	Average h-index of 15 for 25-30% of the faculty members in the school	10-15 technical publications  500 citations	EPIK conference  15-25 technical publications  550-600 citations	25-30 technical publications  600-700 citations
Gain visibility in the community and within industry	# of media hits	2-5 media interviews and news articles	Media training Engagement of McMaster's PR facilities	2-3 interviews  2-3 news articles	



## Strategic Plan 2022 – 2026

The first destination for the engineering, technology, and community innovators of tomorrow.

**Goal: Achieve international recognition as a centre of excellence in Practice-Based Education and Applied Research**

### Strategy

- Establish an Engineering Practice-Based Learning (PrBL) ecosystem and culture
- Incentivize and nurture scholarship for Engineering PrBL innovation
- Invest in marketing and brand development

### Implementation Plan

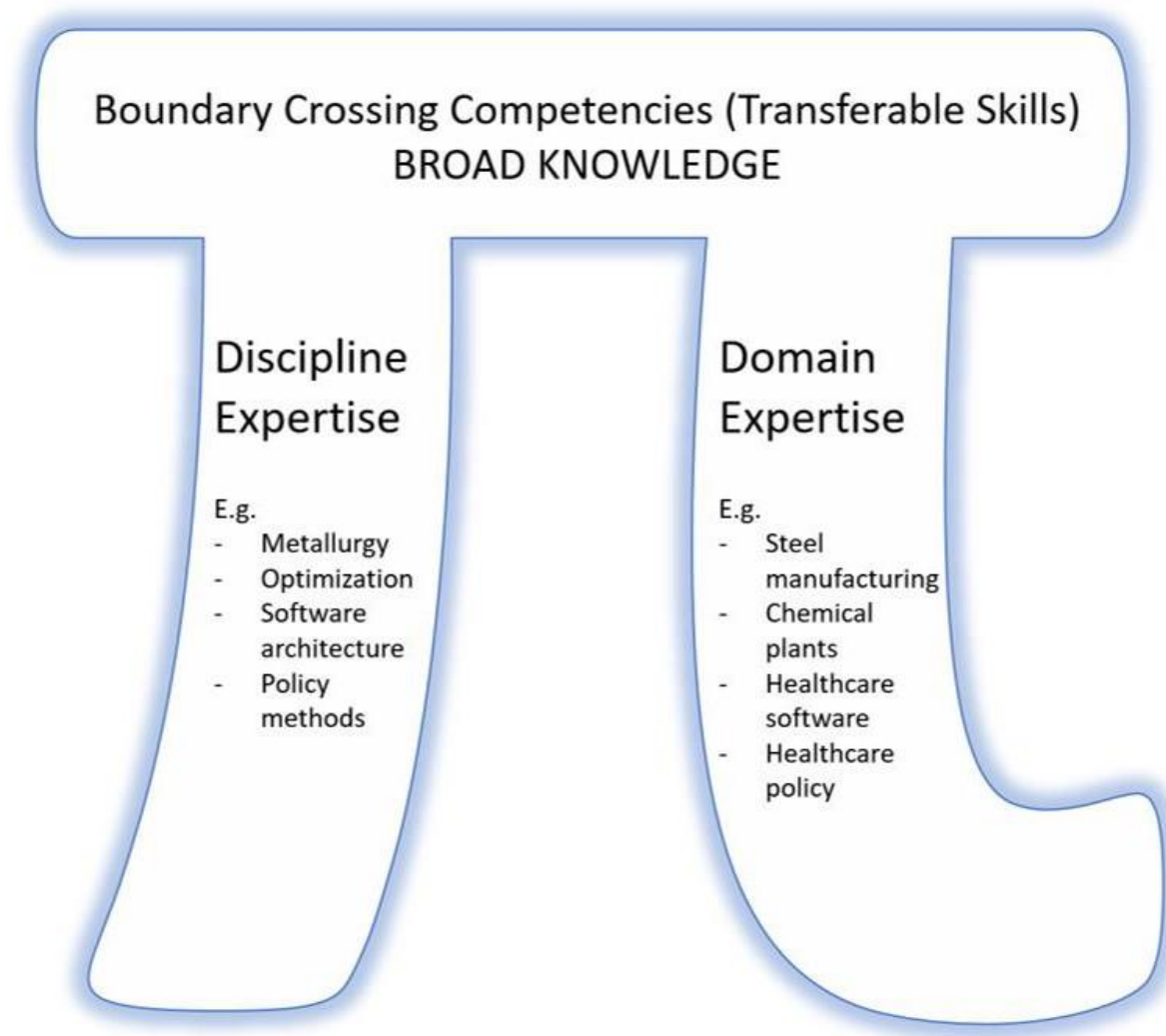
Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	Action 2025
Establish Engineering PbBL ecosystem and culture	2024 onward, # of attendees at international conferences	Conference to be the premiere PrBL event	Assign conference Chair(s)	Promote conference	Host first International PrBL Conference
	2023 onward, # of other PrBL events (seminars, webinars, workshops and showcases)	Host at least 3 additional PrBL events per year	Assign eventlead Call for proposals	Hold first event, plan additional events	Increase activity above 2023 level
Incentivize and nurture scholarship for Engineering PrBL innovation	# and amount of PrBL funding, awards, and applicants (faculty, students, + “Booth International Award for PrBL”)	3x\$3k awards for students 3x\$30k for faculty 2x\$20k for ‘Booth’ Award	Create Terms of Reference and assign selection committees	Call for nominations and first selections	
	Create an international board in PrBL (measure # of acceptances from invitees)	15 members serving 2-yr terms			



Strategy element	Performance Indicator	2026 target	Action 2023	Action 2024	Action 2025
Invest in marketing and brand development	# of articles/op eds published, # of co-op activities with MacEng and MacUniv public relations	3 prominent op eds per year/ strong media presence	Assign 2 faculty + 2 staff to liaise with MacEng PR	Publish 1 <sup>st</sup> op	Increase activity above 2023 level
					Write and publish a W Booth History



## APPENDIX: “Pi” shaped engineer





### **WALTER G. BOOTH**

The late Walter Booth, a philanthropist, entrepreneur, and 1962 Faculty of Engineering graduate, gave generously to McMaster, the only university willing to take a chance on his non-conventional route through the post-secondary education system.

The past, ongoing and future success of our School are directly tied to the generosity and support of Walter Booth and the Booth family!

*All photos, courtesy of Richard Allen*



