

ECONOMIC DEVELOPMENT SUPPORT
FOR THE
STATE OF MONTANA
BY THE
MONTANA UNIVERSITY SYSTEM

*Economic Development Profiles
of the
Montana University System Campuses*



NOVEMBER 2002

A report prepared by the Montana University System

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ECONOMIC DEVELOPMENT PROFILE:

Montana State University – Bozeman

Montana State University contributes to the Montana economy in at least four major ways:

- ◆ Business assistance programs
- ◆ Workforce development
- ◆ Technology transfer of discoveries made at MSU
- ◆ An industry within the university

BUSINESS AND MANUFACTURING ASSISTANCE

- ◆ **The Montana Manufacturing Extension Center (MMEC)** was created to improve the competitiveness of Montana manufacturers through engineering and managerial assistance. The Center has conducted over 700 projects with more than 350 companies, which represents over 20% of the \$5 billion manufacturing sector of the state's economy.
- ◆ **TechLink Center** helps private companies find federal and university inventions to commercialize. Accomplishments include:
 - ◆ Helped 31 Montana companies to access NASA or DoD technology, technical capabilities, or funding through establishment of partnerships with NASA and DoD labs.
 - ◆ Helped 10 Montana companies secure nearly \$11 million in SBIR and other funding for new technology development.
 - ◆ Provided seed grants and matching funds totaling \$963,000 to 38 Montana companies to assist in development and commercialization of advanced new technologies.
 - ◆ Helped create six new high-tech businesses in Montana during the past two years, four in partnership with our affiliated incubator, TechRanch.
- ◆ **Bozeman TechRanch** is a high-tech business incubator to support the rapid start-up and commercialization of software, Internet and e-commerce companies. TechRanch is a partnership between MSU, The Gallatin Development Corporation and the City of Bozeman.
- ◆ Through **University/Industry Partnerships**, MSU works with more than 60 Montana companies that produce products ranging from high-tech lasers to portable environmental toilets. The types of partnerships include student internships, joint university/industry research projects and the utilization of university facilities and equipment.
- ◆ **Centers that Work Directly with Montana Companies.** Examples include:
 - ◆ The Center for Biofilm Engineering with 30 Industrial Associates
 - ◆ The Center for the Study of Life in Extreme Environments
 - ◆ The Optical Technology Center
 - ◆ The Spectrum Lab
- ◆ The **Montana Agricultural Experiment Stations** and the **Extension Service** network offer highly sophisticated solutions to agricultural problems facing the state. These agencies bring to Montana producers state-of-the-art technologies including sophisticated genomics and geographical analysis.

WORKFORCE DEVELOPMENT

- ◆ MSU expends over \$5 million annually for direct support of students engaged in research.
- ◆ Over 300 undergraduate students each year gain practical, hands-on experience through the

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Undergraduate Scholars Program. These experiences are directly applicable to the students' competitive success in the job market.

- ◆ More than 300 undergraduate students were involved in internships last year. Many of these internships lead to permanent employment with the company after graduation.
- ◆ Student utilization of state-of-the-art equipment, e.g. DNA sequencers, ensure that MSU students are ready for the employment in high-tech science and engineering companies when they graduate.

TECHNOLOGY TRANSFER OF DISCOVERIES MADE AT MSU

Discoveries made at MSU can either be licensed to companies for commercialization of the technology or publicly released to the citizens of the state. The public release of improved crop varieties with enhanced yield has brought greater return to Montana's agricultural producers.

- ◆ **Patents**
 - ◆ 29 issued
 - ◆ 99 pending
- ◆ **Plant Variety Protection**
 - ◆ 8 issued
 - ◆ 2 pending
- ◆ **Licenses**
 - ◆ 42 MSU technologies licensed
 - ◆ 24 of the 42 are with Montana companies

AN INDUSTRY WITHIN THE UNIVERSITY

- ◆ Grants and contracts expenditures for the last two years have exceeded \$60 million, making MSU the state's leading research and development enterprise.
- ◆ Approximately two-thirds of this amount (\$40 million) is expended for salaries, making the research activities of the campus one of the state's leading employers.

ECONOMIC DEVELOPMENT PROFILE:

Montana State University – Billings

Montana State University–Billings is actively engaged in economic development activities at many levels—from providing specific services and resources of our faculty, staff and students to developing academic programs in direct response to the needs of business and industry. A number of staff and faculty serve on various community, regional and state economic development committees and boards. Examples include:

- ◆ Big Sky Economic Development Authority
- ◆ Billings Area Chamber of Commerce
- ◆ Montana Business Incubator
- ◆ Montana Ambassadors

and a variety of other community development agencies working on everything from addressing poverty issues to developing strategic initiatives addressing job and income growth. The university itself is a key player in economic development, not only because of the services and training provided, but also because of the amount of money going directly into the economy of our community, region and state as a result of payroll, purchase of goods and services, expenditures by students, and the amount of grants and contracts coming to the university.

