

# Nobel laureate, Canadian universities warn of setback for chip researchers if Ottawa cuts funding

SEAN SILCOFF

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More than 90 Canadian academics and technology executives including Nobel laureate Arthur McDonald have appealed to the federal government to restore funding for a third-party agency that helps thousands of researchers dramatically cut the cost to design and manufacture electronics chips.

Kingston, Ont.-based CMC Microsystems was founded in 1984 and funded by Ottawa to enable individual Canadian researchers to design and make chips inexpensively by pooling demand. CMC offers access for thousands of postsecondary professors and students to dozens of chip design software packages at a cost of \$1,000 per professor, and pools demand to fabricate 400 chips a year in bulk at foundries around the world, substantially reducing the cost to users to just \$850 annually.

But in 2015 federal officials told the not-for-profit organization that Ottawa would cut federal contributions to the organization's roughly \$10-million budget from \$8-million to \$6.5-million per year for the next two years and then to zero next year – after providing more than \$250-million over the past 34 years through the Natural Sciences and Engineering Research Council (NSERC).

CMC got a commitment through the federally-funded Canada Foundation for Innovation to provide up to 40 per cent of CMC's budget on a matching basis if it could secure the remaining funds. But that effort to find replacement money from the provinces has been unsuccessful, said CMC's CEO Gord Harling. "We were dumped on the street by NSERC and nobody's been willing to pick up the bill," he said. When he appealed to federal science ministry officials in September to restore funding, Mr. Harling says he was turned down flat.

A spokesman for the federal Innovation, Science and Economic Development ministry said the government has provided funding for the past three years to help CMC "transition its business model" and said the department "has had constructive discussions with CMC as they develop a new strategic plan," adding only "we look forward to the outcome of these discussions and to the future success of this organization."

Mr. Harling said that without continued federal funding, CMC will shut its doors at the end of June when the money runs out. Staff received termination notices this week. “It’s going to be pretty disastrous from the researchers’ point of view; I’ve got a lot of them crying on my shoulder now saying their research programs will stop” without access to CMC’s low-cost tools and services, Mr. Harling said. “It will be a severe blow to research and development and electronics across Canada.”

That message is reflected in several letters to political leaders from university researchers and officials from across Canada, obtained by The Globe and Mail.

“Our research relies on the design software and prototype fabrication services made available through CMC Microsystems,” Dr. Mustafa Yavuz, director of University of Waterloo’s Nano and Micro-Systems Laboratory, said in letter to science minister Kirsty Duncan in September. “Without these services and the support and training provided by CMC our research programs would be severely impaired ... We would never have been able to do this on our own.”

Dr. Arthur McDonald said in a statement that CMC helped develop the electronic systems for the Sudbury Neutrino lab experiment that helped him win the 2015 Nobel Prize in Physics. “CMC has enabled researchers to keep Canada at the forefront of scientific research and innovation,” he said in a statement. “Ending its funding is short-sighted in the extreme.”

If CMC ceases to exist, “Where do students get their chips fabricated? They don’t” at a cost they can afford, said David Rothwell, former president of the Ontario Centre for Microelectronics and a former senior provincial bureaucrat and technology executive. He wrote to Minister Duncan saying that if the government lets the NSERC funding lapse, it “will kill CMC and ... the federal government will have failed in its role to support international competitiveness” of Canada’s advanced technology sector.

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