

MAINE STATE LEGISLATURE

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Maine Technology Institute

**FOURTH ANNUAL REPORT
TO THE MAINE LEGISLATURE
July 2002-June 2003**

BACKGROUND

The Maine Technology Institute (MTI) was created by the Legislature in 1999 to, “encourage, promote, stimulate and support research and development activity leading to the commercialization of new products and services in the State’s technology-intensive industrial sectors...” (5MRSA ch. 407, Appendix A). The targeted technologies are:

- Advanced technologies for forestry and agriculture;
- Aquaculture and marine technology;
- Biotechnology;
- Composite materials technology;
- Environmental technology;
- Information technology;
- Precision manufacturing technology.

MTI supports early-stage activities for which other forms of capital are difficult to secure. As the State’s only support for research and development efforts within the private sector, MTI funding provides the crucial link that will help drive ideas from the laboratory to the marketplace. MTI accomplishes its purpose by cost-sharing research and development (R&D) and cluster enhancement projects with Maine companies through several competitive award programs and by helping Maine companies access federal funds for their R&D projects.

MTI is a private non-profit organization, governed by a private-sector led Board of Directors (By-Laws, Appendix B; Board, Appendix C). The President of the Institute is appointed by the Governor and reports to the Commissioner of the Department of Economic and Community Development. MTI’s success is due, largely, to the dedication of more than 80 Maine business people who serve on one of seven technology boards (Technology Board membership, Appendix D). In FY03, these volunteers contributed over 3000 hours to proposal evaluation, funding recommendations and advice to the Board of Directors in matters of policy and direction.

MTI employs a lean staff of five full time employees who, together with the Director, implement the policies and programs of the Board (Job Descriptions, Appendix E; Staff Biographies, Appendix F).



From Back Left:
Robert Chiozzi, Technology Specialist
Patrick Martin, Development Manager
Elizabeth Crabtree, Seed Grant Specialist
From Bottom Left:
Leanne Bourgeois, Office Manager / Assistant
Janet Yancey-Wrona, Director
Joseph Migliaccio, Technology Specialist
Not pictured: Bethany Lyons, Communications Support

