

ACCESS WEST

WESTERN ECONOMIC DIVERSIFICATION CANADA

January - March 2002

Keeping Pace in a Technology-Driven Economy

Business, big or small, needs to be at the top of its game continually to stay competitive in today's global marketplace. E-business has opened the door to worldwide markets and is rapidly becoming the storefront of choice for many consumers looking to avoid the shopping malls.

Today's information and telecommunications technology puts more power into the hands of business. But, a company's success may be hampered by not having the technology and the knowledgeable staff to use it.

Technology is taking giant strides in directions we never even considered 10 years ago. While many businesses and homes are looking at the Internet, new wireless technology is promising even greater rewards. Engineers are finding ways to improve production lines in everything from food processing to the manufacturing of aerospace parts.

Western Economic Diversification Canada (WD) is building a world-leading economy driven by innovation, ideas and talent in the

West. Through strategic initiatives and federal-provincial Western Economic Partnership Agreements, WD supports projects ranging from fuel cell research in British Columbia to nanotechnology and proteomics in Alberta, from petroleum research and telehealth in Saskatchewan to filmless radiology and health sciences in Manitoba.

And, to help level the playing field so that small business can access and hire the staff needed to stay competitive, WD developed the **First Jobs in Science and Technology Program**. The program makes it affordable for small and medium-sized enterprises in Western Canada to hire recent graduates of science, technology and engineering programs.

To find out if your business may be eligible for assistance under the First Jobs program or to learn about many of these innovative projects, visit WD's Web site at: www.wd.gc.ca or call us at 1-888-338-WEST (9378). ♣



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A MESSAGE FROM THE HONOURABLE *Ron J. Dubamel*



*Ron J. Duhamel
Minister of Veterans Affairs
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Diversification)
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To build higher levels of productivity and a stronger western Canadian presence in national and global markets, we must diversify our resource-based industry and further develop our knowledge-based economy. By fostering an environment where innovative ideas and knowledge are constantly generated and implemented, we set the path for a stronger valued-added economy. The outcome of this will be new products and services, more highly valued jobs, and the achievement of a better quality of life today and into the future.

Innovative research and development in the West has produced important advancements in the fields of telecommunications, agriculture and forestry, health care, genomics and new media. Western Economic Diversification Canada (WD) fosters a favourable climate for these advancements.

WD is playing an essential role in transforming the West to a knowledge-based economy by coordinating and leading innovation initiatives, as well as encouraging the commercialization of new technologies. It establishes partnerships with industry, academia and various levels of government, and makes strategic investments in priority areas of our economy that will strengthen the Government of Canada's evolving Innovation Agenda.

I invite you to find out how this is happening in this issue of Access West. ✻

Assessing Your Technology Product's Viability

Curtis Gulka of Saskatoon contacted Western Economic Diversification Canada (WD) in June 2000 looking for information and expertise. Gulka's company, **Verksam Resources Inc.**, was developing *The Spider*, a product that performs brake and suspension maintenance on semi-trailers. He needed help determining his next steps in the product's development.

Client Service Officer Gord Matheos introduced Gulka to the **Technology Assessment Services** program offered by WD and the Canadian Innovation Centre (CIC). Through this program, WD and the CIC have partnered to provide western Canadian technology owners and developers with credible evaluations of their technology-based products or business ideas. Assessments range from \$895 to \$3,500. With help from WD and the CIC, a business can take advantage of these services for about one-third of the cost.

Gulka used the internationally recognized **Critical Factor Assessment** to examine 37 key factors necessary for commercial success of his product. "Verksam Resources received an excellent third party review of *The Spider* and a comprehensive assessment of the next steps needed to develop it successfully. It reinforced some of what we already knew and highlighted things we needed to work on."

The assessment is an on-going development tool like a business or marketing plan, indicated Gulka. He uses the assessment to check off items highlighted in the review. *The Spider* is now in the early commercialization stages, with two units already sold.

