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New Funding Tools For College-Industry R&D Partnerships

Companies that want to tap into the innovative capacity of Canada's colleges, with a view to improving their business performance, will soon have access to a much wider array of funding support mechanisms. Armed with an additional \$15 million annually from *Budget 2010* for the Colleges and Community Innovation (CCI) Program, NSERC is introducing three new CCI funding opportunities.

For the first time since the CCI Program's inception in 2008, funding will be available for colleges to work with individual businesses to solve company-specific problems. It will be supplied through three types of Applied Research and Development (ARD) grants. The smallest grants, valued at up to \$25,000, will be geared to short-term projects of up to six months, similar to those supported in universities through NSERC's new Engage program. For projects lasting one to three years, two other ARD awards will be available, both of which require cash or in-kind contributions from partners. For medium-sized grants of up to \$75,000, partners contribute a third of project costs; and for large grants exceeding \$75,000, partners are required to contribute half of the project costs.

NSERC is also introducing equipment support through the new Applied Research Tools and Instruments initiative, which will offer grants ranging from \$7,000 to \$150,000 to

support the purchase of research equipment and installations. The final piece in the new CCI funding program is the support for Technology Access Centres (TAC). NSERC intends to pilot TACs in each area covered by its five regional offices: Atlantic, Quebec, Ontario, Prairies and Pacific.

Full descriptions of all the new CCI initiatives will soon be posted on NSERC's Web site.

Industry-Driven R&D Relationships Boosted

NSERC has allocated an additional \$2.5 million to its \$50 million annual budget for the industry-driven Collaborative Research and Development (CRD) Grants program. CRDs support university researchers who partner with businesses to solve company- and industry-specific problems. The new money is part of the additional \$5 million announced in *Budget 2010* to support NSERC's Strategy for Partnerships and Innovation (SPI). The remaining \$2.5 million is assigned to the Engage and Interaction programs of SPI, which are designed to stimulate new research partnerships involving companies and university experts.

Greening Up: Reducing Environmental Impact

For a growing number of Canadian businesses, limiting the impact they have on the environment is a key concern. Collaborating with university researchers can produce innovative solutions to some longstanding environmental challenges to reduce the footprint of company operations and provide an added value appeal for customers.

In Alberta, TransCanada PipeLines Ltd. has been working with experts at the University of Calgary to develop a more efficient and sustainable method for dealing with PCB contaminated soils. Currently, the most common method for rehabilitating polluted sites is to excavate the contaminated material and ship it to one of a limited number of incineration or treatment facilities across the country.

"We really wanted to explore a way to take care of PCB contamination on-site, both to reduce the cost of remediation and to eliminate the risks associated with transporting contaminated material," explains TransCanada engineer Robert Phernambucq. "We were also interested in finding a more sustainable option, since shipping and incineration require significant energy."

Led by University of Calgary environmental engineer Gopal Achari, the collaboration focused on using light (photo-degradation) to break down PCBs.

"It really seemed like the most promising solution," says Dr. Achari. "Using light can be a very efficient method, and it doesn't require any harsh chemicals or extreme heat."



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With funding from NSERC, the partners developed a prototype that achieved promising results. They are now working to fine tune the technology with support from an NSERC Idea to Innovation grant.

"This kind of technology is not likely something we could have developed in-house, because it really needs specialized expertise and input from a wide range of disciplines," Phernambucq said. "That's the great advantage of working with the university."

Securing An Edge On Competitors

Every business values the chance to get a jump on the competition by giving its products an edge in the marketplace. Hooking up with higher education experts, many of whom are at the vanguard of their chosen specialties, is becoming an even more important way for businesses to get that head start.

Microbonds Inc., of Markham, Ontario, is one such company. By collaborating with Norman Zhou and Michael Mayer—world-leading experts in welding, joining metallurgy and wire bonding, at the University of Waterloo—the company found a way to lower the production costs in its semiconductor packaging business without having to overhaul operations or lose ground in their sector.

Microbonds makes the wire bonds for electrical connections between microchips and the materials on which they are mounted. Until recently, those bonds were made of gold, but the skyrocketing price of that material prompted researchers to devise a worthy substitute. Thanks to the R&D collaboration, Microbonds is now first to market with wire bonds made of coated copper, at a raw material cost that is less than one-thousandth the price of gold.

"We are definitely ahead of the curve today as a result of this collaborative R&D project," says John Persic, vice-president of R&D with Microbonds. "It was perfect timing for us because the research findings have allowed us to significantly reduce our material costs and have placed us in a much stronger position technologically as we emerge from the latest recession."

Persic attributes part of the project's success to the regular interaction between the company and the university. "We had weekly meetings by phone and in-person meetings monthly to make sure the research stayed on track, and I believe the positive results speak volumes about the importance of those meetings."

In-Kind Contributions Give You More Leverage

Your business can get more bang for its buck by supplying in-kind contributions to university-industry R&D projects. In fact, under the Collaborative R&D (CRD) program, every dollar of in-kind contribution from the business attracts a dollar of matching cash



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from NSERC. There are a wide range of [eligible in-kind contributions](#), including the salaries of company personnel engaged in the CRD project, equipment donations, software, patents, licenses and materials. NSERC recognizes that in-kind contributions are necessary to ensure R&D projects are truly a collaboration between companies and university partners.

Share your story

Have an NSERC R&D Partnership success story to share? Please send a brief summary to editor@NSERCPartnerships.ca.

Contact Us

For more information about NSERC's partnerships programs and how your business can become involved and benefit, please call toll free at 1-877-767-1767. You will be connected to a representative in one of our five regional offices who can assist you.



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