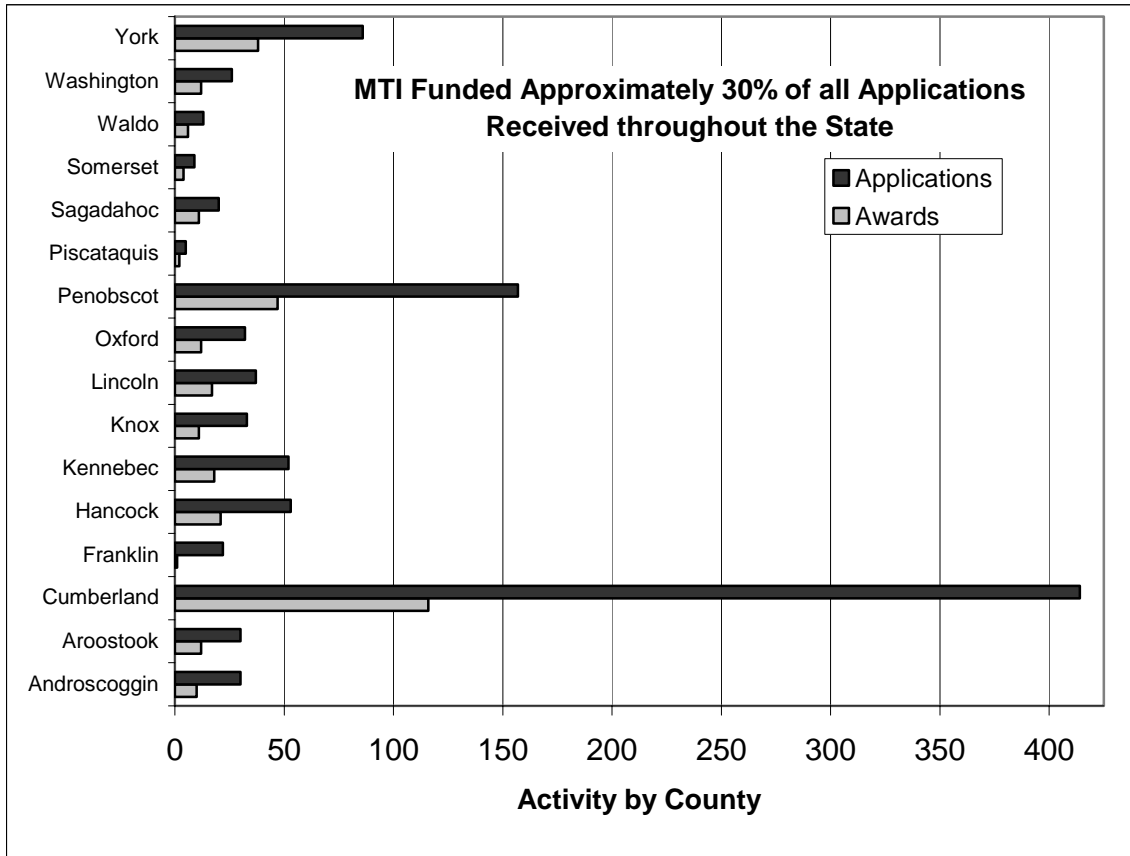
FINANCIAL ASSISTANCE PROGRAMS

MTI continued to offer three financing programs in FY03. Two programs comprise the bulk of MTI activity—Seed Grants and Development Awards. These programs fulfill the core purpose of MTI by funding R&D projects that will lead to the commercialization of new products and services.

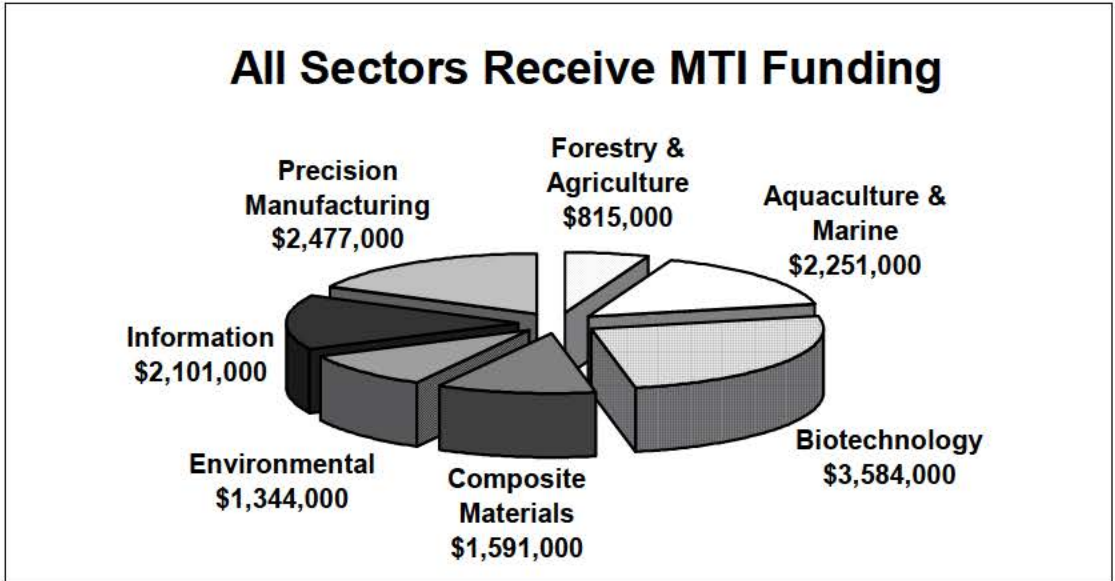
Periodically throughout the year, MTI requests proposals from applicants throughout the State. Applications are analyzed and ranked by teams of knowledgeable reviewers, and awards are made to those projects deemed to meet the Institute’s funding criteria. 123 R&D projects were approved in FY03, totaling more than \$4.5 million!