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BUSINESS AND MANUFACTURING ASSISTANCE

- ◆ **Yellowstone Center for Applied Economic Research** was established to provide research and analysis to support economic development in the Montana and northern Wyoming region. The goal of the Center is to know and understand regional economic issues and to utilize that knowledge in supporting economic development strategies collectively by communities in the region or individually by business.
 - ◆ Services include: Regional Economic Advisory Service, Economic Impact Studies, Market Development Studies, Energy Market Research, Energy Technology Research, Housing Research, and Commercial Real Estate Research.
 - ◆ Examples of clients served: (1) Downtown Partnership Group providing retail market service, including maintaining customer database for recruiting and retaining retail establishments. (2) Small-scale distributed generation commercialization research program to support economic development in rural and remote areas in the agriculture, oil and gas sectors. (3) Residential real estate research to support the setting of loan limits for the Montana Board of Housing program, and to benchmark and report on housing affordability by city across Montana. (4) Development of Decision Wizards (Web-based tool) to help individuals working in economic development understand the expected economic impact of holding conventions and events in Billings and surrounding area.
- ◆ **Center for Business Enterprise** is an outreach effort by the College of Business to Billings and regional businesses leaders and their employees by providing seminars and workshops on a variety of topics and issues. Faculty from MSU–Billings, MSU–Bozeman, University of Montana, Rocky Mountain College, and area business leaders are utilized in the program.
 - ◆ Services provided: (1) Tax Practitioner Institute this year is serving over 200 small business owners and employees in the accounting profession, real estate, and attorneys. (2) Computer applications consulting. (3) CPA review series. (4) Continuing Professional Education series featuring seminars for small businesses on various topics. (5) Executive-in-Residence series featuring national and regional prominent business leaders who address numerous topics of interest to the business community. Co-sponsorship with the Big Sky Economic Development Authority of the “Money Maker” series which provides seminars for the business community addressing various topics of interest.
 - ◆ Examples of clients served: KPMG, Security Title, First Citizens Bank, Galusha Higgins and Galusha, Northwest Pipe Fittings, COP Construction, Pioneer Oil Co., Stillwater Mining Co., Northern Cheyenne Indian Tribe, Montana Agri-Women, and Stu Henkel Realty.
- ◆ **Small Business Institute** provides consulting services for small businesses utilizing upper division and graduate business students, working under faculty supervision, who assist in solving problems of existing small businesses in need of assistance. Approximately 40 clients per academic year are served.
 - ◆ Services provided: Financial planning, marketing, human resource management, business operations, and strategic planning.
 - ◆ Examples of clients served: (1) Transtech Center, Inc. to develop a business recruiting campaign to attract high-tech business; (2) Montana Billiards Supply to develop a business plan to expand the business; (3) Billings Gazette to create a marketing plan for online products and services; (4) Yellowstone Valley Electric Cooperative and Fergus Electric Cooperative to determine feasibility of providing natural gas service in outlying areas of Billings, Laurel, and Shepherd; (5) Denny Menholt Frontier Chevrolet to study marketing of dealership and services; and (6) Billings Association of Realtors to create a web page to attract high-tech businesses to Billings.
- ◆ **Computer Assisted Telephone Interviewing Lab (CATI)** is a state-of-the-art computerized telephone-based facility that allows for the management and automation of data collected through telephone survey interviews and focus groups.

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- ✦ Services provided: Attitude and opinion surveys and perceptual mapping.
- ✦ Examples of clients served: (1) Montana Power Company survey of customer attitudes. (2) A patient scheduling study for Deaconess Billings Clinic. (3) A downtown Billings housing needs assessment study for Downtown Partnership Group. (4) Montana Department of Commerce small business study to determine needs of entrepreneurs. (5) Exxon/Mobile to survey residents of Yellowstone County as to their attitudes on energy, pollution and Exxon/Mobil itself.
- ✦ **Montana Business Incubator (MBI)**, an endeavor jointly sponsored by MSU–Billings and the Big Sky Economic Development Authority, is housed on the university’s campus. MBI offers a variety of support services and assistance to entrepreneurs seeking to start a business. Startup businesses may actually reside in the incubator, and then move to a permanent location once the business is developed.
 - ✦ Services provided by the university: office space and access to university facilities; access to faculty, students and staff including the Center for Applied Economic Research; undergraduate and graduate students to complete specific field experiences for MBI clients; seminars and workshops; and entrepreneurship and business plan competitions among students, faculty, staff and alumni.
 - ✦ Examples of clients served by MBI: Decision Group Services and Brainwaves (residents of the Incubator); and other examples of clients being served by MBI but not residents include Bison Engineering, Link Communications, Dokken Software, Trainnow.net, and Innovative Concepts.
- ✦ **Economic Development Action Group (EDAG)** is a statewide non-partisan group chaired by Tom Scott and was formed in the fall of 2000 by Senator Max Baucus to help chart the course for economic improvement in Montana. The group now serves in an advisory capacity to Gov. Judy Martz. MSU–Billings is a member. EDAG is currently focusing on education as it directly relates to economic development activity in the state. EDAG is sponsoring a series of roundtables across Montana in an effort to answer the following question: How can the education sector assist business and industry to develop and prosper in Montana? The upcoming Billings roundtable, to be held at MSU–Billings, will focus on various educational opportunities and business development programs available in the community.
- ✦ **Fuel Cell Technology:** The university is involved in several fuel cell projects in Billings and the region, all of which are designed for the potential commercialization of fuel cells as a new and viable industry for Montana. This includes various fuel cell demonstration projects, economic development studies, evaluation of potential users of fuel cell energy, and distribution of fuel cell energy as a residential and commercial venture. Coal bed methane development and commercialization are a part of this group of projects.
- ✦ **Economic Development Outreach:** The College of Professional Studies and Lifelong Learning and the College of Technology have taken leadership roles along with other colleges of the university in providing a number of training, outreach activities and services focused on economic development. A needs assessment of business and industry in Billings and the area has been completed and is being used to provide training/services/outreach activities pertinent to needs.
 - ✦ Services provided: Contract training; industry standard consulting, development and training operation for business/industry/non-profits; ACT Center and ACT Work Keys with application service provider agreement; other application service provider agreements in a full range of performance and productivity curriculum both classroom and online.
 - ✦ Examples of clients: Stillwater Mining, Bureau of Indian Affairs, U.S. Courts, and the Billings Fire Department.
- ✦ **Yellowstone Development and Training Cooperative** is a consulting, development and training organization spearheaded by MSU–Billings. It is a membership organization providing services at

