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Over the past five years, Minnesota Project Innovation has told you about several exciting new developments and Minnesota's success with the SBIR program. In 1989, we told you about a Worthington firm that helped the agricultural industry by developing a new and improved vaccination of animals, a Minneapolis company that developed a pharmaceutical agent that can save the lives of children, and a St. Paul firm that developed a more humane way of drug testing on animals.

In 1990, the story continues: A Rochester engineering company has developed an automated wood cutting system with SBIR funds from the USDA; a Minneapolis firm has produced instructional videos to help family members of persons with Alzheimer's disease for the Department of Health and Human Services; and a Blaine company has helped NASA by developing an extravehicular mobility unit helmet mounted display for aircrafts.

Small Business Innovation Research (SBIR) funds serve effectively as equity capital for individuals and small businesses interested in developing new technologies in any one of over 2,000 technology areas of federal priority relating to agriculture, education, defense, commerce, health, environment, science, and space.

Created as a private non-profit organization by the Minnesota Legislature, Minnesota Project Innovation promotes high technology development by providing businesses with information and materials on a wide range of public and private financial services; helps clients develop a technology from idea to market by giving advice on various public and private programs, services, procedures, and techniques; serves as an advocate for SBIR funding requests; and conducts workshops and training sessions needed for the SBIR program.

MPI also assists clients with information and technical assistance in writing business plans, preparing financing proposals, forming strategic alliances, developing marketing and distribution plans, and in networking for technical, management, and consulting talent.

Winning high technology companies use the SBIR grants to fund innovative R&D projects that lead to products, profits, competitiveness, and growth, as well as to acquire potential investors and strategic partners.

To date, Minnesota Project Innovation has worked with more than 600 small businesses, helped Minnesota firms receive more than 21 million SBIR dollars, and helped to establish over 50 companies, 1,000 jobs, and 150 innovations in the state.

Federal Awards: The SBIR Program

Many small businesses do not have the capital to research, develop, test, manufacture or market a new product. Firms may seek outside assistance, but often become discouraged not knowing where to get help or funding. Minnesota Project Innovation and the Small Business Innovation Research program are designed to nurture and support the entrepreneur. Innumerable ideas -- ideas which could truly make a difference to our economy, our health, and our lifestyles -- can be delayed or even lost simply because of a lack of information and opportunity.

The SBIR program was created by the United States Congress in 1982 to give small high-technology firms a greater share of federal research and development dollars. Eleven federal agencies participate in the program making available as much as \$500 million to small businesses throughout the country. The program is designed to stimulate technological innovations, to encourage firms to participate in government research, and to provide incentives for converting research results into commercial applications.

SBIR Program Format

Federal Grants and Contracts	<i>2000 Annual Technical Topic Priorities from 11 Federal Agencies</i>	
	<i>Submit Proposal by Agency Deadline</i>	
	Phase I	<ul style="list-style-type: none"> •\$50,000 •Scientific and technical feasibility •6 month research plan
	<i>Successful Completion of Phase I Required Before Phase II Competition</i>	
	<i>Demonstrate Potential Phase III Funding Commitment</i>	
	Phase II	<ul style="list-style-type: none"> •\$500,000 •Prototype development •2 year research plan
	Phase III	<ul style="list-style-type: none"> •Government prime or subcontract •Private Investment •Commercialization

A Word From The Chair

Although there are several federal programs designed to support the development of small businesses, the Small Business Innovation Research (SBIR) grant program represents one of the most attractive ways of funding advanced technology developments. As president of a small business that is involved with the SBIR program, I have seen several advantages that make the SBIR program unique and invaluable to the growth of high technology businesses.

Beginning with the process of procuring Phase I grants to performing advanced technology development and product feasibility demonstrations, all the way up to the production and marketing of the products, the SBIR program provides many advantages in several key start-up areas as well as identifying many large corporate partnership production and marketing opportunities.

