



engineers without borders
ingénieurs sans frontières
Canada

The *Global Engineer*

EWB's Vision for the Next Generation Engineer

The world today is facing major challenges, but is also on the forefront of major change. Many of the glaring social hurdles the world faces today, such as food security, access to clean water, and extreme global poverty, have become incredibly complex and interconnected. These problems are not new, and neither are the approaches global society has to solving them. But one thing is certain; our past approaches have not met our expectations in bringing about the innovative solution that we want to see to solve these global challenges.

We all know that engineers can bring extraordinary change to the world. This is why many of us decided to study engineering in the first place. We also know the change that engineers can bring to the world isn't limited to the bridges, circuit boards, cars, and dams that engineers create. The power of engineers' insights into the root causes of problems and their innovations to address those problems should go well beyond just the technical. The world is calling for new type of globally minded problem solver. The world needs more *Global Engineers*.

What is the *Global Engineer*?

The *Global Engineer* is the next generation of engineer that the EWB would like to see graduate from universities across Canada and across the world. These *global engineers* will take a broad view in thinking and acting on the world's most complex problems. To enable these engineers to be global leaders, we need to equip them with the core capacities to approach these challenges with thoughtfulness, ability and open minds.

We want to create engineers that are eager and equipped to contribute to international development. These engineers will have the knowledge, skills and attitudes to directly contribute to development projects through the government, corporations or organizations like EWB. However, the contributions of these *Global Engineers* will not end here. Through socially responsible decision making on international engineering projects, these engineers will have an impact on making the engineering professions more pro-development. Specifically, *global engineers* can

- Engage with a variety of stakeholders and systems to drive the creations of innovative and multidisciplinary solutions to complex global problems,
- Question and contribute to corporate practice to look at the social, environmental, political and economical impact of their work, and
- Identify the limitations of their knowledge and seek out opportunities to grow personally and professionally to increase their overall contributions to society.

These engineers will also seen as the leaders in their field and model active global citizens, role modelling through positive thoughtful actions and an active voice in public policy. They will become engaged in all aspects of their community: locally, nationally and internationally. They will also engage their community, encouraging an awareness of the issues and fostering attitudes and actions for change.

How Will We Develop *Global Engineers*?

Transformative change in the engineering profession will require transformative change in engineering education. But through our influence in the profession, our reputation amongst engineering educators and our network of student leaders across the country, EWB is positioned to lead this change.

We have begun forging a path to propel this sweeping transformation of engineering education. Through our curriculum enhancement work at our chapters, we are taking the first steps to engaging the next generation of engineers to become *global engineers*. With resources developed collaboratively between our chapters and the National Office, our chapters can implement presentations, workshops and lectures on developing the knowledge, skills and attitudes *global engineers* will require. Our CE program also helps to build new relationships with faculty members, engaging and exciting them in our *global engineering* concept.

But EWB's work in bringing about more *global engineers* does not stop there. From the National Office, we will strike new and deep partnerships with interested universities who want to take the next step in making their engineering curriculum more relevant for our global society. We will work with these universities to examine all aspects of their engineering curriculum to incorporate our *global engineers* concepts throughout. We will also bring the engineering education leaders in these schools together to explore best practices and create a national strategy to catalyze more change in the engineering curriculum. These universities and educators will be on the cutting edge of engineering education and become leaders in attracting a new generation of engineers who want to change the world.

The Role of the *Global Engineers* in the World

Imagine the global change that can be created if engineers move beyond focusing on just technical problems and start focussing on the worlds most complex and important challenges. Imagine the level of engagement and awareness of the Canadian public if engineers broaden their areas of responsibility and engage their communities to help deliver the change in the world that we seek. The world is in desperate need for global problems solvers, and *global engineers* are the best suited to fill that role.

Canadian engineers have the opportunity to lead the charge to solve the problems of humanity through human development. We have the opportunity to evolve our work to be continually relevant and a cornerstone of modern society. We have the opportunity to be the leading global experts, the group that people turn to solve the real problems of the world. With the problems the problems of the world getting more complex and interconnected, as engineers we can't ignore these opportunities. We need to emerge as the *global engineering* leaders to design for adaptable, people focused, social impact solutions to the problems of the world. With our positive examples, we can rally the rest of the world around the change we want to see created.