



2002 ANNUAL REPORT

MINNESOTA TECHNOLOGY, INC.



Minnesota Technology Inc. is a nonprofit organization contributing to the growth of Minnesota's economy through technology.

## MAJOR ACCOMPLISHMENTS

- Assisted 1,474 companies around the state for an economic impact of \$278,003,000 in the last two years.
- Return on investment: The State of Minnesota received \$26.4 million in state tax revenue for an \$11.4 million investment—generating \$278 million of economic impact in the last two years.
- Strengthened core service offerings and instituted fee-based services to Greater Minnesota companies. The services include: new product development and access to new technologies, lean enterprise, information technology/e-business solutions, and business intelligence.
- Developed and released the first-annual technology competitiveness report, *Our Competitive Nature: Minnesota's Technology Economy*. The report provided a common framework for understanding Minnesota's technology economy and sets a baseline for future evaluations of our state's competitiveness.
- Published "Tech 2002," a special issue of *Minnesota Technology*<sup>®</sup> magazine that spotlighted some of the brightest and most fascinating companies, people, and developments on the state's technology scene.
- Delivered Technology Awareness forecasting services to 837 companies.
- Convened 200 state business and community leaders in Mankato for "The Role of Technology," a conference exploring economic diversification initiatives for Greater Minnesota's economy.

Minnesota Technology, Inc. is a Network Affiliate of the U.S. Department of Commerce's NIST Manufacturing Extension Partnership (MEP), a nationwide network of not-for-profit organizations whose purpose is to provide small and medium-sized manufacturers with the help they need to succeed. We receive \$2 million in annual federal funding from MEP.



It's my honor to present the 2002 Annual Report for Minnesota Technology, Inc. We help Minnesota grow and nurture a diverse and vibrant manufacturing and technology sector.

Minnesota Technology Inc. is the state's technology-based economic development organization, contributing to the growth of Minnesota's economy through technology. We have fulfilled that mission, assisting 1,474 companies around the state for an economic impact of \$278,003,000, and generating more than \$26.4 million in ROI for the State of Minnesota in the last two years alone.

Once again, the demand for our services took on a wide variety of forms. Our Lean Enterprise Team, for instance, worked directly with 73 Minnesota companies, helping them eliminate waste, streamline their operations, and maximize production. We built partnerships with other state institutions to create the FasTrac Manufacturing series, which offered hands-on business development training to 39 state companies. We expanded our technology transfer efforts, connecting 124 companies with state-of-the-art R&D resources from federal and private labs and Minnesota colleges and universities.

We provided a rich array of information on the state's tech economy through such resources as *Minnesota Technology*<sup>®</sup> magazine, the Teltech research portal, the Minnesota Technology Directory, and Technology Awareness Forums. We also published an exhaustive, widely quoted report, *Our Competitive Nature: Minnesota's Technology Economy*, that offered a qualitative and quantitative examination of Minnesota's technology economy and the factors shaping its future. With the Minnesota High Tech Association, we sponsored the Tekne Awards, which celebrate and promote the state's technology community. And we work closely with a number of other organizations—including the Minnesota Business Partnership, MNSCU, the University of Minnesota, and Minnesota Rural Partners, to name only a few—to implement economic development initiatives.

These efforts continue Minnesota Technology's robust history of service. Over the 11 years of its existence, this organization has served more than 5,600 companies and helped the state's economy realize gains of more than \$700 million. Beginning in 2003, we've also begun offering some of our services on a for-fee basis—a move that will augment the sound investment that the State of Minnesota makes in this organization.

But numbers don't tell the whole story, as this organization's impact also extends far beyond individual companies. Minnesota Technology's efforts to help businesses understand and leverage technology has also touched the lives of the citizens who work at those companies. Manufacturing- and technology-based firms form the bedrock of many Minnesota communities, offering the type of high-wage, high-skill jobs that create much-needed economic opportunity and stability—and which are often otherwise hard to find.

Our state must persist in its efforts to promote and nurture a diverse and vibrant technology economy and provide for our residents' well-being. Our communities and citizens depend on such work. Through its broad range of programs, services, and partnerships, Minnesota Technology, Inc. provides critical service to Minnesota. We are committed to continuing our efforts to foster and fortify the state's technology economy.