This brings the total Seed Grant and Development Award activity by MTI to 337 projects, in every Maine County, at over 250 Maine businesses! Together with match, MTI is participating in more than \$30 million of R&D investment throughout our State.

These early stage R&D efforts will help advance new products and services toward the market, creating jobs in the technology-intensive sectors.

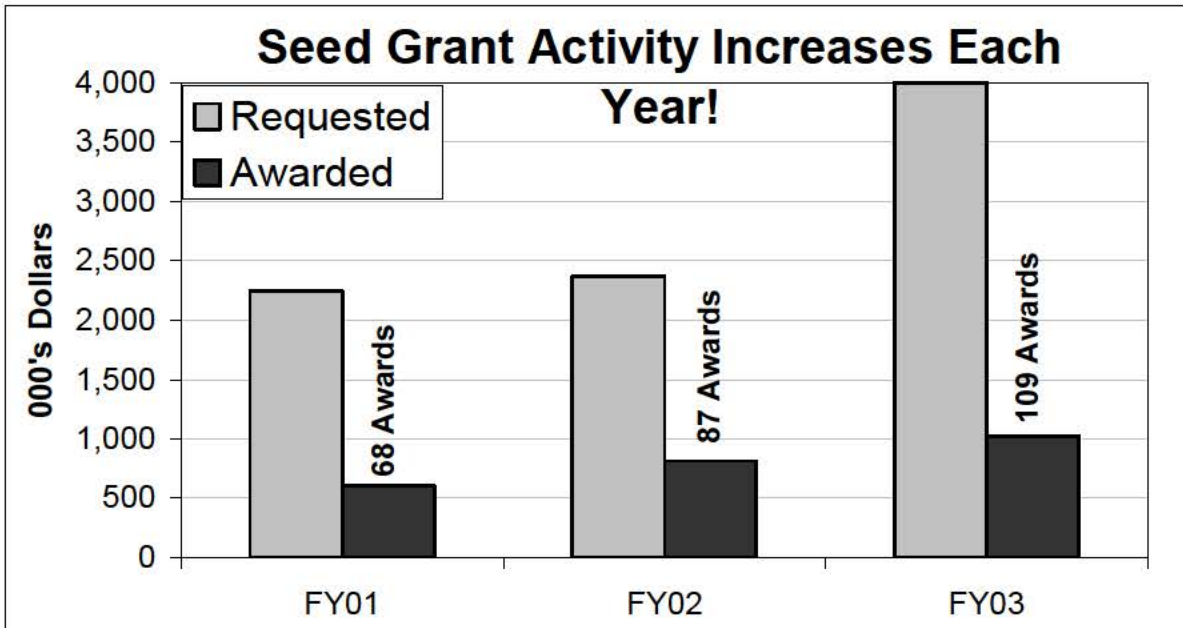


After three years of activity, projects have been funded in all seven sectors. However, funding is not equal among the sectors. The number of awards among the sectors ranged from 39 to 60 per sector, the amount of funding per sector ranged from \$815,000 to \$3,500,000.