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a fair market price, focused on assessed needs and business goals, and accessible in time and place to achieve a measured outcome. The mission is to provide individuals and organizations with high quality innovative opportunities; performance and process improvement; and economic development knowledge, skill, and strategies to satisfy industry standard performance and productivity outcomes. A one-year free membership is provided to all new businesses licensed by the City of Billings.

- ◆ **Downtown University Office** provides a one-stop shop for those who live and/or work in the downtown Billings area to access information about and resources of the university. A number of activities are being scheduled at the location, from short courses and seminars related to job skills to identifying internship opportunities for students.
- ◆ **International Business Conference.** The first conference was held in April 2002. Given the overwhelming success, future conferences are planned. These conferences will focus on local business issues related to their international business experiences. The purpose of the conference will be to aid and educate business people and students regarding the options, challenges and process involved in global business activities, and to continually update and identify specific areas on which the university should focus to provide international business resource support to area businesses.
- ◆ **Other activities** currently being planned include Business Work Force Development strategies; monthly roundtable discussions with local business and community leaders, discussing issues related to economic development strategies, business and industry issues, and educational support; providing an annual economic seminar focused on reviewing regional economic data.

ECONOMIC DEVELOPMENT PROFILE:

Montana State University – Great Falls College of Technology

WORKFORCE DEVELOPMENT

Preparing a High-Skills, High-Tech Workforce to Support Economic Development

- ◆ Last year, 125 students graduated from the Great Falls College of Technology's workforce preparation programs. Of that number, 94 percent became employed; 90 percent were employed in Montana. Average wage: \$10.22/hour.
- ◆ Many of our students choose not to graduate. Instead, they chose to take a set of courses enabling them to enter or advance in the workforce rapidly. D.A. Davidson Companies, Benefis Healthcare, Great Falls Public Schools and VisionNet hired students who earned their networking credentials within the options offered through the Computer Technology program.
- ◆ Online programs in Medical Transcription and Health Information Technology allow rural Montanans to complete degrees and work from their homes. The value: an additional average annual income of at least \$21,400 for Montana's place-bound families.
- ◆ The college houses Montana's only Dental Hygiene Program. The new Associate Degree program drew 38 qualified applicants, 14 of whom enrolled in the first semester of this program in fall 2002.
- ◆ In health care fields experiencing severe shortages — e.g., dental care, nursing, respiratory care — employing technicians with two-year degrees frees professionals for more complex tasks. The values: improved access to health care and reduced costs for patients.
- ◆ A shortage of teachers in Montana prompted the Pathways to Elementary Education program — a partnership between the College of Technology and MSU–Northern. Currently, 126 students are enrolled in Elementary Education at the 100/200 course level registered with the College of Technology and 46 are enrolled at the 300/400 level with MSU–Northern in Great Falls.

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- ◆ The first graduates of the new Surgical Technology program entered the workforce after summer semester 2002, addressing a critical health care need in the region.

Preparing Montana Youth for High-Skill, High-Tech Careers

- ◆ College faculty donated more than 1000 hours of their time to assist Great Falls and Helena High Schools' faculty in developing the "med prep" curriculum that prepares students for health care careers. The college also opens its doors to more than 900 middle school and over 1600 high school students for annual "Career Days" and "College in a Day" events.
- ◆ The college collaborates with 44 high schools in 13 counties to articulate "tech prep" courses that give students a running start on college degrees. This fall 29 high school graduates enrolled at the college with a combined total of 281 "tech prep" credits. Equivalent values: \$34,680 of 'essential scholarships' based on a per credit value of \$120.
- ◆ As a Cisco Regional Academy, the college provided training and support to 23 high school districts and community colleges, offering Cisco course work to students.