Sincerely,

A handwritten signature in cursive script that reads "M. James Bensen". The ink is dark and the signature is fluid and legible.

Dr. M. James Bensen  
Chair, Minnesota Technology, Inc. Board

## EXPANDING MINNESOTA'S ECONOMY

In the face of increasing domestic and overseas competition, it's particularly crucial to diversify and develop our state's technology economy. Minnesota Technology, Inc. meets this need with a suite of technology extension services that help companies lower costs, develop new products, and boost production and profits.

Here are some examples of the positive effects that result as a part of that relationship.

### LEAN ENTERPRISE SERVICES

Getting "lean"—systematically working to eliminate waste and boost efficiency—can offer companies a huge advantage in today's marketplace. In 2002, the members of

Minnesota Technology's Lean Enterprise Team worked with 73 businesses from all corners of the state, helping them trim lead times, refine product quality, and bring new efficiencies to the production process. The end result: direct, tangible improvements that went straight to our clients' bottom lines and helped position them for significant future growth.

## CASE STUDY

### Safe Air Repair, Albert Lea



"We would not have been able to handle our growth without [Minnesota Technology's] guidance in helping us select and implement our manufacturing software," says John Roscoe.

Safe Air Repair, an Albert Lea-based machining and metal-fabrication company with a niche in the automotive and aviation industries, is on a fast-track for growth. Formed in 1990, the privately owned company moved into its own plant in 1994. Then, between 1999 and 2002, it doubled its revenues.

The firm has been able to avoid many of the problems of rapidly growing companies thanks in big part to assistance from Minnesota Technology, Inc. "We would not have been able to handle our growth without their guidance in helping us select and implement our manufacturing software," says Safe Air Owner John Roscoe.

Because of its rapid growth, Safe Air needed to improve its manufacturing operations to handle greater volumes of work without sacrificing quality, performance, or on-time delivery. The company makes high-precision, high-pressure hydraulic fittings sold to the auto industry. It also is an FAA-approved manufacturer of airplane parts, and makes replacement parts for small aircraft that are no longer built.

Safe Air asked us to assess its current and future software needs and to suggest manufacturing software that would improve its operations. After choosing the software, we helped Safe Air implement the software and train its employees to use it. The new software has made a big impact, helping the company cut costs by an estimated \$544,000, increase sales an additional \$800,000, and create and retain 23 new jobs.

Roscoe is pleased with the results. "I applaud Minnesota Technology's advisors for their unbiased guidance in all the projects we have worked together on since 1994," he notes.



## NEW PRODUCT DEVELOPMENT

Faster, cheaper, better. Our Product Development and Access to New Technologies Team helps companies develop and get new products on the market. In 2002, the team worked one-on-one with 106 Minnesota businesses, helping them maximize resources, solve design and manufacturing challenges, and bring technology buyers and sellers together.

## TECHNOLOGY TRANSFER

Minnesota Technology has long been a powerful link for firms looking to tap into world-class technology. In the last 10 years, our staff has worked with federal and private research labs and forged partnerships with a range of academic institutions (two of our specialists even have offices at the University of Minnesota). We provide Minnesota companies with otherwise

unavailable tech transfer services, helping them access, deploy, and commercialize technology.

In 2002 we greatly expanded our technology transfer efforts, providing access for 124 state companies to the University of Minnesota, MNSCU, private colleges, and Federal Research Laboratories. Access to such resources gives Minnesota companies an invaluable competitive edge. ●

## CASE STUDY

### Superior Microsystems, Inc., Cambridge



"We would not have achieved the success we have without Minnesota Technology's assistance," says Tom Johnson.

Helping companies develop technologies and linking companies to appropriate university and federal research operations is one of Minnesota Technology's key goals. These technology transfer projects range widely. For instance, we are working with Northern Contours, a Fergus Falls supplier of decorative cabinets, to find ways to use robotics to improve its manufacturing process. We are also working with Dee Inc. of Crookston to explore and evaluate robotic technologies to help produce aluminum alloy castings. And we have linked experts from Sandia Federal Laboratory in Albuquerque, N.M., with IRD Switches of Alexandria to help the company explore ways to use new technologies in its glass and ceramic molding shop.

