



ELEVENTH ANNUAL REPORT TO THE MAINE LEGISLATURE

FY10: July 2009-June 2010

**Prepared for:
The Business, Research and Economic Development Committee**

The Maine Technology Institute “shall 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 to enhance the competitive position of those sectors and increase the likelihood that one or more of the sectors will support clusters of industrial activity and to create jobs for Maine people.”

1999, 5MRSA c407 § 15302

www.mainetechnology.org



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Dear Friend of MTI:

We are pleased to present the Eleventh Annual Report of the Maine Technology Institute (MTI) for the period July 1, 2009 - June 30, 2010.

MTI strengthens Maine's innovation economy as the State's only source of research and development financing for businesses and cultivation of our technology industries. Highlights of the fiscal year included:

MTI approved awards for 130 new technology development projects to innovative Maine companies and organizations across the state, totaling over \$6.1 million. These grants and loans leveraged an additional \$9.9 million in matching investment by the award recipients.

MTI executed 13 contracts totaling approximately \$20 million for Maine Technology Asset Fund (MTAF) technology development projects, financed by State bonds. These diverse and exciting projects, chosen through a rigorous and highly-competitive process, are leveraging more than \$27 million in matching funds and are sustaining and creating good jobs across the state.

MTI received over \$240, 000 in repayments of Development Awards from companies that have succeeded in bringing new technologies to market. MTI turns around these funds and uses them to fund awards and support for other entrepreneurial Maine companies.

MTI support was again ranked highest among 13 Maine and out-of-state business resources by more than 363 companies that completed confidential surveys as part of the State's independent evaluation of its innovation-based economic development investments.

The MTI Board approved a three-year action plan for 2010-2013 that identified four strategic priorities:

- Increase the success of MTI-funded companies;
- Help Maine's high potential clusters grow and innovate;
- Continue to enhance and build strategic alliances with key partners; and
- Continue to develop and adopt best practices in the management of MTI's programs and overall operations.

Thanks to the sustained support of our partners, policy makers, and the hard work of more than 100 volunteer board members and the MTI staff, it has been another very successful year. Looking forward, MTI pledges to continue to invest in promising technologies that boost the competitiveness of Maine companies and sustain and grow quality jobs for people across the State. Thank you for your support.


Jim Detert, CEO of Rynel, Inc.
MTI Board Chair


Betsy Biemann
MTI President

Contents

Executive Summary	1
The Maine Technology Institute During Fiscal Year ‘10	2
MTI Funds Innovative Maine Companies	3
Core Funding Programs	4
Business Innovation Programs	4
Seed Grants	4
Development Awards	5
Accelerated Commercialization Fund	6
SBIR/STTR Awards and Federal Funding Assistance	6
Phase 0 Awards	7
Pre-Phase II Matching Grants	7
Assistance Securing Federal Funding	8
Awards to Strengthen Maine’s Technology Clusters	8
Bond Programs	9
Maine Technology Asset Fund	9
Maine Marine Biomedical Research Fund	10
Maine Marine Research Fund	11
Sector-Specific Assistance	11
Effective Partnerships	12
Outreach	15
Impact and Accountability	17
Finances	18
Looking Ahead	19
Appendices	21
A. Board of Directors	
B. Technology Board Members	
C. Staff Biographies	
D. Seed Grant Recipients FY10	
E. Development Award Recipients FY10 and Accelerated Commercialization Fund Recipients FY10	
F. SBIR Assistance Program Awards FY10	
G. Cluster Enhancement and Cluster Initiative Award Recipients FY10	
H. Independent Auditors’ Report	

Executive Summary

The Maine Technology Institute (MTI) supports technology development by Maine businesses and entrepreneurs in the state's targeted sectors, helping them bring to market cutting edge products, processes and services. With MTI's support, companies become more competitive, provide higher-paying jobs for people across the state and purchase goods and services from other Maine companies, thus stimulating Maine's economy.

