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TPC

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Booming Biopharmaceutical Sector a Key to Strengthening Canada's Knowledge Economy

Biopharmaceuticals are emerging as a powerful tool in Canada's efforts to forge new approaches to the treatment of some of society's most devastating diseases. In the process, the biopharmaceutical sector is creating skilled jobs and building high-tech expertise across the country.

That's why Technology Partnerships Canada (TPC) has made research and development (R&D) in the biopharmaceutical sector a key priority. The primary goal is to unlock the sector's potential to achieve dramatic improvements in human health and quality of life. At the same time, TPC is helping to ensure Canada stays at the forefront of one of the fastest-growing sectors in the knowledge-based economy.

The biotechnology sector is expanding four times as fast as the economy as a whole, and employment five times as fast. Canadian biotechnology R&D is currently valued at $585 million, with total industry revenues exceeding $1 billion a year. Small entrepreneurial firms represent 72 percent of the industry.

Since its launch in 1996, TPC has invested more than $200 million in health-related projects. With TPC's assistance, researchers and scientists across the country are pursuing innovative ways to treat cancer, Alzheimer's, respiratory diseases, and a variety of other disorders afflicting many thousands of Canadians.

TPC's repayable investments are enabling cutting-edge companies to advance their technologies and pursue significant medical breakthroughs. These companies are not only driving innovation, they are strengthening R&D capacity by forming alliances with universities, institutes, and small and medium-sized enterprises that include contract research organizations. In turn, these partnerships strengthen the capability of Canada's contract research organizations to manage clinical trials and produce effective new therapeutic drugs, vaccines and other essential materials at sites across the country.

Such critical R&D will have a profound impact on the health-care system in Canada by providing substantial savings in costs and resources over the long term. TPC's partnership with Neurochem Inc. of St. Laurent,



Quebec, for example, could lead to significant health-care savings should the company's state-of-the-art biotechnology prove an effective treatment against Alzheimer's disease. And the success of pioneering drug therapy from NPS Allelix Corp., based in Mississauga, Ontario, would sharply reduce hospital stays for sufferers of severe intestinal disorders.

TPC's investments in the biopharmaceutical sector are helping to accelerate new approaches to the treatment of disease that are far less invasive and therefore provide a better quality of life for patients: Toronto-based Aventis Pasteur Ltd. is developing non-toxic cancer vaccines that will initially target melanoma, colorectal, and bladder/prostate cancer; INEX Pharmaceutical Corporation of Burnaby, British Columbia,

Canada

is creating anti-cancer drugs intended to fight tumour growth; Québec City-based Aeterna Laboratories Inc.'s anti-angiogenesis drug therapy is designed to slow down or stop the progression of cancer, psoriasis, and macular degeneration; MethylGene Inc. of Montréal, Quebec, is developing new biotechnology that will target a range of cancers; Montréal-based Theratechnologies Inc. has started R&D involving a new treatment for bone-marrow cancers; and a major project to develop vaccines that prevent respiratory infections will help transform BioChem Pharma Inc. of Laval, Quebec, into a fully integrated biotechnology company.

Biotechnology's health benefits are significant, and so are the economic benefits. By building on its strengths, Canada can entrench its expertise, expand infrastructure at its state-of-the-art research facilities, and fuel the creation of new jobs and opportunities in this growing sector in every part of the country.

Clearing Land Mines Faster, More Safely is Goal of TPC-supported Technology

It is a project with a humanitarian aim. With Technology Partnerships Canada (TPC) playing a key role, new technology is being developed in Duncan, British Columbia, that could soon accelerate the effort to eliminate land mines — allowing people to return safely to abandoned farm fields and villages in war-torn areas around the world.

On behalf of the Canadian Landmine Fund (CLF) and the Canadian Centre for Mine Action Technology (CCMAT), TPC made a $160,000 repayable investment in R&D leading to the creation of an innovative tool called the Brusher/Deminer Machine (BDM 48). Under development at Duncan-based PRO MAC Manufacturing Ltd., the BDM 48 is designed to withstand an antipersonnel land mine explosion, yet flexible enough to be used in many different terrain conditions. CCMAT recently tested the tool in a wide range of conditions at the Defence Research Establishment in Suffield, Alberta. A report on the test will be issued soon.

Years after wars and conflicts end, land mines go on killing and maiming. That's why Canada took a leadership role in an international initiative that called for the prohibition of antipersonnel land mines. That initiative resulted in the signing of the Ottawa Treaty in 1997. Now, with this project, Canada is advancing the cause further by taking the lead in an R&D project that could make the clearing of land mine areas both faster and safer.

The BDM 48's primary task is to clear foliage. Foliage often takes over known or suspected land mine areas and must be cleared before de-mining operations can proceed. The tool would reduce the risk for de-mining personnel and therefore accelerate the elimination of land mines.

Once developed, the tool would take part in the crucial first stage of de-mining operations, clearing the way for the reconstruction of villages and infrastructure, and enabling resettlement and the rehabilitation of agricultural economies, transport corridors and watersheds.

The project is a cooperative effort between government and industry. The Department of National Defence is providing testing and evaluation support through CCMAT. Both Industry Canada and the Department of Foreign Affairs and International Trade are providing business development support.

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WTO Confirms TPC is Compliant

The World Trade Organization (WTO) Appellate Body has reaffirmed that Brazil's PROEX export subsidy program continues to be illegal under WTO rules. The announcement The announcement comes in a ruling, released July 21, 2000, that also found Canada's restructuring of Technology Partnerships Canada (TPC) has brought the program in line with WTO rules.

"We are pleased the Appellate Body has recognized that TPC is functioning in a manner fully consistent with our trade obligations," says Canadian Industry Minister John Manley. "TPC continues to serve as an important program for promoting technological innovation and R&D in Canada."

This is the WTO's fourth successive ruling against the PROEX subsidy. In August 1999, the WTO Appellate Body ruled that Brazil had to withdraw its PROEX program, which offers substantially reduced interest rates to clients of the Brazilian aircraft manufacturer, Embraer.

The Government of Canada has asked the WTO for authorization to take appropriate countermeasures against imports from Brazil of up to $700 million a year for a period of seven years. This amount is equivalent to the benefits provided to the Brazilian regional aircraft industry by the illegal PROEX export subsidy.

The Canadian government expects Brazil to remove the illegal subsidy and is discussing implementation measures. Canada maintains its right under the WTO to impose trade sanctions against Brazil should it fail to comply with the ruling. However, the federal government is prepared to discuss an acceptable settlement to avoid the need for retaliation.

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