



ONTARIO

# SHARED INVESTMENT FOR SHARED SUCCESS

INDUSTRY PARTNERSHIPS WITH U of T ENGINEERING

University of Toronto's **FACULTY OF APPLIED SCIENCE & ENGINEERING** builds strategic partnerships with industry to maximize our impact and sharpen our focus. Our industry partners maintain their engagement with U of T Engineering because of our world-class researchers and students, our superior research infrastructure of laboratories, equipment and staff, and matching funds from federal and provincial governments. Leveraged partnerships link our industry partners to publicly supported research platforms to drive technology development, spin-off companies and broad societal impact.

There has never been a more exciting time to partner with UofT Engineering. Our diverse and talented student population is the focus of our innovative teaching and degree programs, while our faculty members continue to define the critical issues in Canadian and global engineering research, technology development and commercialization. With an eye to the engineering landscape of tomorrow, we set our sights on opening a flagship facility on campus in 2016. The Centre for Engineering Innovation & Entrepreneurship will serve as the nexus of U of T Engineering's collaborative learning and interdisciplinary research, housing interactive spaces for learning and design, as well as a number of multidisciplinary research clusters. Together, we can build innovation from the ground up.

Contact us to explore the boundless potential of research and technology development.

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## Engineering

### FIVE REASONS TO PARTNER WITH US

#### 1. WORLD-LEADING RESEARCHERS

Gain unique access to world-leading faculty, staff, students and laboratory facilities. U of T Engineering ranks among the top engineering schools in the world, and is the leading engineering Faculty in Canada.

#### 2. DEFINE THE FUTURE OF ENGINEERING EXCELLENCE

Industry partnerships facilitate commercialization and technology transfer, train students and young professionals, and stimulate industry-relevant fundamental research. Our partners push the boundaries of engineering research and education. Together, we create solutions that make an impact in industry and society.

#### 3. A PARTNERSHIP OF EQUALS

We engage our industry partners as equals who share risk and reap the rewards of investing in engineering research, technology development and problem solving. We look beyond fee-for-service contracts toward deeper partnerships that deliver the greatest value and impact in both the industrial and academic contexts.

#### 4. LEVERAGING OUR RESOURCES

Private investment in U of T research typically defrays operating costs of research, including materials and specialized equipment. Combining this investment with our publicly funded labs and personnel allows our industry partners to leverage our \$100-million-scale research facilities. Within U of T Engineering, we leverage industry financial support with federal, provincial and institutional matching to enable \$25 million in industry-partnered research per year.

#### 5. PLUG INTO TORONTO'S INNOVATION HUB

As Canada's largest and most dynamic city, Toronto attracts the world's top talent. U of T is Canada's foremost research-intensive university, and home to more than 10,000 research, teaching and clinical faculty members. The St. George campus of the University of Toronto is located in the heart of downtown Toronto — on the doorstep of some of North America's leading startup incubators, major hospitals, and Canada's financial hub on Bay Street.

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## INTELLECTUAL PROPERTY

Clear and equitable intellectual property (IP) terms are key to meaningful industry-academia collaborations. U of T has adopted a simple, industry-forward approach to IP that is among the most industry-friendly in Canada. Our hallmark is a commitment to:

- 1) tailoring agreements to meet our partner's objectives;
- 2) minimizing barriers to commercialization; and,
- 3) respecting the academic freedom and publication rights of our faculty and students.

**Ownership of Jointly Created IP:** By default, IP created through an industry-academic collaboration is jointly owned by the industry partner and the U of T principal investigator. The industry partner can be granted automatic access to this IP for internal non-commercial use at no additional cost. Exclusive rights are also negotiable.

**Protection of Academic and Industry Inventions:** Any project IP developed solely by industry personnel under project funding is owned fully and exclusively by the industry partner. Any project IP developed solely by University personnel is owned fully and exclusively by U of T.

**Background IP:** We emphasize clear and thorough definitions of background IP for both academic and industry teams to ensure robust protection of each party's background IP.

**Licensing and Access to U of T IP:** Our partners have the option of accessing U of T's interest in project IP by negotiating either an Exclusive Commercial License or a Non-Exclusive Commercial License. Our partners may also explore options to access U of T background IP and other related existing IP generated by our large pool of world-class researchers.

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## LEVERAGING INDUSTRY INVESTMENTS, MAXIMIZING IMPACT

Private investments in cash or 'in-kind' (materials, equipment, purchase discounts) are maximally leveraged using federal and provincial government matching programs. This allows our industry partners to achieve the greatest possible scope, impact and return on investment in a joint project. When our partners invest in U of T Engineering, this leverage comes free, since our faculty and staff bear the cost of executing these applications. Key features of a leveraged industry investment with us include:

**Professional Management:** Efficient administrative support at U of T ensures that intellectual property is managed along sensitive timelines and budgets. Grants are processed quickly and technology is transferred efficiently to the sponsor.

**Federal Government Matching:** The Natural Sciences and Engineering Research Council (NSERC) offers programs that leverage industry support up to 2x across the spectrum of pre-commercial development.

**Ontario Government Matching:** The Province of Ontario further increases the potential leverage of sponsor funds through collaborative programs managed by the Ontario Centres of Excellence (OCE). U of T provides salary support for faculty and students through fellowships ranging from \$10,000 to \$20,000 per person per year.

**U of T Matching:** Using internal resources, U of T leverages private investments in research with dedicated strategic funds and graduate fellowships that support PhD candidate researchers.

**Engagement and Monitoring:** Our partners work with U of T researchers and research managers to plan the project, define deliverables and establish a timeline. This provides our partners the opportunity to monitor progress against deliverables, host graduate students on-site and allocate staff to reside on-site at U of T (including mini-sabbaticals on campus).

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## LEVERAGING AT WORK

The following table illustrates the type of leveraging on investments in cash and 'in kind' that becomes possible when our Canadian partners engage their Ontario-based subsidiaries or local offices to execute projects with U of T:

	Contribution to direct costs	Contribution to indirect costs	Total
Industry Funding	\$1	\$0.40	\$1.40
NSERC Funding Programs (Federal)	\$2	\$0.40	\$2.40
OCE Funding Programs (Provincial)	\$2	\$0.80	\$2.80
U of T Institutional Funding	\$1	–	\$1.00
<b>Total</b>	<b>\$6</b>	<b>\$1.60</b>	<b>\$7.60</b>

In this example, an industry partner contributes \$1.40 in cash to a joint project (\$1 for direct costs of research and \$0.40 for indirect costs). The Government of Canada, the Ontario Government and U of T together contribute up to a further \$6.20 to the project, for a total of \$7.60. This represents more than 5x leverage on initial industry investment.

In more practical terms, consider an industry partner who commits \$200,000 per year in cash. The Government of Canada, the Ontario Government and U of T together contribute well over \$1 million in cash to the project, leveraging our partner's \$1 million over five years into as much as \$5.4 million for the joint project.

Even larger leverage ratios on industry support are possible when taking into account the value of applicable Canadian Scientific Research and Experimental Development (SR&ED) tax credits, use of existing U of T research facilities and faculty members' time.

**The outcome:** a highly leveraged project with the support of world-renowned researchers, expert administration, project management and motivated graduate students.