Early-stage technology development is the most challenging step for a Maine company to finance on the way to profitability and growth. As the state's only financial support for private sector research and development (R&D), MTI funding provides the crucial link that helps drive ideas from the laboratory to the marketplace. MTI also supports the development of Maine's technology clusters, providing funds and incentives for collaborative ventures that strengthen innovation, networks and collective marketing in industries poised to benefit Maine's economy.

MTI accomplishes its purpose by cost-sharing R&D and industry cluster-building projects with Maine businesses and organizations through competitive award programs and by helping Maine companies secure Federal funds for research and development projects. Per its legislative mandate (5MRSA §15302), MTI's funding programs target seven technology sectors designated by the State of Maine:

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

MTI also administers the Maine Technology Asset Fund, financed by state bonds, which aims to strengthen Maine's economy by moving technologies to the commercial market and help Maine institutions compete for Federal research funds through funding equipment and facilities expansion for R&D. Previous bond-funded programs still administered by MTI have helped build the research and development capacity of Maine's nonprofit research laboratories and strengthen the State's biomedical and marine industries, while expanding the state's technology employment base.

The Institute is a private nonprofit corporation, governed by a industry-led Board of Directors (Appendix A). The president of the Institute is appointed by the Governor, confirmed by the Senate, and reports to the Commissioner of the Department of Economic and Community Development via the Director of the Office of Innovation.

MTI's success is due in large part to the dedication of over 100 business leaders and technology experts who serve as volunteers on MTI's Board of Directors and seven technology boards (Appendix B). Each year these volunteers together contribute over 5,000 hours to proposal evaluation, funding recommendations and guidance on matters of policy and direction, based on their in-depth knowledge of their industries' technologies and Maine's assets.

Compared to its ambitious mission, MTI is a lean, cost-effective operation with a team of seven full-time and one half-time staff members. Together with the MTI president, this team implements the policies and programs of the MTI Board (Appendix C).



Front row: Shane Beckim, Jessie Gogan, Linda Adams, Andrea Phillips, Patti Sutter.
Back row: Betsy Biemann, Roger Brooks, Joe Migliaccio, James Fecteau.

The Maine Technology Institute During Fiscal Year '10

The Institute fulfills its mission by co-funding high-potential technology development projects with Maine entrepreneurs and organizations that bring new products, systems and services to the market, invigorate Maine's industry clusters and create and sustain good jobs across the State.

MTI's programs include:

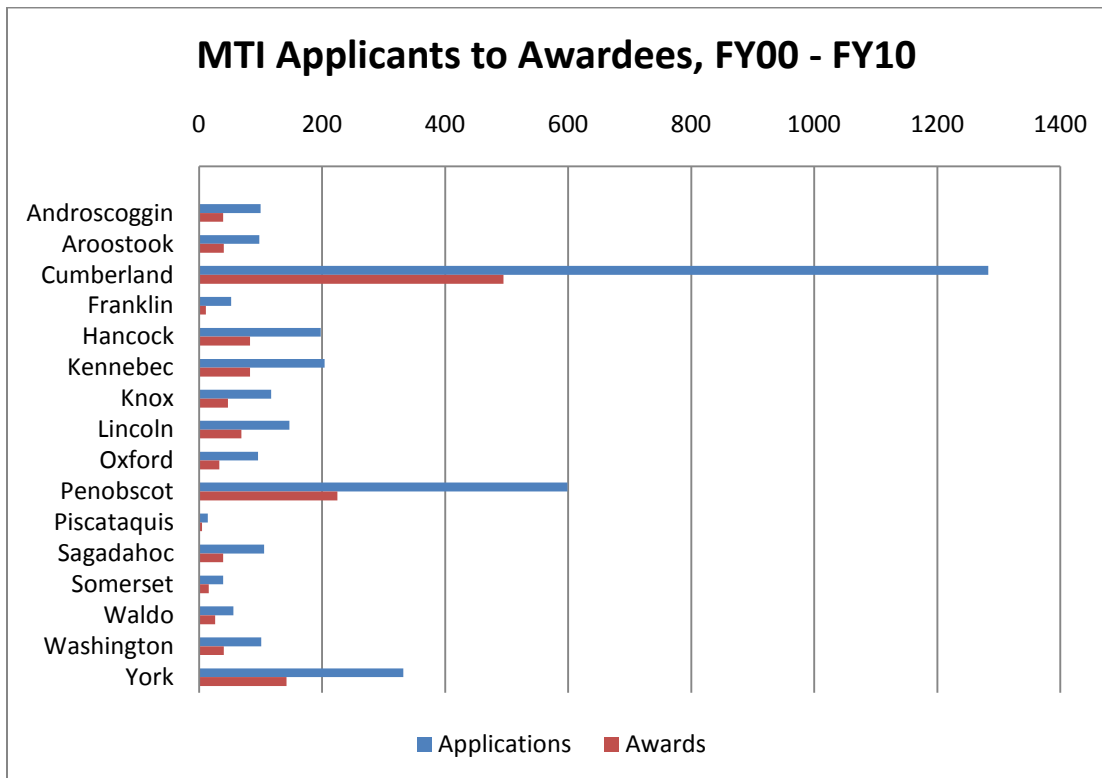
- Business Innovation Programs
 - Seed Grants
 - Development Awards
 - Accelerated Commercialization Fund
 - SBIR/STTR Awards and Federal Funding Assistance
- Cluster Initiative Program
- State bond-funded Programs
 - Maine Technology Asset Fund
 - Maine Biomedical Research Fund
 - Maine Marine Research Fund