Minnesota Project Innovation has successfully met its challenge to help promote and procure federal grants through the SBIR program. From breakthroughs in medical care to making energy production safer and to developing tools for construction work in space, many of the start-up firms that initially sought the assistance of MPI with just an idea are now making headlines, are commercializing their products, and are reaching gross revenue marks well over the million dollar figure.

Minnesota Project Innovation has also been an outstanding investment for the state of Minnesota: During the past year, for every dollar the state legislature awarded to this statewide program, MPI returned \$62 to Minnesota businesses. Needless to say, the program works.

As Chairman of the Board, I feel proud to be a part of this organization, its accomplishments, and its objective of being one of the top ten leading SBIR states.

I am confident that the interests and activities of MPI will continue to get support and financial assistance from the Minnesota Legislature and the private sector to accomplish its ambitious goals. More importantly, I am confident that MPI will continue to be an effective organization helping Minnesota businesses.

*Anil Jain, Chair
Minnesota Project Innovation
President, APA Optics, Inc.*

businesses, researchers, and scientists, as well as service providers, public officials, and the media.

Subsequently, the organization's information distribution and marketing activities increased by 133 percent, inquiries increased by 41 percent setting a new all time high, and the number of new clients rose by 160 percent.

1989 MPI Effectiveness Record

<i>Information Distribution</i>	<i>14,000</i>
<i>SBIR Inquiries</i>	<i>1,100</i>
<i>Clients</i>	<i>620</i>
<i>New Clients</i>	<i>213</i>
<i>Submissions</i>	<i>95</i>
<i>Phase I Awards</i>	<i>33</i>
<i>Phase II Awards</i>	<i>16</i>
<i>Phase III Successes</i>	<i>7</i>

The Year In Review

Minnesota Project Innovation worked closely with the high technology community in 1989 to help promote research and development opportunities offered through the Small Business Innovation Research (SBIR) program, and one more time the state broke another record: SBIR contracts awarded to Minnesota businesses increased by 74 percent, thus setting the total annual appropriation at more than \$7.5 million.

While Minnesota's high technology industry has earned a reputation of being on the leading edge, the state is continually challenged to achieve greater potentials. MPI's SBIR SEARCH database made an impressive debut in 1989 by helping individual researchers more quickly and accurately locate federal R&D opportunities. With the assistance and support of NSP, U S WEST, and the Greater Minnesota Corporation, SBIR SEARCH was introduced and received with overwhelming applause by the Minnesota high technology community.

The database helps clients identify more than 2,000 technical research areas of federal priority and matches individual businesses with R&D funding opportunities. A complete computerized catalog with research centers and historical data on SBIR solicitations and abstracts, the database proves itself invaluable to scientists and engineers pursuing opportunities for growth by indexing R&D agency and center profiles, technical contact names and information sources, as well as including proposal preparation materials.

MPI business development services were enhanced by the formation of a new collaboration called SBIR ROUNDTABLE. High technology firms and SBIR award winners were invited to attend monthly meetings designed to promote entrepreneurship through the SBIR program. With more than 50 members, the workshops provide members with an opportunity to hear from the experts on various and relevant business concerns, as well as provide time to discuss and analyze practical business experiences with one another.

In a continued effort to expand the spectrum of its services, MPI hosted FORMING ALLIANCES FOR THE '90s, a high technology business development trade show and conference. With more than 100 firms exhibiting and 30 corporate sponsors, this event provided a rare opportunity for Minnesota high technology businesses to explore the possibilities of forming strategic alliances; to examine the climate for strategic alliances in the current merger and acquisition environment; and to investigate the possibilities of international licensing, technology transfer, and new product development.

As a result of these new initiatives, Minnesota Project Innovation's effectiveness track record improved substantially. The "Minnesota Small Business R&D Funding Report" was sent statewide to more than 14,000 small businesses, researchers, and scientists, as well as service providers, public

The Winners in 1989

The following companies were successful in receiving Phase I or Phase II SBIR awards in fiscal year 1989. Many of these firms were MPI clients, others were successful on their own. For each award, a national review committee selected the innovative technology or process and research plan proposed by this company. These proposals, judged among hundreds submitted from throughout the nation, were determined to be an advancement of the state-of-the-art, to be superior in technical design, and to have strong commercial potential.