BUSINESS ASSISTANCE PROGRAMS

Responding to Ongoing Training Needs of Local, Regional, and State Businesses/Agencies

- ◆ During 2001-02, 1,015 individuals enrolled in 176 workshops and seminars. Topics included computer software applications, leadership training, personal enrichment, home and yard topics and summer camps for kids.
- ◆ To accommodate working adults, the college provides extensive evening offerings, including all three options in Computer Technology and two options in Business, as well as compressed course work leading to Cisco certification.
- ◆ As a Cisco Regional Academy, the College is one of 20 sites in the nation providing high-tech training in networking and web development to technicians in the Rocky Mountain West and Northern Great Plains. Values: upgraded faculty credentials, national recognition as a two-year education system with high-tech expertise.

Supporting Community Efforts at Business Enhancement and Economic Vitality

- ◆ In December 2001, the college hosted the regional Business, Industry, and Education Economic Development Roundtables. As a result of the information shared at this event, the college has:
 - ◆ Worked collaboratively with Montana Job Service and the Great Falls Area Chamber of Commerce to provide basic skills to job seekers;
 - ◆ Instigated the organization of young professionals in the Great Falls area to make the community more appealing to the 25 to 35 year old demographic;
 - ◆ Continued as an active participant in economic development efforts;
 - ◆ Assisted in the adoption of more stringent graduation requirements for Great Falls Public Schools;
 - ◆ Worked with 143 community leaders who serve on advisory committees for the college and for its varied programs. The advisory groups meet at least annually to review program offerings and offer input.
- ◆ For the past three years, the college has worked with the business community to host Storefront University, an evening of 60-75 workshops presented by and in Great Falls' downtown businesses. The values: training equivalent to a \$5,000 conference; enhancement of Great Falls' downtown enterprises.
- ◆ Last year, the college provided seven major community events and co-sponsored 24 additional events. An example: over 600 individuals received free technology training from state and national experts at the two-day Technology Fair at the College. Total value of an equivalent conference: \$20,000.
- ◆ The college provides facilities for non-commercial business activities at little or no charge. Value: at least \$40,000 annually.

ECONOMIC DEVELOPMENT PROFILE:

Montana State University – Northern

Montana State University–Northern’s Business Program works closely with Bear Paw Development, the local economic development agency for the four-county area surrounding Havre. Students in the Senior Projects class help small businesses with marketing or business plans; and faculty members often teach in a special program for start-up businesses. Students in other business classes also complete special projects for area entrepreneurs, and individual faculty have donated their services as consultants for people with a business idea.

BUSINESS AND MANUFACTURING ASSISTANCE

- ◆ **Our Students In Free Enterprise Team** has been instrumental in organizing and hosting an annual Manufacturing Conference for Small Manufacturers. The goal of these conferences is to provide the information that our regional small manufacturers need to complete in a global economy. We are in the planning stages for this year’s conference which will have a theme (tentative) of “Cluster Manufacturing.”
- ◆ **Montana Cooperative Development Center (MCDC)**. The Center’s mission is to study and promote cooperative action as a means of meeting the economic needs of Montana. To develop, promote, and coordinate educational programs, technical assistance and research on the cooperative form of business. It is funded by a \$65,000 per year, 5-year, statutory appropriation that has been leveraged by \$549,400 in grants from the USDA and private foundations. The number of individuals assisted by the Center is 296. Twenty-one potential or emerging cooperatives have been assisted. Highlights of the Center’s activities include assistance to:
 - ◆ Rocky Mountain Sugarbeet Growers (Billings) purchasing processing plants.
 - ◆ Amazing Grains Cooperative to process and market Indian Rice Grass. (statewide)
 - ◆ Organize Liberty County Artisans Association (Chester) to open a gallery and to cooperatively market their work.
 - ◆ The Natural Meat Cooperative, a multi-state natural beef processing and marketing cooperative.
 - ◆ Recruiting a credit union to the Ft. Belknap Reservation, not currently served by a financial institution.
 - ◆ A cooperative feedlot (Chinook).
 - ◆ A lamb marketing cooperative (Big Timber) that is developing new products.
 - ◆ A natural food store (Great Falls).
 - ◆ A potential woodworking cooperative (Malta)
- ◆ **Internet Business Incubation Center (IBIC)** offers consultation and contracted services for basic Web-page design and construction, complete Web sites, domain name registration, custom e-mail servers, and custom e-commerce software. The IBIC currently has 19 clients with diversified interests. Some clients use IBIC to create and maintain a Web presence. IBIC has credit unions, utility companies, and small businesses using this service. Some of the IBIC clients utilize the services to create an entire business model and site (Internet based business). Some clients utilize the expertise of IBIC to further enrich their information systems (information integration). IBIC successes include: Helping businesses to utilize technology to their advantage with real savings in time and resources. (One business saves an estimated 38 hours per month on one reporting process that IBIC automated.) Creation of jobs in the information systems area. (One full-time, two half-time positions were created this last year.) Creation of businesses based in information technology. (Two businesses operating in Havre were created this last year.)