The CIC also provides **Software Assessments** that help developers with a comprehensive search for relevant information and other products that would be closely competitive. The **Technology Assessment** evaluates technological merits of a new product, process or enabling technology as compared with current practice. And, **Market Review Plus** is a preliminary market assessment consisting of primary and secondary market information, providing Canadian and U.S. market data on subjects relating to the

Technology sectors

- *Advanced Manufacturing Technology* – new manufacturing techniques and machines combined with information technology, microelectronics and new organizational practices in the manufacturing process.
- *Information and Communications Technology* – the combination of manufacturing and service industries that electronically capture, transmit and display data and information.
- *Life Science Technology* – includes biotechnology and medical technologies.
- *Climate Change Technology* – emission reduction technologies that mitigate change in the global atmosphere, such as levels of greenhouse gases.



proposed innovation, such as: market size and trends, market growth and competition.

The Canadian Innovation Centre was founded in 1981 with support from the University of Waterloo and the Government of Canada. The CIC provides SME clients in all regions of Canada with the highest standard of due diligence and plays an integral role in key start-up and funding decisions for some of Canada's most innovative entrepreneurial and small business initiatives.

For more information, consultation and acceptance into the Technology Assessment Services program, contact your regional WD office or call toll-free at 1-888-338-WEST (9378). ♣

Innovation Diversification

Government realizes that for the West to prosper and succeed in the new knowledge-based economy, we must reduce our reliance on natural resources and invest in innovation. From fisheries to oil and gas, agricultural crops to forestry, new innovative technologies are being developed across the West that will change the way we view these resources.

While broad in scope, many of Western Economic Diversification Canada's (WD) investments promote the commercialization of technology. In partnership with industry associations, academic institutions, western and national research organizations, provincial governments and other federal government departments and agencies, WD is helping to advance technologies in many exciting arenas.

Innovation at work

The properties of today's manufactured products depend on how atoms are arranged. For example, we've learned to rearrange the atoms in coal to make diamonds. At the molecular level, these manufacturing methods are like making things out of LEGO with boxing gloves on.

Soon, ***nanotechnology*** will let us take off the gloves and snap together the fundamental building blocks of nature easily. As the revolution in computer hardware continues into the next decade, it will allow for the fabrication of an entire new generation of products that are cleaner, stronger, lighter and more precise.

Fuel cells today are a means of generating electricity for applications in power generation plants, portable power for remote recreational and commercial applications, homes and transportation. Basically, a fuel cell converts the chemical energy of a fuel, such as hydrogen, directly into electricity through an electrochemical process and

produces the byproducts water and oxygen. This technology produces power more efficiently, with less pollution than gas engines for example.

Synchrotron light is a magnification tool for pure and applied research in a wide variety of areas. Scientists can analyze materials with higher accuracy and precision than ever before. This technology is revolutionary for researchers, and its applications are used to develop new drugs, design new microchips for more powerful computers, manufacture tiny biomedical implants, and create stronger metal alloys for airplane wings.

Application-driven research and development combining the talents of artists and the skills of technology developers is known as ***new media***, which largely focuses on information technology, such as: multi-media content creation, Web-based solutions and telecommunications networks. The new media sector presently employs over 3,000 in Western Canada, with the potential to expand by over 50 per cent in the next two years and generate revenues of over \$1 billion.



on Builds n in the West

Technology, knowledge and management revolutions are taking place and specific applications, such as *telehealth*, offer ways to deliver health services and programs more widely and more effectively. The ability to transfer health information, specifically clinical data, across the provinces and territories will remove distance and access barriers, and help create a system that is integrated around patient needs.

Genome sciences use facilities for DNA micro-assays, DNA sequencing, proteomics and instrument prototyping in the areas of agriculture, infectious diseases, age-related human diseases, health diagnosis development and gene data analysis. This science can translate into novel products in the health, agri-food and aquaculture sectors, or new therapies for cancer for instance.