MTI Funds Innovative Maine Companies and Organizations

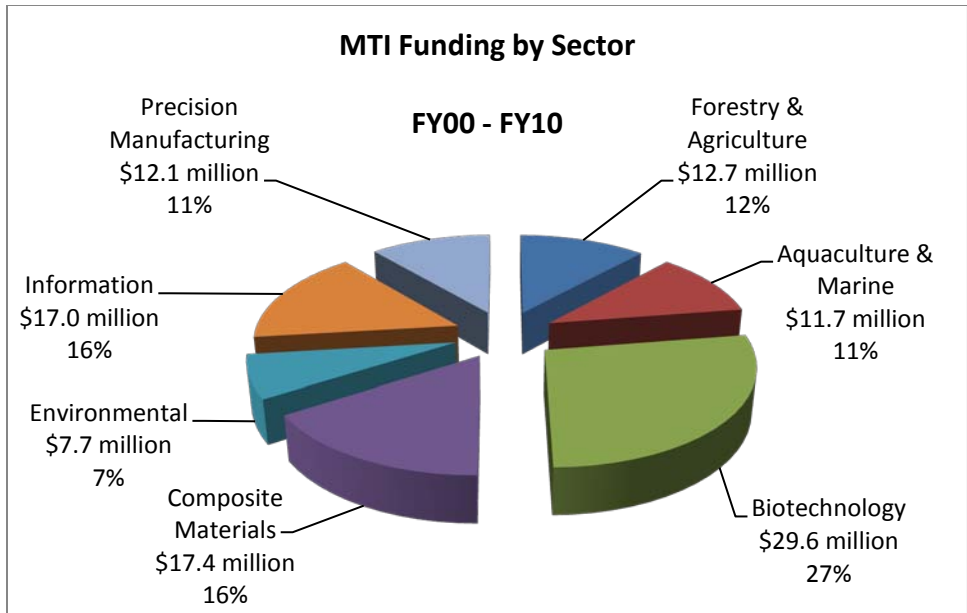
During FY10, MTI approved awards to 130 new technology development projects, totaling over \$6.1 million. This funding leveraged an additional \$9.9 million in matching investment by the companies themselves.

Since its inception in 1999, MTI has funded 1,425 technology development projects throughout the state of Maine, a financial commitment of nearly \$112 million that has leveraged an additional \$182 million for a total \$294 million. These resources have enabled Maine companies to secure their intellectual property, launch more competitive products and services, grow faster than average companies across the state, generate jobs and purchase goods and services from other Maine companies.

