

Media Release: Embedded Systems Research gets a Real-time boost

WATERLOO, Ont. (Wednesday, Nov. 28, 2012) – With the opening of the new Real-time Embedded Systems Laboratory (RESL), the University of Waterloo’s Faculty of Engineering has gained the tools and capabilities necessary to reduce the size, power, and cost of a wide range of industrial and consumer products, while increasing reliability and performance.

An embedded system is a computer designed for specific control functions within a larger system, often with real-time computing constraints. Real-time embedded systems are characterized by their interaction with the environment through sensors and actuators, their resource constraint platforms, and non-functional properties. The technology is turning up everywhere from automobiles and tablet computers to oil and pipeline control systems.

Established with assistance from CMC Microsystems, the RESL will be operated by Waterloo Engineering’s Real-time Embedded Software Group, which concentrates on research of these systems at the intersection of software technology, embedded networking, and applied formal methods.

“We are very pleased to be home to the Real-time Embedded Systems Laboratory, which is the first of its kind in Canada,” said Pearl Sullivan, Dean of Waterloo’s Faculty of Engineering. “The opportunities the lab’s facilities offer our researchers in developing leading-edge embedded technologies are virtually endless.”

The RESL has been established as part of the \$48-million Embedded Systems Canada (emSYSCAN) project funded by the Canada Foundation for Innovation.

emSYSCAN infrastructure will shorten the microsystems development cycle, leading to rapid commercialization, publication, and training of highly-qualified personnel within a national and international multi-disciplinary research environment. These technologies will be instrumental in providing value in the leading edge products of the next decade and will support a wide array of applications including all of those identified as strategic priorities by Canadian governments.

“Our government is proud of its record in supporting science, technology and innovation. We understand that collaboration and innovation go hand in hand. That is why we are happy to support projects like Embedded Systems Canada and the RESL,” said the Honourable Gary Goodyear, Minister of State (Science and Technology).

As the lead institution on the emSYSCAN project, Queen’s University is working with other institutions in an administrative capacity for implementation of emSYSCAN facilities.

“Queen’s University is privileged to be working with 37 other institutions on the \$48-million embedded systems research project,” said Steven Liss, Vice-Principal (Research). “This is a wonderful example of the assistance, both research and administrative, we provide in support of this collaboration and for new and innovative ideas.”

About the University of Waterloo

In just half a century, the University of Waterloo, located at the heart of Canada's technology hub, has become one of Canada's leading comprehensive universities with 35,000 full- and part-time students in undergraduate and graduate programs. Waterloo, as home to the world's largest post-secondary co-operative education program, embraces its connections to the world and encourages enterprising partnerships in learning, research and discovery. In the next decade, the university is committed to building a better future for Canada and the world by championing innovation and collaboration to create solutions relevant to the needs of today and tomorrow. For more information about Waterloo, visit www.uwaterloo.ca.

About CMC Microsystems

CMC Microsystems enables and supports the creation and application of micro- and nano-system knowledge by providing a national infrastructure for research and a path to commercialization of related devices, components and systems. Over the last five year period, strategic partnerships with NSERC and CFI have enabled CMC Microsystems to deliver industrial tools, technologies, and support services valued at over \$100 million to post-secondary institutions across Canada. This support has enabled more than 10,000 publications, 1,500 collaborations with Canadian industry, 30 start-ups, and 5,000 graduate students with training relevant to Canadian industry. More about CMC Microsystems is available at www.cmc.ca.

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