Seed Grants

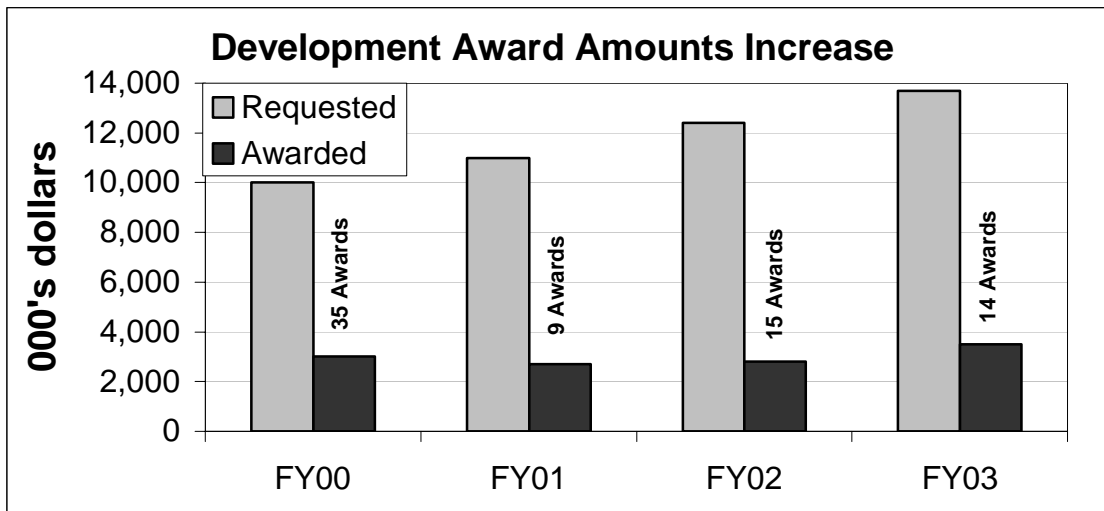
In FY03, MTI offered six rounds of its popular Seed Grants, of up to \$10,000 each. Participation in the MTI Seed Grant program continued to grow, with an average of 52 applications received and reviewed per round. 109 awards were granted, an increase of more than 25% over the previous year! MTI has approved 264 Seed Grants for funding since 2001, when the first Seed Grants were awarded (Appendix G, Seed Grants).



On the value of the Seed Grant program, Randy Scamfer of Builder Partners, LLC in Camden, says, “MTI has provided the funds for us to create a solid business platform and position the company for a national presence. It gave us the potential to move from a single customer in Maine to multiple customers with ease, which allows us the ability to expand into the national market. We greatly appreciate the help MTI has given us in our business and hope the program continues to provide other Maine businesses with the same resources.”

Development Awards

Development Awards for up to \$500,000 each were again offered twice in FY03. While the number of applications increased from 35 to 47, one fewer award was made in FY03 than FY02. The total amount of funding awarded, however, increased by nearly \$800,000 (Appendix H, Development Awards). These data show that the amount of funding per award continues to increase. These larger projects, for development of products closer to market entry, are closer to the economic benefit that will be realized when the new products reach commercialization. We hope that the continued growth of Seed Grant activity will help many more Maine companies prepare for more comprehensive R&D projects suitable for future Development Award applications throughout the entire spectrum of new product R&D activities.



Patrick West from Max Torque, Limerick, commented on the impact of their 2003 Development Award, “The funding from this program has allowed us to retain and focus employees on driving our product to the market as well as enabled us to purchase the necessary tooling, casting patterns and equipment. Programs like this demonstrate that Maine is committed to the development of small business.”

Cluster Enhancement Awards

MTI offers this financing program to support activities that will promote and stimulate clusters of industrial activity within and among the targeted industry sectors. While not the majority of MTI activity, the Cluster Enhancement program is important to MTI's purpose because it supports projects and programs that will help create and build the environment necessary for successful technology-based business growth.

In FY03, MTI approved funding for seven Cluster Enhancement Awards, totaling nearly \$750,000 and matched by over \$1,300,000. All together MTI is providing over \$1,700,000, matched by more than \$6,300,000, for 18 projects that support Maine's technology-driven businesses by improving the business climate, infrastructure, resources, connections and linkages. (Appendix I, Cluster Enhancement Awards). Six Cluster Enhancement Award projects have completed.

