



Media Release

“A Simple, Effective, Achievable” Plan creates a market strategy for eCAMION Inc’s entry into Japanese energy storage market

Markham – 31 May 2013 - eCAMION supports winning entry into Manulife: Entry Into Asia

Challenge. Team New Horizons selected eCAMION as its small to medium enterprise (SME) and won first prize in the Manulife: Entry Into Asia Challenge. Teams of business students competed to determine which team has the best business case to help an SME expand into Asia. Team New Horizons won the first overall prize and a cash prize of \$100,000; the team consisted of Aisha Bukhari, Lak Chinta, Peter Cinat and Aristotle Solomon, students from The Rotman School of Management at the University of Toronto.

eCAMION is a Canadian SME and a leading provider of Community Energy Storage (CES) battery solutions required to efficiently integrate renewable energy into the existing power grid. eCAMION’s CES solution is a proven, reliable and commercialized product ideal for power utility companies that distribute energy to urban environments. In partnership with Wirsol, an opportunity exists now for eCAMION to target Tokyo Electric Power Company (TEPCO), the utility serving the Tokyo region, as their primary customer to enter the Japanese market.

eCAMION’s unique solutions are positioned as a value-add to Japanese utility companies by facilitating integration of renewable energy generation, enhancing overall power quality, and improving asset utilization. The Manulife: Entry Into Asia Challenge asked undergraduate and graduate business school students at Canadian universities to create a business plan for a Canadian small or medium-sized enterprise (SMEs) to expand into any market in Asia. Competing teams demonstrated their ability to think strategically about entry into Asian markets while demonstrating their understanding of the unique attributes, challenges and realities facing Canadian SMEs.

“As a company that has been successful in Asia, we feel it is important to give something back. Since we certainly do not have a monopoly on good ideas, we decided to harness the energy of some of the brightest minds in our post-secondary institutions who have good ideas, energy and solid academic grounding,” says Donald Guloien, President and Chief Executive Officer of Manulife Financial. “These young people have paired up with successful businesses. Together, we think they can do outstanding things for Canadian business. We also hope the results will ignite the imaginations of other Canadian students and business owners.”

According to Aisha Bukhari, a member of Team New Horizons, eCAMION was an excellent partner, “Team New Horizons are thrilled to win and provide eCAMION a simple, effective, achievable market entry plan for Japan. eCAMION were engaged in the process and mentored our team. We gained a lot of insight and found the collaboration invaluable”, Aisha stated.

CES solutions are well suited for distributed renewable generation in residential neighbourhoods where the utilities have an immediate need to cope with the influx of installed residential solar capacity. eCAMION’s CES is the perfect solution to solve new challenges that arise from integrating renewable energy. With its proven reliable and commercialized solution, eCAMION distinguishes itself from its competitors.

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Japan was chosen because although Japan's distribution grid is efficient, it is pressed with a number of immediate challenges. Most importantly it is unable to accommodate bi-directional power flow making it difficult to integrate high amounts of energy generated from renewable sources. Renewable sources require infrastructure upgrades to manage generation during peak times. The intermittent nature of renewables limits its ability to replace reliable generation sources such as nuclear.

"They brought it down to a granular level, and we can actually use their plan for our next steps" said Hari Subramaniam, eCAMION's, CEO.

eCAMION was formed in 2009 and is developing Community Energy Storage with a consortium that includes Toronto Hydro and Sustainable Development Technology Canada. We have flexible, scalable and modular battery energy storage systems and we design and manufacture anti idling technologies/auxiliary power solutions.

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http://www.youtube.com/watch?v=wGLX0mKjmwA&list=UUP00OTx9ulymuYmG_Ss1AEQ&index=1



Backgrounder

The Challenge Facing the Distribution Grid and eCAMION's Solution.

The problem faced by a large urban distribution grid infrastructure is the same as for road infrastructure. Grids have become antiquated and inefficient over time. With more renewable generation (wind/solar) coming online and the unknown demands arising from electric vehicles, the ability of a utility to deliver electricity will create further stress on aging infrastructure.

At present there is no integrated tool available to the distribution grid to manage this increased renewable penetration and growth in electric vehicles. A “big box” retailer with a roof top solar panel could overload the local grid. Similarly a cluster of EVs charging at the same time can also overburden the grid.

Urban utilities are facing growing levels of required infrastructure investment. In 2011, Toronto Hydro spent over \$400 million in infrastructure upgrades to maintain its 25,000 km distribution grid. New York City spent nearly \$2 billion in 2011 on its electricity distribution infrastructure. This spending is necessary and will continue to grow unless innovation is introduced to manage and efficiently renew this infrastructure.

Energy storage is the “linchpin” of the new energy era as it can drive advancement in four (4) key areas:

- Increases electricity grid asset utilization, thus deferring capital investments
- Handles the intermittent nature of distributed renewable generation (wind/solar) with ramping/firming
- Supports building automation, provides back-up power and can be used in auxiliary power unit (eAPU) applications, all of which can help shift demands on the electricity grid
- Supports deployment of Electric Vehicle (EV) charging infrastructure by creating access points with time-managed charging costs while also allowing the utility to control the highly-localized demand peaks in clusters of EVs charging at the same time.

eCAMION has developed a novel energy storage system based on Lithium-ion batteries, termed Community Energy Storage (CES). The first version of the system has been developed with funding support from Sustainable Development Technology Canada (SDTC) and is a collaborative effort alongside the University of Toronto, Dow Kokam and Toronto Hydro.

The first 500kW/250kWh unit was installed adjacent to Roding Arena and Community Centre, 600 Roding Street, North York, ON, Canada. The CES unit is tied to the Community Centre's 75kW solar panels and is grid-connected to Toronto Hydro. Two more CES units are scheduled for installation in 2013/2014 to complete the SDTC project.



Photographs of Roding Arena and Community Centre, North York, ON

The CES system has better performance and lower costs for high power/energy applications; it is 98%+ efficient and can operate in -20°C and up to 60°C. The footprint is sized to fit standard utility padmount switchgear. It is more unobtrusive and integrates seamlessly for utilities to install, operate and maintain.

The control electronics for the CES consists of the battery management system (BMS) and the Control, Protection, and Power Management (CPPM) system. These systems contain patent-pending algorithms and intelligence that interfaces between the utility grid, battery management system, and the grid-tie inverter.

This solution was recently selected by a team of students from The Rotman School of Management at the University of Toronto for a business competition sponsored by Manulife. Teams of business students competed to determine which team has the best business case to help a Small to Medium Enterprise (SME) expand into Asia. Team New Horizons selected eCAMION as its SME and won first prize of \$100,000 in the Manulife: Entry Into Asia Challenge.

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eCAMION intends to expand from its base in the GTA to US, Germany and Japan over the next 2 years. Below is a link to a video explaining eCAMION’s Community Energy Storage (CES) system:

http://www.youtube.com/watch?v=wGLX0mKjmwA&list=UUPO00Tx9ulymuYmG_Ss1AEQ&index=1

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