Agriculture

Koskovich Engineering Services
Rochester, MN
Jerry Koskovich, President

Plant Science Research
Minnetonka, MN
Kenneth A. Hibberd, President

Defense

APA Optics, Inc.
Blaine, MN
Anil K. Jain, President

Bio-Metric Systems, Inc.
Eden Prairie, MN
Patrick Guire, Vice President

Integrated Transaction Systems
Minneapolis, MN
Thomas Rauchle, President

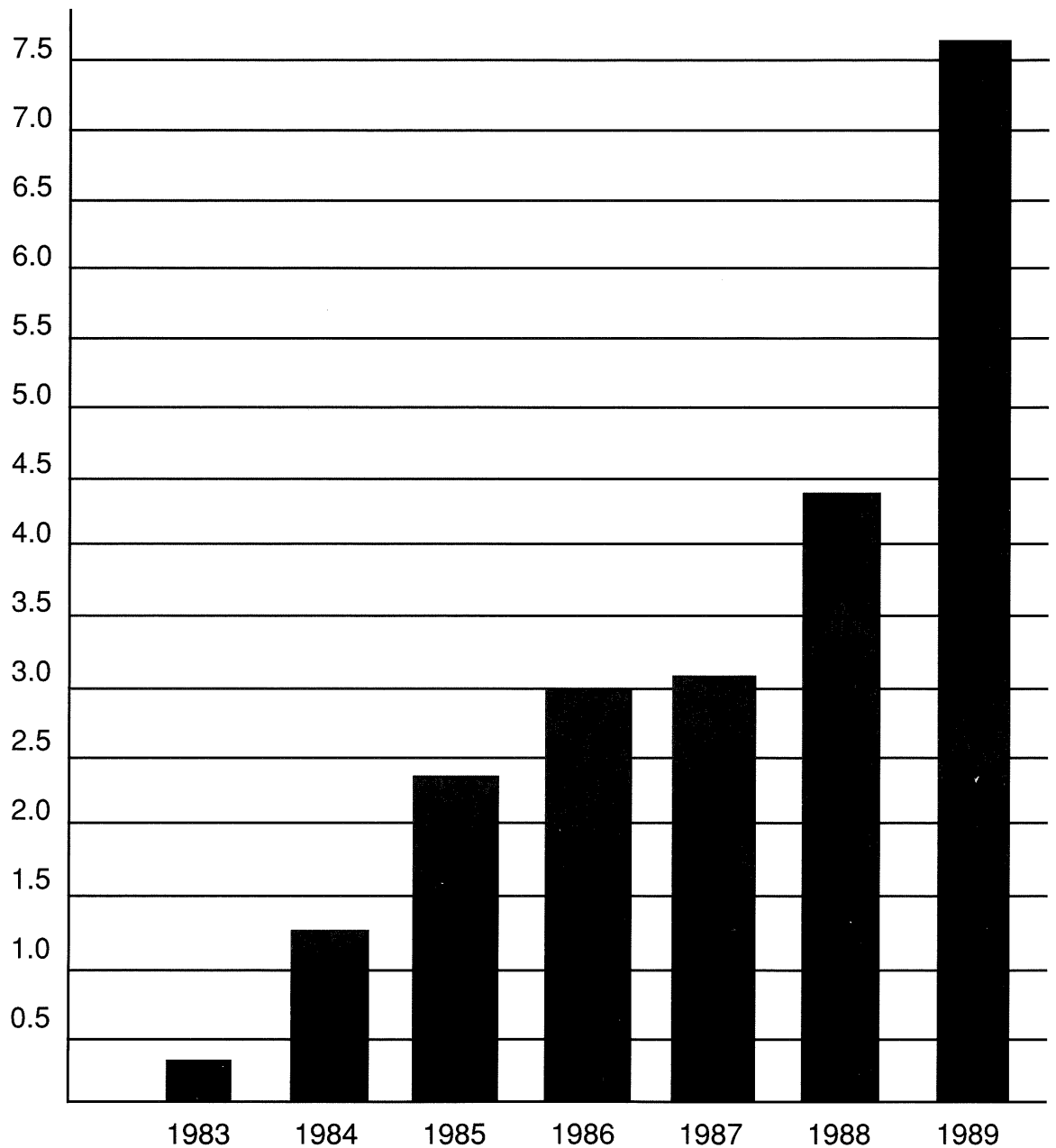
R*SCAN
Minneapolis, MN
Walter Lyons, President