John Ferland, interim Director for the E2 Technology Council, explained the importance of their Cluster Enhancement Award, *"The MTI grant allowed us to develop a strategic plan for Maine's environmental and energy technologies sector. Our goals are to advance job growth, research and development, and new product commercialization. Without these funds, we would not have been able to identify how to enhance this sector or find the means to do it."* The E2 Technology Council now boasts over 200 members.

MTI INVESTMENTS HAVE IMPACT

As required by statute, MTI has evaluated the economic impact of its activities. MTI engaged the services of the University of Southern Maine's Center for Business and Economic Research and Muskie School to perform the independent evaluation (Appendix J, Survey Contract). The evaluation team, led by Drs. Charles Colgan and Bruce Andrews, developed and conducted a survey of completed MTI-funded projects (Appendix K, survey instrument). The data was analyzed, a report, "Year 1 Evaluation of the Maine Technology Institute Grant Programs" (Appendix L, Report), prepared and presented to the Business, Research and Economic Development Committee of the Maine Legislature in January 2003.

At the end of FY02, 64 MTI-funded projects had been officially completed. These companies revealed that:

- MTI funding provides leverage: Surveyed companies received approximately \$1,800,000 from MTI and raised an additional \$13,600,000 in funding!
- MTI-funded companies protect their intellectual property: Surveyed companies received 33 US and foreign patents and intend to file 70 more.
- MTI-funded companies bring new products to market: 30% of surveyed companies now offer a product for sale as a result of MTI funding, and 44% report joint venture or licensing arrangements for sale of their new product.

- MTI-funded companies support their industries: While over half of reported revenues derived from outside of Maine, 36% of materials and 61% of services were obtained from other firms within Maine. More than 40% reported assistance from other firms within Maine.

At the end of FY03, another 104 MTI-funded projects had completed. As required by their MTI contracts, all companies with completed MTI-funded projects will be surveyed annually for five years following project completion. The compiled data will be evaluated, and a report prepared, for impact to Maine's economy, every odd-numbered year. The survey data also are shared with the Department of Economic and Community Development (DECD) in order to fulfill the State requirement for an evaluation of the State's R&D investments (5MRSa §13060).

MTI PROVIDES COMMERCIALIZATION ASSISTANCE

Pursuant to its legislative mandate, MTI maintains a technical assistance, information and outreach program supporting the federal SBIR (Small Business Innovation Research) and, the related, STTR (Small Business Technology Transfer) award programs. MTI's efforts increase the amount of federal funding received by Maine companies for innovative research and development, and increase the successful commercialization of products or services developed with federal and MTI funding.

Maine's SBIR/STTR network operated with state and federal funding throughout FY03. MTI and the Market Development Center (MDC) partner to provide comprehensive support and assistance for the SBIR and STTR programs. MDC utilized a \$50,000 Rural Outreach Program (ROP) matching grant from the US Small Business Administration (SBA) to promote SBIR/STTR awareness in Maine's rural communities. MTI invested approximately \$100,000 to provide technical assistance and outreach for the SBIR/STTR programs (Appendix M, SBIR contracts). Additionally, MTI received a \$100,000 Federal and State Technology Partnership (FAST) matching grant from the SBA to stimulate technology commercialization by small businesses (Appendix N, FAST proposal and contract).

Assistance is paying off:

- Training/Promotion: 6 workshops, attended by over 125 Maine businesses or individuals.
- Awareness: over 250 small businesses statewide were contacted and informed about the SBIR program.
- Technical Assistance: over 115 Maine companies were provided in-depth guidance and assistance at no cost for preparation of SBIR proposals, or other proposals for federal funding of R&D.
- Financial Assistance: Approximately 20% of MTI's Seed Grants are used to help Maine businesses pay for expert SBIR proposal assistance.

- Maine received 25 SBIR awards totaling over \$3,300,000 for FY03! This is a 50% increase in Phase I awards, moving Maine to 9th in the nation for percent of Phase I applications funded, and breaking Maine's award record of 23, set in 1999.