These early stage R&D efforts are helping to drive new products and services to the market, creating jobs in the technology-intensive sectors. Independent researchers from the University of Southern Maine have noted that “MTI programs have been very successful in a short time supporting substantial innovative activity, particularly in the private sector, that is likely to have positive economic impacts throughout Maine.”



MTI funding reaches all 16 counties in Maine and across the State’s targeted technology sectors, as shown in these tables.

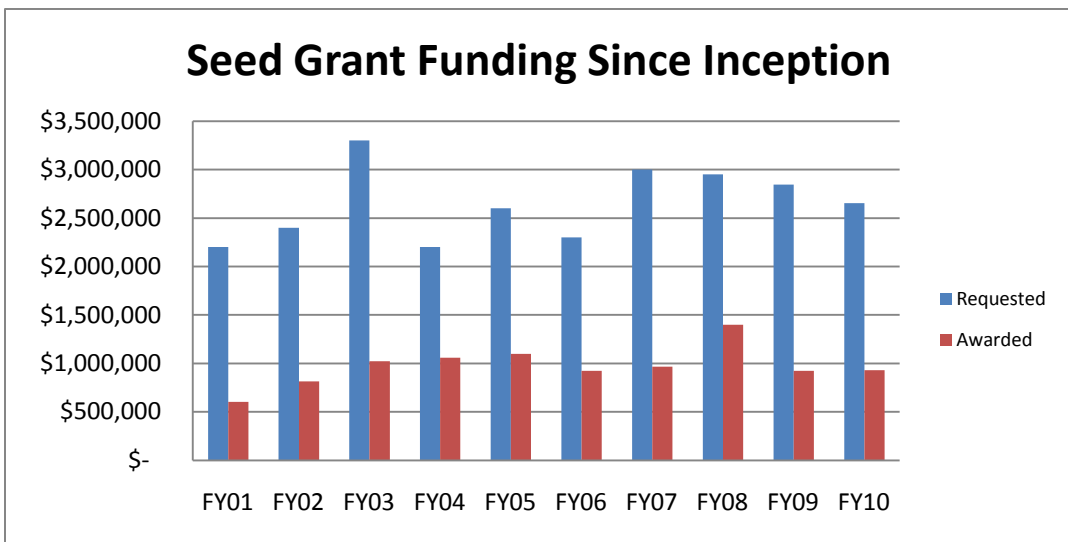


Core Funding Programs

Business Innovation Programs

Seed Grants

Seed Grants of up to \$12,500 each are offered six times a year to support early-stage R&D activities, such as market research, patent filings, feasibility studies and early prototype development. A company may win multiple Seed Grants, but may not exceed \$25,000 for any one technology. In FY10, 83 Seed Grants totaling over \$929,000 were awarded in six rounds that averaged 39 applications per round. The matching funds leveraged by these awards totaled nearly \$1.4 million (Appendix D). Since 2001, MTI has approved 1,032 Seed Grants for over \$9.8 million and matched by over \$15.8 million.