We've also worked extensively with Superior Microsystems, a Cambridge maker of thin film sensors for the aerospace and automotive markets. The company, which began life as a division of RTD Co. (also of Cambridge) in 1998, has used Minnesota Technology's services to "cut through red tape and open doors of possibility," says company President Tom Johnson.

Johnson had founded RTD Co. to make temperature detectors, elements, and sensors, and its products are now found in everything from home ovens to the Hoover Dam's turbine engines. As it entered the thin film sensor business, RTD turned to Minnesota Technology, Inc. for assistance and expertise in developing new products. We helped forge a relationship between the company and the Sandia lab. RTD submitted samples to Sandia, where scientists tested the company's metal films for heat resistance. That research, along with further testing that we arranged at the University of Minnesota, helped RTD determine what direction to go in developing commercially viable products.

Johnson is pleased. "We would not have achieved the success we have without Minnesota Technology's assistance," he says.



## BUILDING NEW OPPORTUNITIES

**T**o compete and prosper in today's economy, access to information and new technologies is only a starting point. Companies also need a way to evaluate and make sense of all possible options at hand.

Throughout its history of service to the state, Minnesota Technology, Inc. has specialized in offering strategic business assessment services and unbiased technological insight to help companies cut through the clutter, make smart decisions, and build foundations for future growth.

### IT AND E-BUSINESS SERVICES

While the Internet has emerged as a must-have tool in today's marketplace, many companies are still struggling to capture its full potential. In 2002, our IT/e-Business Team continued to provide Minnesota firms with objective, seasoned advice on crafting smart e-business strategies. Since beginning the service, Minnesota Technology, Inc. has provided e-business training to more than 600 businesses across the

state. Our clients—small- and medium-sized companies alike—have used the information for a variety of purposes: to break into new markets, lower their operating costs, and uncover more efficient ways of conducting business electronically.

The services have received national recognition as an unbiased source of technology information. Partially as a result, Minnesota Technology was selected by the U.S. Department of Commerce, in cooperation with the International Fund for Ireland, to

## CASE STUDY

### T.H.E. Machine Co., Glenwood



"No one on our staff had any experience working with Web design, so Minnesota Technology had quite a lot of work to do with us," says Melissa Roatch.

T.H.E. Machine Co. of Glenwood makes products that help contractors stay warm and working in the most frigid conditions. But the company felt frozen out of Internet marketing by a Web site that did not sell its products as well as it could. The company discovered its products were not showing up on search engines as they should, and that its original Web site was taking too long to load on user's computers.

"No one on our staff had any experience working with Web design, so Minnesota Technology had quite a lot of work to do with us," says Melissa Roatch, who manages the Web site for the nine-employee company, in addition to working on the manufacturing floor. "When we sat down with Minnesota Technology, they started with the basics. They walked us through what would be good key words to increase our hits and showed us how search engines work."

T.H.E. Machine makes Thawzall™, equipment that allows builders to thaw frozen ground and cure concrete. The machines also provide temporary or supplemental heat for enclosed spaces. The company wanted to use the Web to introduce its products to potential customers in the building trades.

After the initial training from Minnesota Technology, T.H.E. Machine employees designed the Web site. "Minnesota Technology answered a lot of questions and was really helpful," says Roatch. The new site is working quite well, she adds, noting that the company is now getting calls from all over the country from prospects who first learned about Thawzall™ on the Web.



provide e-business training to the 2002 American Management and Business Internship Training Program. As part of the program, our e-business experts implemented training on IT and e-business technologies for small and medium-sized Irish companies. In the past, these types of programs have helped forge business partnerships between companies from the United States and Northern Ireland, along with substantial export/purchasing relationships.

#### **BUSINESS INTELLIGENCE**

Our Business Intelligence and Market Research Team works with companies looking for customized information on an array of subjects. We offer a variety of tools to answer critical business questions, including top prospects lists, market analyses, technology solution scans, and competitiveness profiles. In 2002, we provided fast, detailed answers to nearly 1,100 requests for everything from technical data to company profiles to patent/trademark research and more.