The FAST grant allows MTI to expand these activities and provide intensive training to increase the likelihood of commercialization success by MTI- and SBIR- funded companies. Through its federal grant, MTI provided an intensive commercialization workshop for twenty companies. 16 companies completed the program successfully. MTI also created the Tech Tracker mentoring network to support workshop graduates as they commercialize their innovations. Twenty business professionals joined the Tech Tracker program and contributed over 1,600 hours of their time and expertise to the 16 graduate companies (Appendix P, resumes of Tech Trackers). The results were excellent-ten graduating companies either brought their product to market and/or obtained financing to enable them to enter the market.



Commercialization Workshop Graduates 16 companies!

From Left: Brian Fredrick, Stillwater Scientific Instruments; Janet Yancey-Wrona, MTI; Priscilla & Claude Morin, Spill Free Oil Drainage, Inc.; Miles Maiden, Hydro-Photon, Inc., David Kew, AEC Engineering; Nancy White, Hydro-Photon, Inc., Chris Tupper, Raven Technology; David Whitten, AEC Engineering; Ariel Wilcox, Access Wellness Technologies; Patrick Martin, MTI; Angus King, Governor; Keith Burgess, Maine Composites, Inc.; Joan Gordon, Maine Molecular Quality Controls, Inc.; Jack Smith, Applied Thermal Sciences, Inc., Jeff Andle, BIODÉ Inc.; Bob Swerdlow, Transpose; Ed Savoie, Applied Thermal Sciences, Inc., Robert Yamartino, Telesyst. Not Pictured:

MTI looks forward to continuing and expanding this important program through its second FAST grant for \$100,000 awarded by the SBA in September 2002 (Appendix Q, FAST proposal). Workshops will be held again in the fall of FY04.

MTI CREATES EFFECTIVE PARTNERSHIPS

Small Business Development Centers

The University of Southern Maine's Small Business Development Centers (SBDCs) and MTI entered a contractual partnership to cost-share a business counselor focusing on technology-based businesses in Maine (Appendix R, MTI-SBDC contract). After a national search, Meriby Sweet was hired in July 2002.

In one year of activity, Ms Sweet has counseled 47 distinct clients. 32 are MTI-funded, or likely to become MTI-funded. Activities relate specifically to helping companies understand how to commercialize their new products and services, and referring those companies to appropriate resources to be sure it happens.

Additionally, Ms Sweet works with the State's SBDC Director, John Massaua, to fulfill accreditation requirements to help make Maine the 3rd State in the U.S. to have an SBDC program with the 'Technology' distinction. Five other counselors are obtaining the skills required to provide substantial assistance to Maine's technology-based companies, and the State's Applied Technology Development Center directors also will receive training as affiliate counselors. These efforts follow a model developed in North Carolina, and will increase the likelihood of success for Maine's technology-intensive industrial sectors.

Maine Manufacturing Extension Partnership

For the third year, MTI continued its partnership with Maine MEP (Appendix S, MTI-MEP contract). At no cost to MTI, and at MTI's sole discretion, Maine MEP serves as the fiscal agent for MTI funding disbursements to MTI grant and award recipients. MTI authorized payments for over \$4,500,000 in FY03 (Appendix T, MEP disbursement report). These funds, disbursed on behalf of MTI, allow MEP to access over \$1,500,000 in federal match funding for MEP.

Additionally, MEP provides 'no cost' assistance for technology commercialization to MTI award recipients. Altogether, MEP is supporting MTI with three full-time-equivalents of staff at no cost. Two MEP staff are full-time project managers dedicated to MTI and its client companies. One equivalent is required for the fiscal administration support (Appendix U, Cooperative Agreement Activity Report).

Market Development Center

MDC fulfills its federal mandate to support the federal SBIR program by partnering with and sharing responsibilities with MTI's SBIR assistance and outreach program (see above). MTI's administrative expenses provided approximately \$400,000 of in-kind match for MDC's federal procurement assistance program in FY03.