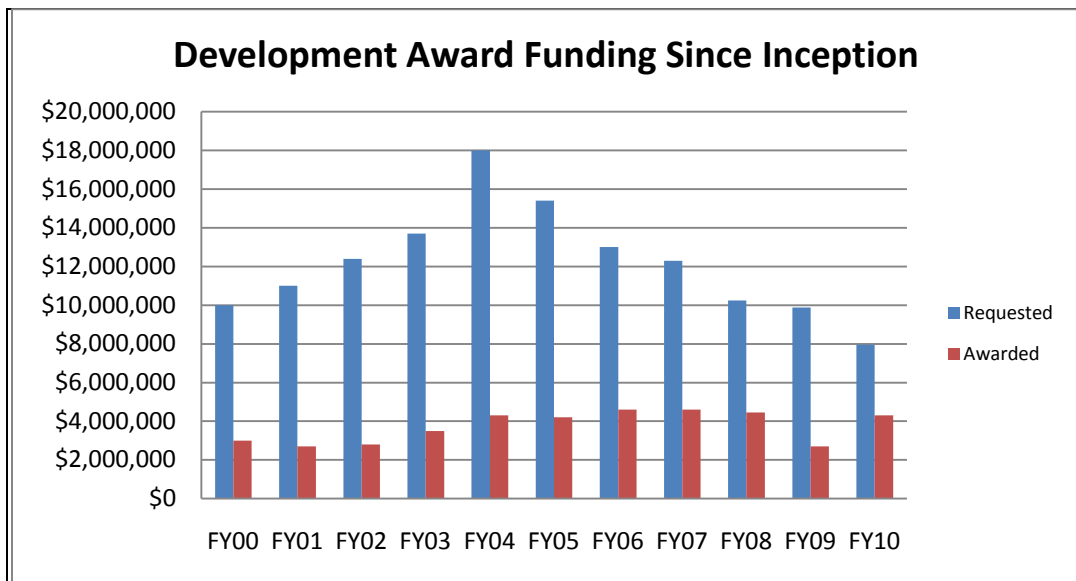
Award Recipient Profile: Seed Grant – Auburn Manufacturing

Auburn Manufacturing Inc., in Mechanics Falls, has used MTI funding to expand its offerings to enter new growth markets. Though the company's been in the textile manufacturing business for 30 years, specializing in coated textiles and composite fabrics for extreme temperature applications, it is creating a value-added product set for the insulation market that targets such underserved customers as educational institutions, hospitals, and government agencies. Based on its experience with specialty textiles in insulation applications, AMI recognized that many institutions seeking energy savings need an affordable, modular insulation product. It approached MTI and was awarded three seed grants over time, which it paired with its own R&D investment. Even in a tough manufacturing climate, AMI has been able to continue to innovate to increase growth, currently employing 50 people. "We're not doing the same things we did 30 years ago," says Kathie Leonard, President. "These new commercial opportunities should allow us to increase sales by 50% annually."

Development Awards

Development Awards are conditional loans of up to \$500,000 offered on a competitive basis three times a year to fund later stage R&D activities leading to commercialization, such as prototype development, testing and manufacturing pilot projects. Loan repayment is triggered by commercialization of the technology.

During the fiscal year, MTI Technology Boards reviewed 27 Development Award applications. Sixteen applications were funded for a total of \$4.3 million and matched by nearly \$6.9 million (Appendix E). Companies that have received earlier Development Awards made payments back to MTI totaling \$232,756 during the fiscal year. These repayments are recycled into new awards for Maine companies in support of technology-intensive businesses across the state.



Award Recipient Profile: Development Award - CLYNK

With a \$500,000 Development Award from the Maine Technology Institute, CLYNK, a bottle and can redemption company based in South Portland, is developing its next generation of equipment to sort the bottles and cans. The company holds patents and has filed for additional patents on how it processes the containers and maintains customer accounts. CLYNK first broke into the Bangor market in the summer of 2010, opening at the Hogan Road Hannaford, and is extending its reach into eastern Maine. Plans call for CLYNK to be in 46 of the 55 supermarkets in the state, and with its Development Award funding CLYNK doubled its processing capabilities.

Accelerated Commercialization Fund

The Accelerated Commercialization Fund (ACF) provides follow-on funding to help successful MTI-funded companies bring their new products or services to market. The funding is available for companies that have successfully completed an MTI Development Award-funded project and are seeking next stage investment from outside angel investor(s) or venture capital funds. The ACF program fills a gap for companies seeking to raise equity capital needed to bring their new products and services to market. In FY10, MTI's Board approved one Accelerated Commercialization Fund investment totaling \$73,846 to a company that had previously completed a Development Award-funded project (Appendix E).

