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## New Guide Simplifies Development of IP Agreements

Businesses that have not previously collaborated with post-secondary researchers, and even those that have, now have access to [guidelines](#) designed to simplify and accelerate the process for creating intellectual property (IP) agreements for NSERC-funded partnership projects and programs. The guidelines detail the roles and responsibilities of business partners, faculty, students and postdoctoral fellows. They also provide sample clauses from IP agreements that relate to each of the five mandatory elements in NSERC's recently revised IP policy.

## Businesses Applaud Third-Party Funding for R&D Contracts

Third-party funding, such as that provided by NSERC's Collaborative R&D program, can be the deciding factor in a company's decision to initiate contract research with universities, according to a new multi-client study conducted by the Toronto-based Impact Group. Entitled [Knowledge Transfer Through Research Contracting](#), the study provides testimonials from various business people about how crucial third-party funding can be in persuading business decision-makers to contract R&D to universities. Third-party funding "tipped the scale in our decision to invest in new research," states one business respondent. It "makes the difference between doing it [investing in a research project] and not doing it," remarks another.

## Market Pull Drives NSERC's New Engage Program

Researchers and their industry partners should note that NSERC's highly popular Engage Grants (EG) Program is designed as a market-pull initiative with a focus on building new collaborative relationships. A small number of technology push applications have been submitted by researchers, involving the commercialization of university inventions and focused on transferring technology to the partner company. These are being directed to NSERC's Idea-to-Innovation Program, designed to help researchers and companies commercialize university inventions.

Building new relationships is the first step for NSERC and its Engage Program, followed by nurturing those relationships. To ensure that the program's results emphasize sustainable relationships, NSERC is revising the program literature to limit the number of new relationship grants a researcher can obtain to two Engage grants per year. Exceptions will be considered in cases where applicants demonstrate that they have successfully extended a completed EG project into larger and longer-term R&D collaboration with the business partner.

## NSERC Recognizes Winners of Innovation Challenge Awards

The Innovation Challenge Awards honour graduate students in the natural sciences or engineering who have demonstrated an entrepreneurial spirit by identifying ways in which their research thesis results can be developed into products and processes to benefit Canadians. [Meet this year's winners.](#)

The Natural Sciences and Engineering Research Council of Canada (NSERC) and the Business Development Bank of Canada (BDC) provide the major funding for the Innovation Challenge Awards.

### About BDC

BDC is Canada's business development bank. From more than 100 business centres across the country, [BDC promotes entrepreneurship](#) by providing highly tailored financing, venture capital and consulting services to entrepreneurs.

## Boosting Investor Confidence Through Partnerships

Raising capital for an early-stage technology company can be an arduous task even at the best of times, particularly when the business is long on promise, but short on revenues. The task can be made easier, however, when a start-up enterprise forges a strong connection to a university research partner and gets preferential access to knowledge pioneered by the partner, including intellectual property (IP) and patents.



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Milligan Bio-Tech Inc. of Foam Lake, Saskatchewan, has learned this lesson well. It is commercializing a novel chemical process that produces bio-diesel fuels and higher value co-products, such as diesel fuel conditioner, penetrating oil and road dust suppressant, from damaged and low-grade canola oil seeds.

The company has already raised tens of millions of dollars from investors, largely on the strength of its exclusive rights to three patents produced by Martin Reaney and his research group at the University of Saskatchewan.

"Investors want to see some form of intellectual property," remarks Zenneth Faye, Milligan's executive manager and former head of the Saskatchewan Canola Development Commission. "The IP that we developed in partnership with Dr. Reaney's group certainly helped convince local investors to put their money on the table."

Using the private investment as leverage, Milligan and Dr. Reaney have secured more than \$13 million in R&D grants from a variety of federal and provincial sources, including NSERC. Faye says the NSERC support was crucial to building both the scientific foundation for the biodiesel innovations and for technology scale-up.

"We tapped into NSERC to get us to the next level – from beakers and test tubes on the benchtop to 20-litre pails in a pre-pilot facility. Without NSERC's support, it would likely have taken us a lot longer to bring the biodiesel and co-products to market."

## **Saving Money and the Environment by Extending Product Lifespans**

Virtually every industry is under pressure to become more environmentally sustainable. By partnering with university researchers, a growing number of companies are fulfilling that obligation (and realizing considerable savings) by extending the life of their products, reducing waste and curbing greenhouse gas emissions.

Clayburn Refractories and Teck Metals have a long-standing NSERC-funded partnership with materials engineering experts at the University of British Columbia (UBC) that is helping both companies to become more eco-friendly and profitable.

Led by UBC engineering professor Tom Troczynski, the partnership has already succeeded in doubling the lifespan of Clayburn's refractory materials – cement-like coatings and bricks that retain their strength at extremely high temperatures and are used in linings for Teck's non-ferrous metal smelters. It also managed to reduce emissions of toxic offgases within Teck's furnaces.

Equally important, the new refractory linings have enabled Teck to reduce its carbon dioxide emissions by up to 50 percent per ton of metal produced. The company is also



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saving up to \$1 million every three years through lower maintenance and restoration costs, according to Terry Mills, Clayburn's regional manager.

On Clayburn's side, Mills says the benefits to his company extend well beyond the estimated \$1 million in revenues from new refractory products that have emerged from the partnership's innovations. "Not only are we generating more sales, but we are delivering more environmentally friendly products to our customers. Also, by extending the service life of the refractory linings, we are ultimately producing less waste."

The reasons for the partnership's success include having Clayburn's former director of research, George Oprea, on Dr. Troczynski's research team. "Having George on campus working directly with the researchers," remarks Mills "was key to the success of this project. His unique insights into the needs of Clayburn and our customers ensured that the research was relevant and commercially applicable."

## Cultivating Talent Through Partnerships

Identifying and hiring highly-skilled professionals can be difficult, but Octasic Semiconductor of Montréal has found a way to make it easier to get the talent they need. As a result of a recently completed NSERC Collaborative R&D (CRD) project with the École de Technologie Supérieure (ETS) they not only have access to talent that understands their business, but they can hire with a high degree of confidence.

"Projects like this CRD allow us to improve the quality of our hiring," explains Doug Morrissey, Octasic's Chief Technology Officer. "We get employees who have already hit the ground running because they are familiar with our company, the individuals they are working with, and the products they are developing. In the end, it really allows us to ramp up the employee much quicker and realize a faster return on investment."

During the three-year CRD project, a 22-person talent pool was trained, including three who were hired full-time by Octasic. The research team, led by ETS electrical engineering professor Claude Thibeault, helped the company improve the performance of its new wireless products. Those include programmable microchips and software for voice, video and wireless communications.

The team also began developing a modeling tool that can predict the performance of a given architecture for a given application – a capability which would help reduce the time to market for Octasic's products. Progress on that front was sufficiently promising that the company and ETS have extended their collaboration through a new research contract.

"There is definitely a need in the market for a tool that could do this kind of performance projection," notes Morrissey. "From that perspective, if this pays off, it will pay off big."



## Share your story

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