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- ◆ **Montana Instructional Resources for Reflection On Renewal** (MIRROR Center) is designed to assist pre-service teachers and professional educators to integrate technology into their instruction. The MIRROR Center is also available to provide hands-on training and development for small businesses in the MSU–Northern service area. Have conducted or will soon conduct workshops for: Tilleman Motor Company, The Havre Police Department, Northern Montana Hospital, and The Havre Area Chamber of Commerce. Host of the Education Pillar of the 1st Northern Montana Learning Techspo, to be held on March 22nd and 23rd of 2002.
- ◆ **MIRROR Center Partners:** Inspiration Software Inc., Tom Snyder Productions, Blackfeet Community College, Fort Peck Community College, Stone Child College, Fort Belknap College, The Golden Triangle Curriculum Cooperative, Havre Public Schools, St. Jude Thaddeus School, and The Montana Office of Public Instruction. Western Education, Inc. of Lewistown, MT may be a partner soon.
- ◆ The **North American Rural Futures Institute** (NARFI) involves small manufacturing businesses throughout our region in Montana Tech’s Rocky Mountain Agile Virtual Enterprise (RAVE) project and performing environmental scanning services for RAVE contracts. NARFI also has partnered with Sohodojo, the “Small is Good” business network, to provide training and experienced students in MSU–Northern’s Business Department. The Rural Futures Institute presented the Business Pillar at the upcoming Northern Montana Learning Techspo on March 22-23.
- ◆ The **MSU–Northern Career Center** serves as the umbrella over Cooperative Education, placement and on- and off-campus employment opportunities. During the 2000-2001 academic year the center served the students of MSU–Northern with the following opportunities:
 - ◆ Placement of 138 students on Cooperative Education assignments, 118 students were placed in the state of Montana and 20 placed out of state. These students, combined, earned over \$198,000 in wages.
 - ◆ Companies assisted by our Cooperative Education/Placement Center include: Kiewit Corp, General Electric, BF Goodrich, Tractor & Equipment, Wells Fargo, D.A. Davidson, Independence Bank, CTA Architects, Northern Montana Health Care, Rocky Boy Water District, City Water Districts in Havre, Great Falls, Helena and Chinook.
- ◆ **Community Technology Education Center Grant.** MSU-Northern was recently awarded a grant from the U.S. Department of Education. This grant will allow the university to serve 36,000 people in over 17,000 square miles of ranch/farmland area located in north central Montana. The grant provides the opportunity to develop a computerized classroom that will be located in the Library. In conjunction with the Bear Paw Development Corporation, the university departments of Business and Computer Information Systems will be offering classes and workshops for regional (including the Native American reservations) small business owners and prospective owners on many technology related topics.

ECONOMIC DEVELOPMENT PROFILE:

The University of Montana

The University of Montana is strategically emphasizing its research mission, a predictable outcome being an increase in economic development activity. Commercialization of products and related intellectual licensing will support start-up companies that will ultimately become Montana businesses. These businesses will require a larger and better-educated workforce, translating into more jobs for the citizens of Montana.

AN INDUSTRY WITHIN THE UNIVERSITY

- ◆ The University of Montana Research and Development Office, combined with Montana Tech, brought in \$49.5 million in FY 2001. On average, personnel costs are approximately 65 percent of research activity, which correlates to a payroll of \$32.175 million.
- ◆ Research dollars or “soft money” support a significant number of UM faculty and staff positions. Without this funding, these faculty and staff members would be unavailable or their positions would require funds from tax dollars to conduct their teaching, research, and service functions.

TECHNOLOGY TRANSFER OF DISCOVERIES

- ◆ Montana businesses currently benefiting from UM research “products:”
 - ◆ Directory Images World Wide in Missoula, a spin-off company from University Research and Development, uses software developed for a computer engine and works similar to an operating system.
 - ◆ Purity Systems, Inc., Missoula, has licensed technology to remove heavy metals from wastewater. This technology is the end step; water is cleaned and able to be released into the stream.
 - ◆ Larex, a Minnesota company, infuses approximately \$4 million into Montana’s economy to purchase traditionally discarded “waste” larch butt-ends from Montana forests. From these a chemical is extracted that is used in foods and pharmaceuticals. The benefits for Montana are jobs to harvest these butt-ends and sales from a wasted natural resource.
 - ◆ Two private companies, Headwaters Composites and Visualization Software, have been spawned by UM-based, federally sponsored research in wind-based energy. Additionally, the Blackfeet Nation, as a result of this research effort, is now working toward a wind energy-based electrical company for tribal lands.
 - ◆ Sunburst Sensors, Inc., a Missoula company, has licensed technology from UM that has applications in the medical, industrial and environmental industries.
 - ◆ Neurogenics Technologies, Inc., Missoula, was formed to market technologies used in therapeutic applications and exercise evaluations. These technologies were developed under federal grants at The University of Montana.
 - ◆ For the past year-and-a-half, the Montana World Trade Center, through its Montana Environmental Consortium project, worked on business linkages with Panama. The goal is to export Montana environmental services and products to Panama. As a result of this public/private collaboration, UM won an InterAmerican Development Bank grant to provide legal consultation to the Government of Panama on the development of its natural resources and extraction policy and practice. This grant is worth approximately \$500,000. The planned second phase of this initiative calls for \$28.5 million in private sector environmental services contracting for which businesses in Montana should be in a good position to compete.
 - ◆ MSE in Butte has been awarded a contract by the Panamanian Government to conduct a clean-up of a failed mining operation. The value of this contract is \$565,000.