Nuclear and non-nuclear environmental and contaminant research are combining environmental analysis technology and risk management skills for the nuclear industry to the marketplace. Specialized research is also developing detection devices for use in international nuclear safety inspections that ensure spent nuclear fuel rods remain in storage and are not used in unauthorized research and weapons development.

Building on the earlier success of advanced computer-aided design (CAD) and engineering (CAE) tools, *virtual reality research* is providing a competitive edge through the use of visualization technology to improve product design and lower costs, and give engineers the ability to design, test and simulate in an interactive 3D environment. This technology has already been used to produce special effects images for some of our favorite sci-fi movies.

WD's investments in innovation take into account provincial, pan-western and federal opportunities and priorities. Many of these investments have been made through existing programs, as well as strategic initiatives and Western Economic Partnership Agreements to lever matching funds from provincial governments and private sector. Since 1998, WD has invested approximately \$440 million in over 2,500 innovative projects.

As WD continues its work of strengthening the western innovation system, new challenges must be met. The Department will facilitate early stage investment for technology firms to further support and help build an innovative knowledge-based economy.

For information about these or other innovative projects currently underway in Western Canada, contact WD at 1-888-338-WEST (9378). ♣

The new media sector presently employs over 3,000 in Western Canada, with the potential to expand by over 50 per cent in the next two years...

Innovating Opportunity for the Small Business Community

During a recent interview, we asked the Hon. Brian Tobin, Minister of Industry, for his thoughts on how small businesses can take advantage of innovation.



Minister Tobin talks about e-business, a significant opportunity for the Canadian small business community.

Industry Minister Brian Tobin recently met with representatives from Industry Portfolio Offices to discuss issues important in the different regions of Canada.

At Western Economic Diversification Canada (WD) the recent report, *A Portrait of Small Business Growth and Employment in Western Canada*, served to reinforce that small business is a big engine for economic development in West, and across Canada. WD's Pamela Roy asked Minister Tobin what his vision would be for how small business could take advantage of the Government of Canada's Innovation Agenda — one of the most ambitious initiatives that the Industry Portfolio has ever embarked on.

Minister Tobin indicated that Industry Portfolio Offices from across the country were doing a very good job of moving Canada in the direction of becoming very smart, very connected. He acknowledged that in the area of adaptation

of new technology, notably e-business, large Canadian corporations are doing quite well and are compatible with their United States rivals. The U.S. is considered by many a benchmark for Canadian business and it's that jurisdiction against which we measure our success.

Canadian medium-sized businesses are a little behind their U.S. counterparts, and small businesses have not fully bought into the opportunities available to them through the World Wide Web. "In my mind, that is beginning to change, but not rapidly enough. If we talk about creating an innovative society, an efficient and competitive society, there has to be a cultural shift right across Canadian society generally, but in the business context, certainly with small business," commented Minister Tobin.

"If we talk about creating an innovative society, an efficient and competitive society, there has to be a cultural shift right across Canadian society."

"One of the reasons for looking at high-speed broadband as an important technology for Canada's future, for example, is to ensure that we make it available everywhere in Canada. This technology needs to be available to Canadians in a useful format that allows for the movement of data quickly, using video and audio data bits in an effective and commercially-appropriate manner."

He added that small business needs to be able to do business over the Internet and handle business-to-business transactions in order to stay competitive in the rapidly growing global marketplace. "E-business is going to be a significant opportunity for the Canadian small business community in the future," concluded Minister Tobin. ♦

A Business Vision with IMPACT!

by Shawna Bourke

Alberta Women's Enterprise Initiative Association

Some entrepreneurs' dream of becoming a household name. For Debbie Travis, it actually happened. She has gone from painting neighbours' homes to having a successful production company and her own television show — Debbie Travis' Painted House. Travis has become one of Canada's best-known businesswomen and truly a household name.

