

# Engineering Change Lab (Eng Lab)

UNLOCKING THE POTENTIAL OF THE ENGINEERING PROFESSION IN CANADA  
SYSTEMICALLY, EXPERIMENTALLY & COLLABORATIVELY

CO-CONVENED BY:

FACILITATED BY:





# Introducing Eng Lab

As the world becomes increasingly fast-paced and complex, a strong Engineering Profession is more vital than ever before:

- *To ensure Canada's competitiveness*
- *To tackle the biggest challenges of the 21st century*
- *To ensure science is applied in a way that creates a world that works for everyone*

At the same time, the profession is currently stuck or even backsliding due to chronic systemic challenges:

- *Lack of diversity*
- *Failures of ethics and professionalism*
- *Poor record of innovation*
- *Exclusion of non-licensed engineers from the profession*
- *Inflexibility of the academic accreditation system and education model*
- *Siloing and commoditization of work*

Failure to address these challenges will impact the success of organizations in every sector of Canada. Recognizing that no individual stakeholder can solve these challenges alone, Engineers Canada and Engineers Without Borders co-convened leaders from 36 organizations in January 2015 to represent a microcosm of the profession.

Together they launched the Engineering Change Lab (Eng Lab) as a platform to create foundational understanding of the challenges impacting the profession, to build communication and cooperation between key stakeholders, and to create opportunities and assets to help unlock the full potential of the profession.

Lab Participants convene three to four times per year to spur co-creation and work together on an ongoing basis to identify, test, and deploy effective solutions.

***A space for the collective intentional evolution of the profession.***

***A platform for innovation to drive the leading edge***

***A new approach that is systemic, experimental, and collaborative.***

***A multi-year, multi-stakeholder initiative that will identify, test, and advance practical solutions.***



# Who Is Involved?

The Secretariat of the Lab currently consists of staff from Engineers Canada and Engineers Without Borders, plus Reos Partners, global leaders in the Social (Change) Lab approach.

The Lab team consists of the organizations below, representing a cross-section of the profession.

The Lab participants and the organizations they represent are expressing a powerful and new type of leadership focused on the needs of the engineering profession.

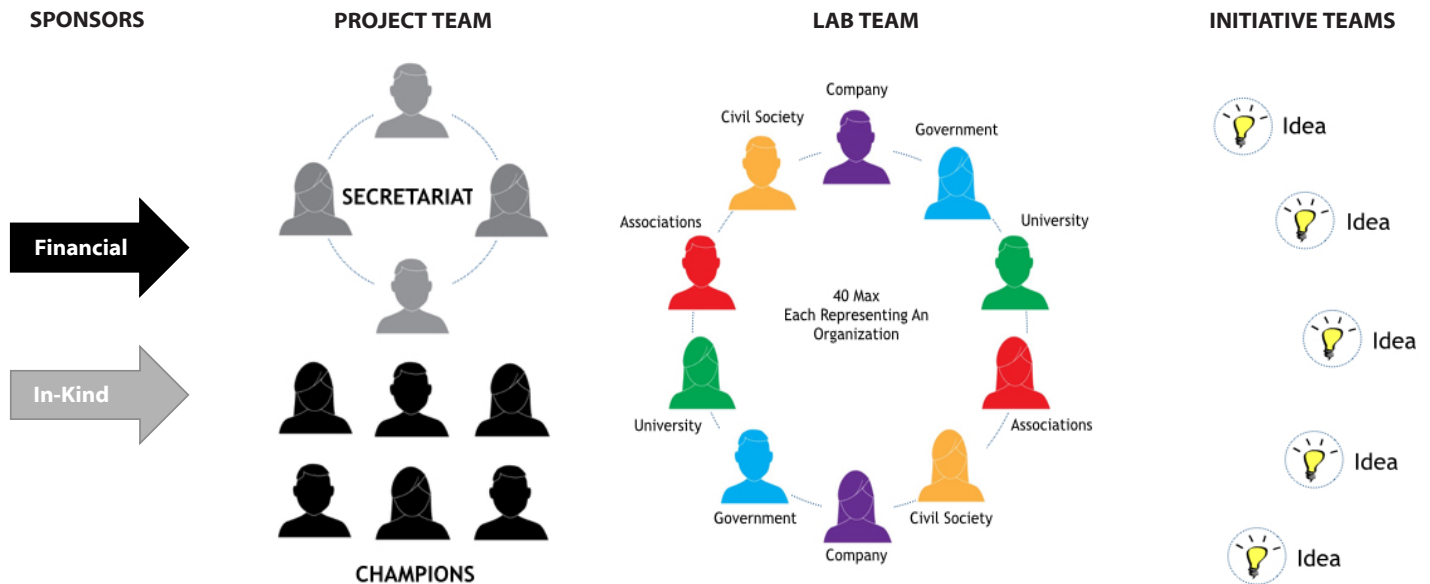
PRIVATE SECTOR	PUBLIC SECTOR	ASSOCIATIONS	CIVIL SOCIETY	UNIVERSITIES
Hatch	Ministry of Transportation Ontario	Engineers Canada	Engineers Without Borders	Toronto
Golder	Durham District School Board	Association of Canadian Engineering Companies (ACEC)	Canadian Society for Women In Science Engineering, Trades and Technology (WINSETT)	Waterloo
BlackBerry	Canadian Space Agency	Canadian Federation of Engineering Students (CFES)	Ontario Women in Engineering and Science (ONWIE)	McGill
TELUS	Natural Sciences & Engineering Research Council (NSERC)	Canadian Society for Value Analysis (CSVA)	Destination Imagination	Dalhousie
Suncor		National Council of Eng. and Applied Sciences Deans (NCDEAS)	Actua	York
Enbridge		Engineering Student Societies' Council of Ontario (ESSCO)	Engineers of Tomorrow	Queen's
Ontario Power Generation		Ontario Society of Professional Engineers (OSPE)		Sherbrooke
3M				Calgary
SM International				Western Ontario
WSP				Concordia