University of Maine System

While no formal agreement exists between MTI and the University system, active collaboration continued in FY03. Jake Ward, Director of the Department of Research and Economic Development, continued to represent the Chancellor on the MTI Board of Directors. The University of Maine is the primary recipient of 13 MTI awards, and has provided assistance to more than 50% of MTI-funded companies, including direct technical assistance, informal advising, commercialization of University-developed technologies and graduate student support. Indicative of the integral role the University plays in the development of strong, competitive clusters of activity, the University is involved in all of the Cluster Enhancement Award projects, and primary contact for four. Importantly, MTI-funded companies report that their interaction with the University has been moderately or highly important for their company.

Applied Technology Development Centers

MTI and the ATDCs implemented their memorandum of understanding (Appendix V). All seven ATDC directors serve on the MTI technology boards, and actively participate in MTI award review processes. Additionally, the ATDCs provided facilities for many of MTI's workshops and seminars, and actively promoted MTI programs to their clients. MTI has funded 12 out of 18 companies affiliated with, or resident at, at the Center for Environmental Enterprise in South Portland, and 6 out of the 8 companies currently affiliated with, or resident at, the Target Technology Center at Orono.

Maine Patent Program

MTI continued to fund intellectual property work. However, this work is only funded after companies have received assistance from the Maine Patent Program, as agreed to in the MTI-Maine Patent Program memorandum of understanding (Appendix W). Overall, MTI funded 18.5% of clients served by the Maine Patent Program.

Small Enterprise Growth Board

MTI continued a close and mutually supportive relationship with the State-sponsored venture capital fund, the Small Enterprise Growth Fund (SEGF). The MTI Director continued to serve as the Commissioner of DECD's designee on SEGB. This interaction provided an important link between MTI assistance and the equity funding provided by SEGB. Six out of sixteen SEGB portfolio companies also are MTI-funded.

Private Capital Sources

To help assure that MTI-funded companies have access to follow-on funding from private venture capital sources, MTI maintains close relationships with many of the venture capital funds and investors in the State. The MTI Director serves as a member of the Board of Directors of CEI Community Ventures, LLC, a Portland-based venture capital fund licensed under the SBA's New Markets Program that targets investments in areas of the State with economic need. MTI's two finance Directors include a venture capitalist and a banker from the private sector.

OUTREACH AND PUBLIC RELATIONS

It is important that all MTI programs be available and accessible to all entrepreneurs and businesses throughout the State of Maine. In the past year, MTI has promoted its programs in a variety of ways, including:

- MTI prepares **statewide press releases** about MTI and its programs, as well as articles highlighting companies who have received MTI funding. MTI sends statewide press releases after each round of awards. (See Appendix X for a sampling of articles about MTI).
- MTI distributes **bi-monthly e-news** to over 1,500 individuals, companies, and organizations. “MTI eNews” includes special updates, upcoming award deadlines, announcements of award recipients, upcoming workshops and seminars, and announcements of relevance to the targeted industry sectors.
- A quarterly **printed newsletter** was sent to Maine’s legislators, economic service providers, the Governor’s office, and various trade associations around the state.
- **Open houses** take place quarterly. Approximately 25-40 persons attend each open house.
- **Proposal preparation workshops** were presented by MTI at no cost and open to the general public. These workshops, publicized in the press and through the economic development district organizations, were attended by over 100 individuals. The workshops were held in:
 - Augusta
 - Lewiston
 - South Portland
 - Fairfield
 - Orono
 - York
 - Machias
- Information regarding MTI is available on our **Web site**, <http://www.mainetechnology.org/>. The site continues to feature a “Directory of Professionals”, where businesses that provide services to the business community (grant writers, consultants, marketing/PR firms, etc.) can post a listing at no charge. Most importantly, the MTI web site contains all of the information necessary to apply for funding (the request for proposals, necessary forms, deadline dates, etc.)