So what does it take to achieve your entrepreneurial dream? Find out at the **Pan West Conference for Women Entrepreneurs**. This 'must attend' event for women business owners will be held April 24-26, 2002, at the Westin Hotel in Calgary, Alberta. As the keynote speaker, Travis will be sharing her entrepreneurial journey and insights on how to maintain the integrity of your business vision.

Travis is just one of the many speakers and sessions designed to help businesswomen from across Western Canada create IMPACT! in their businesses and their lives. The conference includes workshops, collaborative learning sessions and innovative networking opportunities, all intended to give participants the *focus > clarity > action* needed to advance their businesses. Ann Coombs, author of *Competitive Intelligence*, will describe the imagination, innovation and inspiration needed to ensure business adaptation and growth. Marilyn Herasymowych, co-author of *Solving Problems in Real Time*, will help participants learn how to "Thrive at the Edge of Chaos" and gain an understanding of why people act the way they do when faced with change and uncertainty.

This two-day line up of innovative topics will appeal to a wide range of women entrepreneurs, whether they have commercial space or are home-based, are a sole practitioner or have dozens of employees. Participants can have their marketing materials critiqued by experts in image, design, copywriting and print to ensure maximum return. Or, participants can add depth to their toolbox through facilitated discussion groups on topics such as employee relations, technology, 'homepreneur' and financial management.



Debbie Travis, host of television show Painted House, will be a speaker at the pan-western women's conference in Calgary.

The event is hosted by the **Alberta Women's Enterprise Initiative Association (AWEIA)**, a not-for-profit organization committed to helping Alberta women advance in business. AWEIA is a member of the Western Canada Business Service Network established by Western Economic Diversification Canada (WD). Over the past five years, AWEIA has created **IMPACT!** by linking thousands of women to other businesswoman across Alberta. This conference is part of their continuing commitment to supporting women in starting and growing their own businesses.

The conference, sponsored by WD and corporate partners, will provide creative opportunities to expand the women entrepreneur's network and explore dynamic links to business peers and potential suppliers and collaborators. Full conference details and registration materials are available from AWEIA at (403) 777-4250 or e-mail info@aweia.ab.ca. Visit www.aweia.ab.ca for regular conference updates. ✨

Graduates Help Western Their Technology

If you're looking to commercialize a new technology or develop a scientific technique that increases your production capabilities, maybe you need someone who can identify the appropriate scientific or technical knowledge you require. Western Economic Diversification Canada's (WD) **First Jobs in Science and Technology Program** may be able to help.



BC Hydro's Ron Threlkeld (L), NxtPhase CEO Richard MacKellar (M) and WD's Kandice Johnson (R) officially open the NxtPhase optical sensor manufacturing facility.

The demand for accurate measurement is proving vital as deregulation of utilities becomes

commonplace. Vancouver's **NxtPhase Corp.** develops digital and fibre optic solutions that will change the way high-voltage electric power is managed in this competitive industry. Its optical sensing products offer more accurate digital information, and improved safety and environmental benefits compared with conventional technologies.

When the company needed a highly skilled individual to help design and build a prototype beta column assembly that combined optical current and voltage sensors into one structure, they contacted WD. Through the First Jobs program, NxtPhase was able to hire Susan Liu, a junior high-voltage mechanical engineer who has focused on development critical to bringing the company's optical sensor product line to commercialization.

"Optical technology is uniquely suited to meter power to a very high level of accuracy," reported NxtPhase CEO Richard MacKellar. NxtPhase has improved upon the 5,000 pound conventional electromagnetic devices that measure either voltage or current with a single

200 pound version that is cost effective and boasts improved accuracy.

"The First Jobs program has been a great boost for NxtPhase," commented Farnoosh Rahamatian, director of research and development. "Susan has been a critical team member in a project which, so far, has resulted in sales and installations at major utilities such as BC Hydro and Hydro Québec."



BioWare's Dave Faulkner (L) and Aaron Flynn (R).