Prismoid Optics
Maple Lake, MN
Richard Vizeor, President

Minnesota Project Innovation Track Record

The number of firms winning SBIR awards increased during fiscal year 1989 by 74 percent over any previous year. The total federal funds received set a new state record at \$7.53 million.

Federal R&D Funds to Minnesota Small Businesses (in millions)



Science

Bio-Metric Systems, Inc.
Eden Prairie, MN
Patrick Guire, Vice President

Dagan Corporation
Minneapolis, MN
Caryl Erickson, President

Management Graphics, Inc.
Bloomington, MN
James Teter, President

Space

APA Optics, Inc.
Blaine, MN
Anil K. Jain, President

Ross-Hime Designs, Inc.
Minneapolis, MN
Mark Rosheim, President

Top-Vu Technology
New Brighton, MN
Tho Vu, President

PRT Corporation

St. Paul, MN
Ralph McCartney, President

TSI, Inc.

Shoreview, MN
LeRoy Fingerson, President

Vector-Vision

Minneapolis, MN
Braham Mozyaney, President

Xinotech Research

Minneapolis, MN
M. Michael O'Connor, President

Health

Berner Associates

Golden Valley, MN
John Berner

Bio-Metric Systems, Inc.

Eden Prairie, MN
Dr. Patrick Guire, Vice President

CNS, Inc.

Eden Prairie, MN
Daniel Cohen, President

Endotronics

Coon Rapids, MN
Judith C. Devin, President

medium well-done

Minneapolis, MN
Judith C. Devin

Project Management Teams

International Falls, MN
Archie Hamilton, President

Government Directors

Ed Daum, District Director, U.S. Small Business Administration

Marlene Johnson, Minnesota Lieutenant Governor

Gene Pelowski, Minnesota State Representative

*P. Gilmer Young, Office of Science and Technology, Minnesota
Department of Trade and Economic Development*

MPI Staff

Executive Director

James W. Swiderski

Business Development Director

Bonnie Untereiner

Research Information Director

Lisa Pariseau

Communications Director

Cate Murphy

Administrative Assistant

Lori Twait

1989 MPI Board of Directors

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Patricia Hollister, Senior Manager, KPMG Peat Marwick;
Treasurer
Mike Brown, CEO, Micro Dynamics
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Entrepreneurship, University of St. Thomas
Steven Morse, Minnesota State Senator

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Keith Myhre, New Venture Business, Unisys Corporation
Morgan Tamsky, Technical Director, 3M Company
Frank Vargas, Attorney, Briggs and Morgan
Steve Watson, Executive Director, Minnesota High Technology
Council
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Richard Fundakowski, President, Triple Vision, Inc.
William Sackett, President, XOX Corporation
Steven Zuckerman, President, M-T Venture Capital Funds, Inc.

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Linda Bunnell Jones, Vice Chancellor, Minnesota State University
System
Mary Fahey, Office of Research and Technology Transfer,
University of Minnesota

1990: The Year Ahead

Minnesota Project Innovation faces two major challenges in 1991: to help Minnesota set a seventh consecutive state record in annual SBIR awards; and to secure the support of the public and private high technology community and the Minnesota Legislature in an effort to put Minnesota among the top ten states in annual SBIR awards by 1995. Both challenges will require the very best efforts of the staff, the Board of Directors, and the strong support of our clients and sponsors.