#### **TELTECH**

Minnesota Technology offers Minnesota businesses a custom version of the award-winning Teltech.com research portal ([www.minnesotatechnology.org/teltech](http://www.minnesotatechnology.org/teltech)). Packed with extensive global research capabilities and access to expert technical and business information, Teltech is a vital tool to identify new markets, gather business intelligence, conduct patent and trademark searches, and much more. ●

## CASE STUDY

### Harmony Enterprises, Harmony



“Harmony Enterprises would not be the success it is today without the assistance of Minnesota Technology,” says Steve Cremer.

Successful companies must be constantly seeking new customers and new uses for their products. For Harmony Enterprises, a Harmony-based manufacturer of trash compactors and balers for the recycling industry, that search has been made more efficient and more effective thanks to Minnesota Technology, Inc.’s Business Intelligence services.

“Harmony Enterprises would not be the success it is today without the assistance of Minnesota Technology,” says company President Steve Cremer. He’s not exaggerating; in the last seven years, our help has created a \$3.1 million economic impact for his firm.

Most recently, Harmony has been using our Business Intelligence services to uncover and test new markets. We offer two types of fee-based prospect research, and Harmony has used both. By analyzing Harmony’s current customers, we generated a list of companies with similar characteristics that would be likely prospects. Called “Top Prospects,” the service usually generates a list of 100 top prospects, allowing companies to test a market at a low cost. The list “allows me to analyze and test new markets quickly and at minimal expense,” says Cremer.

In addition, Minnesota Technology researchers have worked with Harmony to brainstorm about possible new markets. These “what-if” discussions, along with the prospects we have generated from them, have led to new niches for the company’s products. For instance, Harmony Enterprises’ early products were designed to crush industrial wastes. Newer products are focused on the fast-food industry and other rapidly growing markets.

## SHARING INFORMATION, DATA AND KNOWLEDGE

In a very real sense, Minnesota Technology, Inc. serves as the hub of the state's technology community. We provide an unmatched lineup of resources that work to educate, enrich, and inform the members of our community—and to reinforce the links that hold it together.



### MINNESOTA TECHNOLOGY®

More than 19,000 owners and managers of Minnesota's technology and manufacturing companies read this award-winning quarterly magazine. *Minnesota Technology*® covers the key issues and spotlights the companies and leaders driving the state's tech economy. Our special "Tech 2002" issue offered unrivaled insight into the businesses and people shaping the state's technology sector, and featured the *Minnesota Technology*® Tech Almanac, a comprehensive listing of companies and statistics from a range of technology categories—from IT to medical devices to advanced manufacturing and much more.

### TECH TRENDS

*Tech Trends* is the state's only publication that focuses exclusively on the issues affecting Greater Minnesota's technology-based economy. Published each month in an e-mail newsletter and Web-based format, it features a mix of key company and industry news, along with pertinent statistics, tech-industry commentary, and a wealth of other relevant information.



"We've used Minnesota Technology, Inc. for help with many, many topics and items and they've always had the expertise we needed. With Minnesota Technology, we can access technical people in any field we desire. And the people they have put us in touch with have always been of very high quality."

—Chuck Gagner, president  
Northwest Manufacturing  
Red Lake Falls





### MINNESOTA TEKNE AWARDS

Minnesota has long been lauded as one of the nation's top technology states. Each year, Minnesota Technology, Inc. and the Minnesota High Tech Association celebrate and promote the state's tech community with this annual gathering. In 2002, the event paid tribute to 14 Tekne Award winners, all of whom have made lasting contributions to enhancing Minnesota's quality of life and competitiveness.



### MINNESOTA TECHNOLOGY DIRECTORY

This one-of-a-kind annual directory features capsule profiles on more than 2,000 advanced manufacturing and technology companies, allowing users to keep track of competitors, build key partnerships, pinpoint technology leaders, and more.



