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CMC launches FACT network to leverage expertise in Canada's nano laboratories

CMC Microsystems has established a new network to help public and private sector researchers leverage equipment and expertise in academic micro- and nano-fabrication laboratories across the country. The FACT Services for R&D network aims to facilitate access to more than 35 open access labs to external users by emphasizing solid management structure, skilled technical staff and clarity around intellectual property.

Several larger nanolabs are already attracting external users, including industry. CMC hopes a dynamic networking initiative will increase to as many as 15 the number of labs actively soliciting industry and academic users and strengthen Canada's research underpinning of advanced manufacturing technologies.

"They are the machine shops of the advanced contemporary university ... All 35 have strengths and weaknesses," says Dan Gale, CMC's VP and chief technology officer. "Some are highly academic while others have aspirations to open up but don't have the proper operational approach."

The original idea for a lab networking initiative dates back as far as 2008 but work on the FACT (Fabrication, Assembly, Characterization and Test) network began in earnest in 2013 with the formation of an ad hoc group. In the meantime, a pipeline of users has developed which Gale says will grow as more labs join the network to accommodate as many as 100 to 200 industrial users.

"These labs are regional and their engagement will be regional. We want to get the word out that these labs are where you can go to start your business," says Gale, adding that work is underway to expand the network to users around the world. "The whole model is to tighten the relationship between the labs and then design the technologies to provide a desk-top window for what you can do in the labs."

Gale points to a recent Canada Foundation for Innovation award to CMC's National Design Network (of which FACT is a component) for a Platform for Advanced Design Leading to Manufacturing in Micro-Nano Technologies (ADEPT). CFI provided \$7.7 million towards the \$19.3-million project to establish what's being touted as the world's largest micro-nano R&D ecosystem.

NanoFAB is one of the largest labs in the FACT network. At the recent Innovation 360 Symposium in Gatineau QC co-sponsored by CMC and C2MI, NanoFAB director Dr Eric Flaim said his \$110-million facility boasts 189 state-of-the-art tools for training, a staff of 16 that supports industry as well as 165 nano-related researchers at U of A.

Gale says the cost of outfitting and operating nano labs is expensive, and increasing their user base through fee-for-service and other arrangements can strengthen their ability to collaborate with industry and train a future generation of highly skilled personnel. As for CMC, Gale says it intends to be an "honest broker" in the network.

Universities with Nanolabs
currently promoting
external users

Université de Sherbrooke
University of Alberta
Polytechnique Montréal
University of Toronto
Simon Fraser University
McGill University
University of Waterloo
University of Waterloo
INRS
University of British Columbia

"CMC plays a coordinating role because in the network we're in a cooperate and compete situation," he says. "Which labs should a job be allocated to? We'll solicit bids and quotes from each lab and see what happens."

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