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PARTNERSHIPS BENEFITING LOCAL INDUSTRIES & LEADING TO ECONOMIC DEVELOPMENT

- ◆ The International Heart Institute of Montana, a joint venture initiated by the UM and St. Patrick Hospital in Missoula, focuses on research and clinical services in the cardio-vascular sciences and practice. Recently the Kalispell Regional Hospital has joined the Institute as well, and the Institute has initiated the marketing of a product developed through the collaborative research. This recent project has proceeded through an initial public offering and is poised for a second round, having successfully applied for an SBIR grant. Planning looks toward a manufacturing facility in Missoula at the appropriate time.
- ◆ The Neuroscience Institute, another joint venture involving UM and St. Patrick Hospital in Missoula, seeks to develop new techniques, practices, products, and services for commercial application, building upon the foundation created by a COBRE grant from the National Institutes of Health and the active participation of private sector clinicians.

BUSINESS ASSISTANCE PROGRAMS

- ◆ **Montana Business Connections** provides easy access to two practical and useful databases:
 - ◆ The Resource Directory provides current information on over a thousand resources that can benefit Montana entrepreneurs, businesses and economic development organizations. The easy-to-use directory contains contact information, program descriptions, and web-links for a wide range of resources, services, organizations, and consultants. Using the directory, one can locate capital sources, marketing assistance, technical expertise, management services and trade associations.
 - ◆ The Business Calendar lists upcoming conferences, tradeshow, workshops and other business related events. Each listing contains a brief description, date, time, location, and a contact for additional information. It can be searched by date, location, or topic, and allows one to post individual events.
- ◆ **The Montana Manufacturers Information System** is currently under development. MMIS will census all manufacturers in the state and collect information on products, processes, capabilities, capacities, certifications, licenses, specialized equipment and other information. MMIS will help Montana manufacturers locate potential new customers by linking them with worldwide markets and identify Montana suppliers thus allowing money to stay in the state. MMIS is a joint project of the Montana Business Connections and the Bureau of Business and Economic Research of The University of Montana.
- ◆ The University of Montana and the Missoula Economic Development Corporation have formed an organization which created the **Montana Technology Enterprise Center (MonTEC)**. The main MonTEC component is a 32,000 square foot facility, adjacent to the campus, which will house nascent technology-based businesses that have been created from UM intellectual properties or come from the community and elsewhere. MonTEC can hold up to 20 businesses at the same time, and it provides high quality laboratory space, offices and infrastructure which is not otherwise available in the region. MonTEC's charter is to focus on environmentally compatible, technology-based companies, which will contribute to the State's economy.
- ◆ The University of Montana, in partnership with private business, is creating the **Northern Rockies Research Park and Technology Corridor (NorCor)** to generate new technology-based businesses in Missoula, Flathead, Lake, and Ravalli Counties. The University of Montana, Flathead Valley Community College and Salish-Kootenai College are providing leadership and infrastructure for the creation of technology innovation centers in each of their counties. The Ravalli County EDA/Chamber of Commerce leads the effort in that county.

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- ◆ Missoula County has already created its technology business incubator, MonTEC. Funded by a HUD grant, MonTEC, is a joint project between The University of Montana and the Missoula Economic Development Corporation. MonTEC will incubate technology-based businesses that will then become established and grow in Missoula County.
- ◆ The second phase of this project will transfer the NorCor model to Cascade, Lewis and Clark, Jefferson, and Silver Bow Counties. This new grouping, called NorCor II, will be organized and managed through the Montana State Department of Commerce with participation and management from the Governor's Office. Lead institutions for implementing NorCor II will be the MSU College of Technology in Great Falls, Helena College of Technology of The University of Montana, and Montana Tech of The University of Montana in Butte.
- ◆ Both NorCor and NorCor II will facilitate the transfer of knowledge and technological innovations to generate new, environmentally compatible companies and provide training for work forces to staff these companies.

WORKFORCE DEVELOPMENT

- ◆ **The Small Business Institute (SBI)** originated at UM in 1977. It has provided outreach to hundreds of the state's small and mid-sized businesses through student consulting services. Over the course of a semester, teams of two to four senior students work with each client, company or entrepreneur, developing business and marketing plans or other special studies. Specific assignments have encompassed business plans used for raising funding for subsequently profitable businesses, marketing studies for athletic facilities and a ski resort, a telecom marketing strategy study, several internal organizations and compensation studies for contractors and a log home manufacturer, and numerous product feasibility and market acceptance studies. Federal funding for the SBI was withdrawn in 1997 at which time, under UM initiative, local Missoula banks stepped in to support the program.

ECONOMIC DEVELOPMENT PROFILE:

The University of Montana – Helena College of Technology

The University of Montana–Helena College of Technology graduates 100 to 150 students each year in a diverse mix of programs in good paying occupations relevant to the economic needs in Montana. UM–HCT's graduates have mastered entry-level skills or better in such occupations as practical nursing, diesel truck and tractor maintenance, automotive technology, welding, machining, aviation maintenance, computer programming, network administration, office, accounting, fire fighting, and construction. Of the 2000 graduates reported working in the first year, 90 percent were employed in the state.