### TECHNOLOGY COMPETITIVENESS REPORT

In 2002, Minnesota Technology, Inc. produced *Our Competitive Nature: Minnesota's Technology Economy*, a comprehensive analysis of our state's high-tech economic condition and the forces shaping its future. The report used a mix of qualitative and quantitative data to provide some eye-opening findings on both the relatively sound health of our tech sector and our lack of a "middle class" of mid-sized tech firms (medium-sized, growing companies). It also provided a comprehensive definition of the state's tech economy—one that accounted for the advanced manufacturing, IT, and life sciences sectors, as well as for firms that are intensive users of technology. The result: a common framework for understanding our tech economy, and a baseline for future evaluations of our state's competitiveness.



### INDUSTRY PARTNERSHIPS

Minnesota Technology, Inc. has built partnerships with a diverse group of state organizations, along with a variety of other business and community leaders. The goal of these relationships is to promote and implement economic development initiatives throughout Minnesota.

A partial list of our partners includes:

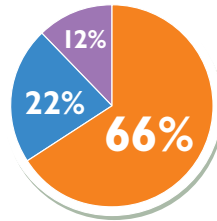
- University of Minnesota
- Minnesota State Colleges and Universities System
- Minnesota Department of Trade and Economic Development
- Minnesota High Tech Association
- Medical Alley
- Manufacturing Extension Partnership (MEP)
- Iron Range Resources and Rehabilitation Agency
- Minnesota Rural Partners
- The Collaborative
- Blandin Foundation
- McKnight Foundation
- Initiative Funds
- MNBIO
- Minnesota Chamber of Commerce
- Minnesota Business Partnership
- Minneapolis Regional Chamber of Commerce
- League of Minnesota Cities
- Center for Rural Policy

MINNESOTA TECHNOLOGY, INC. AT A GLANCE

**FINANCIALS**

**Revenue**

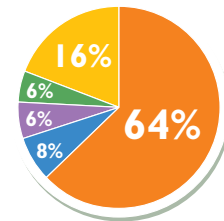
- State Appropriation .....66%
- Federal.....22%
- Other.....12%



**Total Revenue** .....\$9,231,896

**Program Expenditures**

- Technology Assistance Services.....64%
- Corporate Support Services .....16%
- Technology Industry Services.....8%
- Public Policy .....6%
- IT/Web .....6%



**Total Expenditures**.....\$9,231,896

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## BUILDING A FOUNDATION FOR TOMORROW

**M**innesota Technology, Inc. supports its commitment to the state's technology economy with an extensive collection of training and educational resources.

### TECHNOLOGY AWARENESS FORUMS

In 2002, we held 12 Technology Awareness Forums which were attended by 378 people from 241 companies. The forums, which covered such topics as wireless applications, ISO standards updates, and best manufacturing practices, offer attendees a concise introduction to advanced or emerging technologies, and are often coupled with the opportunity to see those technologies at work on the company level.

### LEAN GROUP TRAINING

This ongoing series provides attendees with a hands-on introduction to the principals and applications of lean manufacturing. In 2002, more than 1,000 participants enrolled in the program.

### FASTRAC MANUFACTURING PROGRAMS

In 2002, Minnesota Technology provided four FasTrac for Manufacturing programs at sites around the state. The result of a partnership with St. Thomas University and the Kauffman Foundation's Center for Entrepreneurial Leadership, the programs offer a business development curriculum that teaches company owners and managers the essentials of strategic growth.

### 2002 CONFERENCE: "DIVERSIFYING THE GREATER MINNESOTA ECONOMY: THE ROLE OF TECHNOLOGY"

In May, Minnesota Technology, Inc. hosted a two-day conference in Mankato that explored how technology can help expand and broaden Greater Minnesota's economy. Attended by more than 200 business and community leaders from around the state, the event addressed such topics as telework, state demographics, broadband communications, employee retention, business incubators, venture capital, and developing companies through the application of technology.

"Minnesota Technology's work has helped our company keep going in a very tough market, and has helped cushion a business downturn by showing us how to become leaner and more efficient. Their assistance has resulted in reduced cost, reduced inventory, and increased savings."

—Jeffrey Chatelle  
Aitkin Iron Works, Inc.  
Aitkin

Minnesota Technology, Inc. 

a NIST | Network  
MEP | Affiliate

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