If you play video games on your personal computer, or own a Dreamcast or PlayStation 2 system, you may have enjoyed an exciting action adventure game developed by **BioWare Corp.** MDK2 and

Western Businesses Improve Technology Capabilities

Baldur's Gate are just two of the games created by this award-winning Edmonton electronics entertainment company.

BioWare heard about WD's First Jobs program through an Industrial Research Assistance Program advisor who thought the program would benefit them because they valued education in their employees. Aaryn Flynn and David Falkner were hired to help develop the company's line of successful products.

Aaryn played a vital role in assisting with the development of tools that made assembly of Baldur's Gate II possible. The entire Baldur's Gate franchise has sold nearly 4 million copies worldwide and won a number of international awards.

With David's help, BioWare was able to develop the technology that powers MDK2, the 3D BioWare Omen Engine™. Omen is the core technology that drives the game, interpreting user input and game rules to result in an entertaining user experience.

"With the First Jobs program, we've been able to enhance our core staff with the best quality people available," said Dr. Greg Zeschuk, Joint CEO of BioWare Corp. "Both Aaryn and David have played pivotal roles in the development of BioWare and our games."



MBD President Doug McNair (right) believes IT graduates can thrive in Western Canada.

McNair Business Development Inc. (MBD) is a prospering Regina-based company that understands the new economy and is applying Web development and secure on-line technologies to support new business strategies. The company serves a wide range of clients in the agriculture, information technology, education, travel and health industries across Canada and the U.S.

First Jobs Program

If you're a western Canadian company, organization or industry association with fewer than 250 employees, your business may be qualified. Recent graduates can be hired for projects that: adapt, acquire or integrate science and technology new to your business; implement, modify or operate a new technology; or train staff to use a new technology.

The First Jobs program provides salary support that enables your company to hire some of the brightest young graduates that can provide valuable scientific and technological expertise in all the latest equipment, systems and programs, as well as provide fresh ideas on how to use those skills to help your business grow.

It's a win-win situation! As well as providing your business with valuable expertise, the program also helps to provide many young western Canadians with their "first jobs" in their chosen field.

By understanding their clients' business opportunities and objectives, MBD has helped many companies by designing, building and implementing Web-enabled technology to support their business. Their experience helps their clients to reduce costs while increasing revenue and improving services.

MBD President Doug McNair hired four recent graduates with fresh new ideas and approaches with help from WD's First Jobs program. The grads are well trained in a variety of disciplines and get up to speed quickly. McNair noted that expensive training is a norm in the industry, and the First Jobs program allows MBD some flexibility when weighing candidates' long-term potential against limited job experience, as they are crucial to the company's future success and stability.

"MBD is striving to build a knowledge-based industry which allows graduates to develop their careers in Western Canada, to create employment and to stem the brain drain to other parts of Canada and other countries," said McNair.



International broadcasting and digital media industries often have unique multi-media requirements for commercial and Internet applications. Winnipeg's **OMT Technologies Inc.** develops many of these solutions and in 2001 released its new iMediaTouch software suite under the Windows platform. This innovative new application allows radio stations to automate and organize their live and pre-taped broadcasts.

To keep pace with the times, OMT needed to convert their software program from a DOS platform to

Windows. The solution was simple, but it came with a price tag. OMT needed an additional programmer with the necessary knowledge to complete the transition. The company approached WD for assistance, and the First Jobs program enabled them to defray the full impact of the cost of hiring a recent graduate for the project.



An engineer at WPGC AM/FM radio in Washington, DC, using MediaTouch software.

For three years, the graduate put his skills to work on the iMediaTouch software suite and assisted in elevating OMT's leading-edge software in the broadcast industry. OMT boasts over 400 radio stations in North America among their clients, notably CBC, CBS Radio, Corus Communications, DMX/AEI and ABC Radio Networks.