UM–HCT's students, faculty and staff are actively involved in a variety of activities related to economic development for the Helena area and Montana. Some of these include:

- ◆ Metal Technology graduates often gain employment at Summit Design and Manufacturing, a Helena based high-tech manufacture of precision aerospace equipment for Boeing and Lockheed-Martin at livable wages. UM–HCT students participate in internships and part-time work with Summit to better learn the working conditions and requirements of precision manufacturing.
- ◆ The Construction Technology program partners with the Helena Home Builders Industry Association in building residences in Helena to train a high caliber of construction worker for the industry. The local contractors often employ students in internships and part-time jobs.

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- ◆ Students learn environmental testing practices through internships with the Department of Environmental Quality. They study the quality of resident drinking water through a Water Quality Study project conducted by DEQ.
- ◆ The Lewis and Clark County Sheriff's Department benefits from the expertise and energy of the Electronic Technology students in a study of their emergency radio system and anticipates good recommendations for a much improved system that will keep communications open even in rough terrain.
- ◆ Staff and faculty at UM–HCT engage in community organizations in membership and leadership roles to enhance economic development in Helena. These organizations include the Helena Chamber of Commerce, Gateway Economic Development Corporation, Workforce 2020, Jobs for Montana's Graduates, Helena Education Council, and several service groups.
- ◆ Through computer internships with state agencies and non-profit organizations, UM–HCT students gain working knowledge and skills relevant to the real-world environment in the computer and network industry.
- ◆ UM–HCT provides fire fighting to wild land firefighters from around the region so that they are prepared to fight forest and grass fires effectively and safely.
- ◆ Ford Motor Company, Chrysler, and General Motors use the UM–HCT automotive training facility to train local technicians on the new car model systems.
- ◆ With total salaries of \$3.6 million, UM–HCT's immediate economic impact to Helena is \$4.4 million. Student grants and loans total \$3.33 million. Between salaries and student benefits, UM–HCT's impact to the community is \$7.73 million.

The University of Montana–Helena College of Technology is an integral component to economic development activity in Helena. College staff and faculty are at the table when any significant activity occurs. The university is a community partner on many levels.

ECONOMIC DEVELOPMENT PROFILE:

Montana Tech of the University of Montana

Montana Tech of The University of Montana continues to support economic development in Southwest Montana. This support includes direct assistance programs, workforce development and technology transfer. In addition, the campus research enterprise contributes over \$5 million annually to the regional economy.

BUSINESS ASSISTANCE PROGRAMS

- ◆ **Center for Advanced Mineral and Metallurgical Processing (CAMP)** is an engineering, consulting, research, development and testing facility focused on providing high quality solutions to industrial clients worldwide. Typical projects include:
- ◆ The **Rocky Mountain Agile Virtual Enterprises (RAVE)** project uses collaborative methodologies to allow companies to efficiently combine core competencies to achieve and sustain competitive advantage in a world economy increasingly dominated by network technologies.
- ◆ The **Montana Bureau of Mines and Geology** activities are focused on service and applied research for the state, including groundwater issues in the state, mining, coal and coalbed methane, environmental

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hazards and geologic mapping. The bureau more than doubles the state dollars it receives through contracts and grants. State funding provides about 24 jobs, and the contracts and grants provide approximately another 30 FTE positions that bring money into the Butte and Billings economies.

- ◆ A recent grant from the Department of Commerce will allow Montana Tech to establish an **Economic Development Resource Center**. The center will couple campus resources to ongoing economic development efforts of the region. The office's major goal is to coordinate and facilitate the economic development resources at Montana Tech and assist the efforts of the local economic development agencies in Southwest Montana.
- ◆ Montana Tech provides specific industry support to Montana companies through specific contractual agreements. Examples include:
 - ◆ MRI, Butte
 - ◆ ARCO, Anaconda
 - ◆ MSE-TA Inc., Butte
 - ◆ DEQ, Helena
 - ◆ Stillwater Mining Co., Nye
 - ◆ ASiMI, Butte
 - ◆ Scientific Materials, Bozeman
- ◆ The **Mine Waste Technology Program** (MWTP) has existed on the Montana Tech campus since 1991. The EPA, through the National Risk Management Research Laboratory (NRMRL) in Cincinnati, OH, DOE FETC, and MSE Technology Applications, Inc., fund the MWTP. Initially, the MWTP was a stand-alone entity, however, over time the program evolved into a research and educational organization contracting with a variety of organizations, including U.S. Forest Service, U.S. Bureau of Land Management, Montana Department of Environmental Quality, K-State Hazardous Substance Research Center, ASiMI, Inc., MSE-Technology Applications, Inc., EPA National Risk Management Research Laboratory, Butte's new CTEC, and Montana Tech.
- ◆ Montana Tech was a founding member of the **Southwest Montana Technology Development Network** with the Butte Local Development Corporation. Faculty participate in ongoing discussions of technology applications and opportunities for collaborations in the region.
- ◆ **Service learning projects** with teams of technical writing students benefit a wide range of clients in the region.
- ◆ Dr. Willis Weight worked on the water supply development for two subdivisions (one located near Dillon) and a golf course. He had another project along the Big Hole River at the Big Hole Ranch.
- ◆ **Montana Tech Library** is the only United States Patent and Trademark Depository in Montana. Its reference librarians answer questions weekly from inventors and business researchers from all over the State about how to obtain patents and trademarks.