*“As these system leaders emerge, situations previously suffering from polarization and inertia become more open, and what were previously seen as intractable problems become perceived as opportunities for innovation.*

*Short-term reactive problem solving becomes more balanced with long-term value creation. And organizational self-interest becomes re-contextualized, as people discover that their and their organization’s success depends on creating well-being within the larger systems of which they are a part.”*

- Peter Senge, Hal Hamilton, and John Kania  
 ‘The Dawn of Systems Change Leadership’, Stanford Social Innovation Review

# Opportunities for Involvement



Based on a graphic from the [Social Labs Fieldbook](#) by Zaid Hassan

**SPONSORS** contribute the resources, both financial and in-kind (staff time, volunteers, social capital, etc.) that the Lab requires to function. Sponsorship opportunities are open to anyone who has an interest in the future of the engineering profession. There are a range of financial sponsorship opportunities available from the \$5K/yr Contributor level up to the \$75K/yr Platinum level with commensurate benefits.

The **SECRETARIAT** provides day-to-day support to the Lab and Initiative Teams by working on logistics, administration, coordination, stakeholder engagement, resource mobilization, communications, research, strategy, capacity development, and evaluation. There are opportunities to contribute ongoing in-kind staff time or to take on specific projects.

**CHAMPIONS** share responsibility for the sustainability of the Lab by providing leadership to the Lab and helping marshal the resources required for the Lab to function effectively, namely: financial resources, staff time, volunteer efforts, social capital, and/or other in-kind contributions.

The **PROJECT TEAM** is comprised of the Secretariat and Champions and its role is to ensure the sustainability of the Lab itself (the backbone structure, governance, resourcing, financial management, support functions, etc).

