

# Concordia CQI Report

## 1. How has this experience enhanced your engineering skills/knowledge?

By participating in CQI, the team gets the opportunity to learn of other team's projects. We get exposure to their innovative designs, concepts, manufacturing and execution. These are valuable information because they are ideas that are hard to come by, especially since they are from other universities that are too far to explore. In addition we get to see ideas flourish and come to life. Some of these ideas do not work as they were expected to, which adds a touch of realism to the experience.

## 2. What are the lessons learned and how can you improve upon these lessons?

The most important lessons learned in my opinion (Daniel) was understanding the competition and the rules behind it. I realized that each project is highly graded based on the competition criterias, which in effect led to a less impressive execution on our part. We tried to answer each criteria to our best capabilities but it was clear that our project was not well suited for this competition. It was not a matter of time to work on the presentation, it was more about compatibility issues. Our project is a prototype vehicle that is hard to market in the business world, especially in its current state. The manufacturing of the vehicle is relatively costly (9090\$ per unit), let alone distribution, and cannot serve in harsh conditions such as heavy snow, bumpy roads, high traffic areas, etc. Modifications can be made to accommodate these conditions but then the vehicle would have to be re-evaluated to ensure roadworthiness and cost effectiveness. In its current state, the ideal market would be wealthy families in places like California. This issue could have been avoided had we properly analyzed the competition rules well before the competition. Another lessons learned was getting to know our judges. Regardless of all of the project's feasibility, it all comes down to perspective since there was no exact measurable to grade each project. The team tried to introduce themselves during the Wine and Cheese, but sadly only 2 of the 5 judges were present at the event.

Secondly (Norvan), although the competition is named "innovative design", you must not require a truly revolutionary idea or product. The 2014 CQI the winning team created a small sensor that fits under any chair, which then relays the information to a database logging information as to when someone is sitting on the chair or not. This "chair monitor" can be used by theaters or corporations to monitor how many people are in a room sitting on chairs during different times of the day. The 2015 CQI winning team project subject was implementing a new method of manufacturing chocolate so that it looks darker. I really believe the more stupid and unrelated to actual engineering innovation your project can be, the more chance you will have bringing back gold.

For a project to have an impact, it should be an answer to some existing need. Conceptual designs and prototypes are useful as platforms for innovations but do not exude value as products in themselves. The distinction between prototype and product was made at CQI and the latter prevailed. For future CQI, I suggest finding a project that caters to some market. Modifications to current products are also highly desired, such as the glass/cement solution, the ground based drone radar, or of course the anti-whitening chocolate powder. District 3 in Concordia houses several projects which could be successful at CQI. In

fact, Polytechnique's hand robot was a project of PolyProjet, which is a group dedicated to coming up with innovative products.

### 3. What does this competition mean to you? (each person's input)

Daniel: CQI-QEC has value to me because it enables students to show what they have to offer to the industry. It is an annual event

Norvan: CQI means to me a competition where universities of Quebec bring forth their best students to compete in a serious provincial engineering competition.

Alex: CQI is a hub for students from different universities to communicate ideas, embodiments of their engineering skills/knowledge, and discuss the environment of their respective universities.

Loic: It is a great way to share a common passion based around engineering with a sense of competition to push everyone forward. Having multiple universities adds diversity and allows to make new and interesting connections.

### 4. What would you like the ECA to improve upon next year?

Norvan: I would like to have met Lando, and other members of previous CQI's innovative design competition before one week before competition. I believe that may have helped our team slightly. Furthermore, like JMSB does case competitions, they have mentors that have graduated or already gone through the same competitions and that will coach the team throughout multiple weeks and meetings, not only one day.

Alex: Breakfast on Sunday.

Daniel: I second on the coaching matter. Considering CQI is the most prestigious engineering competition in Quebec, I believe each university deserves a coach that provides the necessary training to prepare students for the competition. I truly appreciate Concordia's organizers for CQI but for a competition this important, we need dedicated coaches who has experience in each specific category and not take away other competitor's time (i.e. Ijazul and Kim's time to prepare their competition).

Loic: Concur with member's opinions.