WORKFORCE DEVELOPMENT

- ◆ Students in his Small Business Institute Internship class have worked on over 25 projects over the last seven years with many small business owners in the community.
- ◆ College of Technology works closely with the **Butte Local Development Corporation** regarding training for new companies starting a business in Butte.
- ◆ Montana Tech is working with St. James Healthcare to develop the **National Center for Health Care Informatics and other responses to health care workforce needs**.

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- ◆ Work with MSU–Bozeman to develop a collaborative master’s degree program for local engineering company to retain and expand career opportunities for its employees.
- ◆ A number of staff and faculty serve on various community, regional and state economic development boards.

TECHNOLOGY TRANSFER

Montana Tech continues to work with local industries to develop the economic potential of intellectual property generated on campus or jointly developed with our industrial collaborators. Some examples include:

- ◆ **Joint license agreement** with MSE, Inc. and our Metallurgical and Materials Engineering Department to design and manufacture innovative water treatment systems for arsenic removal.
- ◆ **Joint License agreement** with Montana State University to Bristol Meyers Squibb to develop efficient production methods for cancer treatment agents.
- ◆ The **Small Business Innovation Research (SBIR)** program provides campus assistance to small companies enhancing current products or in developing new ideas and products. Current collaborators include:
 - ◆ A rapid-deployment, three-dimensional seismic reflection system for subsurface imaging – PFM Manufacturing, Townsend, MT
 - ◆ Use of fungally derived sporogens to induce dark sporulation in mycoinsecticidal fungi – Mycotech, Butte, MT
 - ◆ Innovation Construction/Structural BEAM from Small Dimensional Lumber – Henderson Creek Corp., Hall, MT

AN INDUSTRY WITHIN THE UNIVERSITY

- ◆ Faculty and staff actively seek extramural support for research and technology development work on campus. These funds support faculty salary, expenditures in the local community for services, and student salaries. In FY 2001, the campus expended \$5.5 million for these purposes and employed 60 faculty and staff and 100 students. In the past, major renovation grants (chemistry building renovation with \$1 million from National Science Foundation) and various equipment grants (over \$1 million from NSF in last four years) have also contributed to the local and state economies.
- ◆ Public policy decisions made by the State Legislature in the late 1980’s have lead to this unprecedented expansion in the research and technology development carried out on the Montana Tech campus. In the period from 1990 to 2000, Montana Tech experienced a 500 percent growth in income from extramural sources. These sponsors now account for nearly 20 percent of the total campus budget.

ECONOMIC DEVELOPMENT PROFILE:

The University of Montana – Western

The University of Montana–Western is actively involved in the economic development of the immediate region through services provided by its faculty, staff and students. Members of the university community serve on a number of local and regional boards that exist to meet the economic development needs of Beaverhead County and the surrounding region. These include the Beaverhead Chamber of Commerce, and in particular, its Economic Development and School to Work Partnership Committees, and the Beaverhead Development Corporation.

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WORKFORCE DEVELOPMENT

- ◆ Western provides support to the **Community Management Team**, an outgrowth of the revised Workforce Development Act. The focus of this effort is on human and social services, providing training opportunities for individuals to match specific job needs in the community.
- ◆ The university also supports the regional agricultural interests through the introduction of an annual **Ag Conference and Expo Program** and outreach coursework for specific informational and training needs of the agricultural and agri-business community.
- ◆ **Equine Studies** in partnership with La Cense Montana provides educational programming in support of the business needs of the agricultural community.

BUSINESS ASSISTANCE PROGRAMS

Faculty and student involvement in economic development, and particularly business assistance programming, include:

- ◆ Master Planning by the Bureau of Land Management that involved reviewing motorized travel on BLM land in Beaverhead and Madison Counties.
- ◆ Computerization assistance work with small businesses in Dillon and Beaverhead County.
- ◆ Additionally, Western maintains a safety training program in conjunction with Vigilante Electric to service small agricultural and industrial businesses providing expertise and training locally in support of workers' compensation program requirements.
- ◆ The university advises community groups and businesses regarding grantsmanship, grant writing and grant administration. It provides notification services to the community and affected businesses regarding federal funding opportunities, sponsored grants and assists with grant preparation. Annually the university conducts a workshop on grant writing.
- ◆ Development of marketing plans and marketing audit criteria by the business program students and faculty help assess opportunities for growth in various regional businesses and industries. These include projects for:

Montana Power Company and Touch America
Safeway, Inc.
Comfort Inn
R.L. Winston Rod and Company
The Subway

Cenex Harvest State Company
Wal-Mart, Inc.
Centennial Inn
Patagonia, Inc.

- ◆ The university cooperates with business and professional groups by providing professional development services and other training opportunities in business, computing/technology, agriculture, environmental issues, education, real estate, land appraising, food service, welding, boiler operation, etc.
- ◆ Western faculty serve on the **Montana Early Childhood Advisory Board** which among other charges examines child care as it relates to economic development. The board's apprenticeship program provides information to early childhood employers in areas such as quality business practices.

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