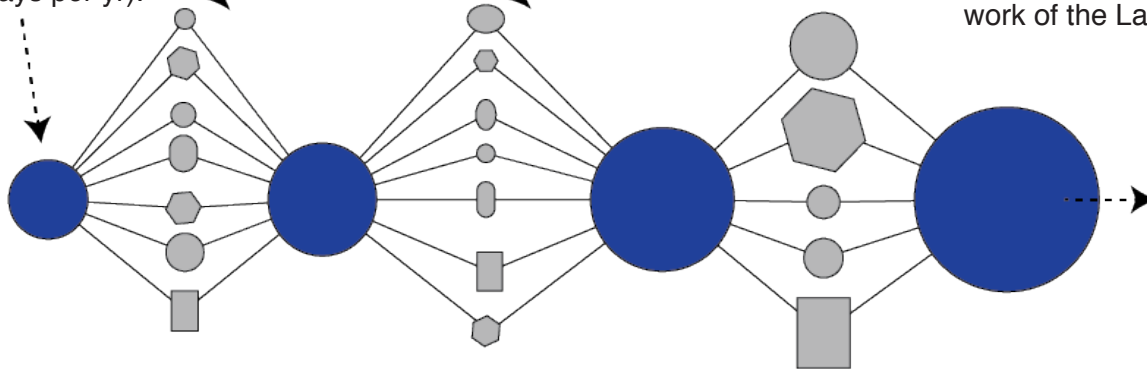
The **LAB TEAM** consists of up to 40 senior leaders who contribute a minimum of 15 days per year (including attendance at the workshops). As a team, they share perspectives, deepen understanding of the state of the profession, develop relationships, and generate and progress initiatives. In between workshops, Lab Team members lead or contribute to initiative teams, seek to link to efforts within their organizations, and generally support the ongoing collective efforts of the Lab.

The **INITIATIVE TEAMS** are comprised of any individual or organization who is actively contributing to the success of one of the Lab initiatives. Initiatives grow and develop outside of the Lab meetings and are the essential projects that shape the evolution of the engineering profession.



# Rhythm of the Eng Lab

Workshops of the whole Lab Team  
(3 x 2 days per yr).



Work by Initiative Teams to prototype and institutionalize a variety of initiatives that advance the work of the Lab.

## OUTCOMES



New Knowledge  
and Skills



Networks



Capacity  
Building



Novel  
Solutions

## CURRENT INITIATIVES



National Network for Communities of Practice for Engineering Leadership



Culture and Diversity



Canadian Engineering Education Challenge (CEEC)



Expansion of the Engineers in Residence Program



Communications Strategies to Shift Perceptions



Developing Collaborative Grade 7-10 Science and Engineering Outreach Program



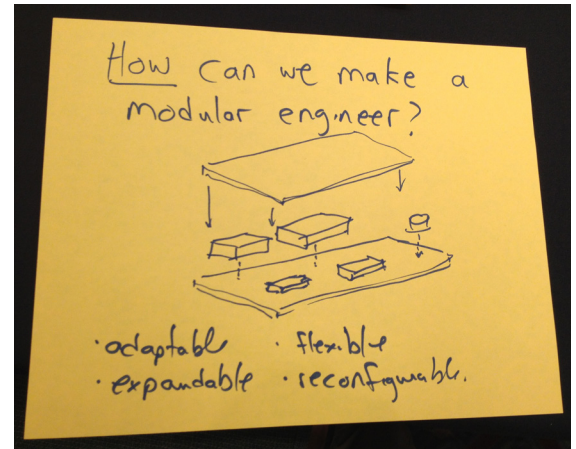
Reducing Barriers to Admission to Engineering Degree Programs



Industry Innovation: Engineering Water-Cooler



Ethicist On Call



## Get Involved

Involvement in Eng Lab is your chance to help shape the future of the engineering profession.

For individuals, getting involved with the Lab offers you the opportunity to help turn your passion into reality by volunteering to contribute to the work of Initiative Teams or to support Secretariat functions. It's also an opportunity for you to share your perspective and connect with other who share your desire to unlock the greater potential of the engineering profession.

For organizations for which engineering is vital to your long term success, benefits of involvement include:

- ✓ Keep your finger on the pulse of cutting edge trends within the engineering profession and incorporate what you learn into your company's practices and strategy.
- ✓ Demonstrate your leadership in shaping the future of the engineering profession.
- ✓ Strengthen your network of potential collaborators and influencers.
- ✓ Align your community investments with both a goal and approach that is central to your organization.
- ✓ Provide an excellent professional development opportunity to your selected Lab Team representative.
- ✓ Engage your staff in various Lab related initiatives, thereby contributing to employee development and satisfaction development and satisfaction.

***"I have a deep sense of pride in our profession, and I'm encouraged by the collective will and commitment and intention in this group to help make it better."***

***"The Lab provides a sense of experimentation to a group of stakeholders who are used to grand strategic planning processes."***

Participant feedback from the first Eng Lab convening event in Montreal (January 2015).

**For more information and to find out how you can be involved, contact:**

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