In the past year, MTI has attended, sponsored, or presented at the following **sector-related events**: Maine Composites Conference, MITC conference on Biotechnology, Maine Media Expo, Biotech Association of Maine Annual Meeting, Maine Tech Show, Maine Metal Products Annual Meeting, Maine Bankers Association, EDCM Seminars, CEI Annual Meeting, Maine Energy Technology Exposition, SBA Anniversary Meeting, Maine Metal Products Annual Meeting, Maine Fisherman's Forum, Maine Agricultural Expo, Maine Industrial Trade Show, Maine Wood Products Association Meeting, Maine Forest Products Expo, etc.

MAINE BIOMEDICAL RESEARCH PROGRAM

As required in statute, MTI administered the Maine Biomedical Research Fund. MTI executed its agreement with the Maine Biomedical Research Board (Appendix Y, MTI-MBRP agreement), and received the funds according to its grant agreement with DECD (Appendix Z, MTI-DECD agreement for Biomedical Fund). MTI entered into a contractual agreement with a grant administrator to carry out the duties stipulated in this agreement (Appendix AA, Contract Terms between MTI and Martha Bentley). MTI renewed its contract with the Biomedical Research Board for FY04 administration (Appendix BB).

In FY03, the MBRP allocated \$14.5 million according to a formula based on record of federally-funded R&D and agreed to by the Biomedical Research Board. This sum included \$5,000,000 in General Funds from 2001 and 2002, and \$9,000,000 in bond funds approved by voters in 2001 and 2002 (Appendix CC, MBRP allocation).

MAINE MARINE RESEARCH FUND

In 2002, the State of Maine approved a \$1,000,000 bond issue for funding the Maine Marine Research Fund (MMRF). The MMRF was created to support marine research, and create jobs in Maine, by eligible Maine private non-profit institutions, state government and quasi-governmental agencies and academic institutions, excluding the University of Maine System, engaged in marine research.

Pursuant to its legislation, Maine Technology Institute (MTI) received \$1,000,000 to establish and administer the MMRF. MTI used the services of the Research Capacity Committee and American Association for the Advancement of Science to facilitate the review process, assuring MTI and the Fund's constituents that the review would be a fair and equitable peer-review process (Appendix DD, MMRF RFP). In October 2002, MTI approved six grants totaling \$925,000. Because of the seasonal nature of this type of research, many of the projects awarded funds in late 2002 did not begin until Spring/Summer 2003. To date, \$100,275 of the \$925,000 awarded has been paid out, with the rest to be paid out over the next 18 months (Appendix EE, MMRF Recipients).

MAINE RENEWABLE RESOURCES FUND

For the first time, Maine will offer a Renewable Resources Fund as defined by statute (Appendix FF statute). MTI has contracted with the State Planning Office to develop the process and administer this fund. It is expected that the Request For Proposals will be available early in FY04. MTI is offering this program at no cost to the fund or the State Planning Office (Appendix GG, contract).

FINANCES

MTI is funded through an appropriation to the Department of Economic and Community Development (DECD), and is limited by statute to using no more than 7% of the appropriated funds for administrative costs. MTI received \$3.3 million in its start-up fiscal year 2000, and its full appropriation of \$6.4 million for fiscal year 2001. MTI collected \$5.4 million in 2002 and \$4.9 million in 2003, due to de-appropriations late in each fiscal year. (Appendix HH, MTI-DECD grant agreements)

MTI also received \$100,000 grant award from the U.S. Small Business Association to develop its commercialization assistance program (see above). Other sources of income included \$11,000 in award repayment from successful Development Award recipients, and \$189,109 in interest.

The Institute's legislative language was modified in FY03 to include a requirement for an independent annual financial audit. This has been MTI's practice, and it is now stipulated in law. According to the most recent audit (Appendix II), MTI approved funding for more than \$4,700,000 in awards, and expended \$268,944 for its commercialization assistance program. Administrative expenses were \$465,776.