"The transition to Windows was a two-year project," indicated OMT Vice President of Administration, Ted Paley. "It would have been difficult to afford an individual of the graduate's calibre without assistance from the First Jobs program." ❁

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McNair Business Development Inc.	(306) 789-0189 www.mcnairbd.com
OMT Technologies Inc.	(204) 786-3994 www.omt.net

Protect Your Intellectual Property Rights – Carefully

By Joan Crichton
Canadian Intellectual Property Office

Many people have a stake in intellectual property (IP) – business people, inventors, artists, researchers, academics, designers, electronic microchip manufacturers, plant breeders and those who keep up with developments in their fields.

What is Intellectual Property?

The Government of Canada considers certain kinds of creative endeavours “intellectual property” — patents, trademarks, copyrights, industrial designs and integrated circuit topographies. You can receive

legal recognition for these endeavours in much the same way as you can receive title to a piece of land. Information, such as records and documents that protect intellectual property owners’ rights contain valuable information, is available via the **Canadian Intellectual Property Office’s (CIPO)** patent and trade-mark databases on its Web site at www.cipo.gc.ca.

IP is collateral

Intellectual property can be critical to a company’s success. For example, the president of Coca-Cola said his company could survive the loss of all its material assets – as long as its trade-mark remained, Coca-Cola could rebuild. The copyright on the song, “Start Me Up,” earned the Rolling Stones a fast \$12 million – Microsoft obtained permission to use this song to promote their Windows 95 software package.

IP is protection

Like insurance, a business should protect its intellectual properties. Some may consider it expensive to spend precious start-up capital protecting IP, but launching a



Before designing, innovating or creating, search CIPO’s databases – a great source of business and technical information.

new venture without it is like buying a building without checking the real estate title. It is a wise business decision to obtain legal proof of ownership.

Beware of pitfalls

Some companies will hire a private firm to do the groundwork, perhaps to patent an invention or register a trademark. But, do you know if this company has your best interests at heart? There are a number of invention marketing firms who have been identified as fraudulent (although not all are).

Beware of scam artists who promise to look after your intellectual property with a little extra money to proceed with a marketing strategy, while all you have to do is sit back and collect royalties. If you plan to do business with another company, a best practice prescribes that you do some fact-finding first.

Once your business is up and running and you need some hired help, make certain that anyone you engage is firmly bound by a written agreement. Your employee must understand that, under copyright law, any work created for the business by its employees is the sole ownership of the company.

IP is a great business tool

For your protection, visit the CIPO Web site at www.cipo.gc.ca. You can access vast patent and trademark databases, file an application electronically, obtain a list of registered patent and trademark agents, and order CD-ROM products. Five intellectual property guides are also available, as are interactive tools that explain IP clearly and concisely. ✦

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Business Start-Up Assistant Web Site Wins Bronze

by Diane Abernethy

The Canada Business Service Centre's **Business Start-Up Assistant (BSA)** went home a winner from this year's Technology in Government Conference (GTEC) in Ottawa in October 2001.

The Business Start-Up Assistant received the bronze medal Distinction Award in the Federal category for Improving Service Delivery to Citizens and Businesses. The award recognizes outstanding achievements in developing and implementing service delivery improvement projects with a specific focus upon individual citizens and businesses.

The BSA is an innovative Web site developed by the **Canada Business Service Centres (CBSC)** that consolidates essential information required by anyone wanting to launch a business. Clients have access to generic and provincial/territorial-specific information organized under topics directly applicable to each step of



the business start-up process, such as market assessment or taxes. The easy-to-navigate site also provides links to federal and provincial forms required for business start-ups.

“The Business Start-Up Assistant is an important national tool for all Canada Business Service Centres and their clients,” says Saskatchewan CBSC manager Diana Matsuda. “It provides a level playing

field for anyone wishing to start a business in Canada, regardless of where they live.”

CBSCs are a gateway to a wide range of information on government services, programs and regulations for business. They can answer questions about starting a new business or improving an existing one.

For information about the Business Start-Up Assistant, visit the CBSC Web site at: bsa.cbsc.org. ♣