Setting a new state record will again be a considerable undertaking. MPI's strategic approach has produced substantial momentum with over 14,000 scientists, engineers, and high technology small businesses identified on our mailing list and by generating record number of inquiries, clients, proposals, and awards. Concurrently, research information, proposal preparation, and business development training and counseling programs have grown in depth and effectiveness as well.

As a result, volume and costs have tripled. However, MPI has not received an increase in state funds since 1987. In fact, MPI will see a decrease in 1991 because of state fiscal problems. While private support has grown considerably during this period, significant additional financial support must be obtained in fiscal year 1991 if MPI is to meet its objectives.

As pressing as these immediate concerns are, MPI must also take time to deal with the long term issues. The SBIR program was created to respond, in part, to the technological and commercial challenges faced by American industry from the Far East and Europe. The program became increasingly relevant in Minnesota during the 1980s as the state moved rapidly from a player involved in the Upper Midwest economy to a player actively engaged and increasingly dependent upon the world economy.

Needless to say, the need for Minnesota to accelerate commercial and scientific advances in research and development in order to keep up with the pace has never been greater. The role of the SBIR program and MPI, therefore, looms even larger as we face the competitive challenges of the next decade.

In response to these realities, MPI adopted a five-year plan to put Minnesota in the top ten SBIR award winning states by 1995. Such a goal is not only strategically important for Minnesota, it is achievable and a cost effective investment.

The second major challenge for the year ahead, is for MPI to bring this message home to the public and private high technology economic development community and to secure the support and funding commitments necessary for this important and productive endeavor.

*Jim Swiderski
Executive Director
Minnesota Project Innovation*

1989 MPI Contributors

Minnesota Project Innovation is a public/private partnership and provides services at no or low cost through funds provided by the Minnesota Department of Trade and Economic Development, the U.S. Small Business Administration, and various corporate sponsors.

MPI Contributors

*Governor's Office of Science and Technology,
Minnesota Department of Trade and Economic Development*

*Minnesota Small Business Development Centers,
U.S. Small Business Administration*

MPI Sponsors

MPI is particularly grateful to the following organizations and businesses for their on-going support:

<i>Ault, Inc.</i>	<i>Minnesota Advanced Manufacturers Technology Centers</i>
<i>Briggs and Morgan</i>	<i>Minnesota High Technology Corridor</i>
<i>Cargill, Inc.</i>	<i>Minnesota High Technology Council</i>
<i>Cherry Tree Ventures</i>	<i>Minnesota Power</i>
<i>Faegre & Benson</i>	<i>Minnesota SURE Access</i>
<i>Fredrikson & Byron</i>	<i>Northern States Power Company</i>
<i>Greater Minnesota Corporation</i>	<i>Norwest Banks</i>
<i>Honeywell, Inc.</i>	<i>NorwestVenture Capital Management</i>
<i>House, Nezerka & Froelich</i>	<i>Perkin-Elmer</i>
<i>Hutchinson Technology</i>	<i>Regis McKenna</i>
<i>IAI Venture Capital Group</i>	<i>Rosemount</i>
<i>Lindquist and Vennum</i>	<i>Sathe & Associates</i>
<i>Lommen, Nelson Strausberg</i>	<i>St. Paul PED</i>
<i>Magnetic Data</i>	<i>3M Company</i>
<i>Medtronic</i>	<i>Teledyne Aerospace Systems</i>
<i>Medical Innovation Partners</i>	<i>Unisys Corporation</i>
<i>Merrill Corporation</i>	<i>University of Minnesota</i>
<i>Michaud Cooley & Erickson</i>	<i>University of St. Thomas</i>
<i>Minneapolis Community Development Agency</i>	<i>U S WEST</i>

Our special thanks to these sponsors for helping MPI successfully promote the SBIR program and small business development in Minnesota.



**A High Technology
Small Business
Development Center**

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