Award Recipient Profile: ACF – Emergent Discovery

Portland-based Emergent Discovery delivers personalized ads to users based on their taste in music. Emergent's distribution partners, a large ad network and a demand-side platform with real-time bidding access to all major exchanges, enable Emergent to present advertising to thousands of publishers and 175 million monthly users. The company's channel partners sell advertising and include large ad networks, and rep firms, publishers, agencies and companies that represent major brands, labels and artists. Results of initial online advertising pilots and campaigns have shown that the unique targeting capabilities of Emergent's proprietary technology drive higher online advertising click through rates as well as add additional value for advertisers. In FY10, MTI's Board approved an ACF investment of up to \$73,846 in the company, which was matched by \$286,923 from private investors; as of the end of the fiscal year a contract for the initial tranche of \$34,615 had been executed. Emergent currently employs 5 full-time paid employees with additional management and contractor support rounding out the Maine-based team.

SBIR/STTR Awards and Federal Funding Assistance

The Federal Small Business Innovation Research and Small Business Technology Transfer Research award programs are Federal programs that award more than \$2.3 billion annually to small companies across the nation for research and development projects in areas of interest to approximately a dozen Federal agencies. MTI helps Maine companies learn about these programs, prepare competitive applications to secure this

funding, and then build successful enterprises based on the new technologies developed with the funding. MTI does this through the following awards and technical assistance.

Phase 0 Awards

MTI's Phase 0 Program provides financial assistance to Maine companies that are applying to the Federal government's Small Business Innovation Research/Small Business Technology Transfer program (SBIR/STTR). Maine companies can request up to \$5,000 from MTI to help them prepare competitive proposals for these Federal grants. Applications to MTI for Phase 0 support are accepted on a rolling basis to better coincide with the SBIR award schedules and allow maximum time for the preparation of the most competitive proposals. In FY10, 18 Phase 0 awards were approved, totaling \$88,026, matched by company contributions of over \$116,000 (Appendix F). Since MTI's Phase 0 program's inception in early 2005, more than \$458,000 in Phase 0 awards have been approved and matched by over \$646,000. Through calendar year 2009, Maine company applications for this Federal funding assisted by MTI Phase 0 awards won more than \$8.1 million in SBIR grants from Federal agencies.

Pre-Phase II Matching Grants

Pre-Phase II Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) matching grants are for Maine small businesses that have received a Federal SBIR/STTR Phase I award for research and development. MTI's Pre-Phase II grants provide an additional \$10,000 that can be used for related commercialization and business development activities not covered by the Federal funds that help companies to secure Phase II funding and to bring their new technology to the market successfully. In FY10, seven Pre-Phase II awards were approved for \$69,985 and matched by SBIR Phase I awards totaling \$405,992 (Appendix F).

Award Recipient Profile: SBIR – Zeomatrix

Zeomatrix is a company in Orono that makes filtration materials and other products using zeolite, a powdery, white mineral. In addition to winning several Seed Grants and Development Awards, Zeomatrix received MTI support in its efforts to secure Federal Small Business Innovation Research funding and the company was subsequently successful in winning two grants totaling nearly \$590,000 from the National Science Foundation Small Business Innovation Research program and one grant for \$100,000 from the National Institutes of Health Small Business Innovation Research Program. Launched as a spinoff from a University of Maine research project, the company has already put one invention — an odor-absorbing paper material — to market and is working on another product that could make generating biofuels and providing the world with clean water easier and cheaper. From a modest office and lab in the Target Technology Center in Orono, Zeomatrix has developed a unique filtration membrane made in part using DNA. The technology attracted the attention of Germany-based BASF Chemical, the largest chemical company in the world, which invited Zeomatrix along with 11 other startups involved in water and membrane science around the globe to a September 2010 venture fair.

Assistance Securing Federal SBIR/STTR Funding

MTI also helps Maine companies learn about and navigate the complex Federal SBIR/STTR program through no-cost technical assistance. During the last several years, MTI's efforts have helped increase the amount of Federal funding received by Maine companies for research and development under this program, which has contributed to the competitiveness and growth of these companies. Since MTI's inception in 1999 through Federal FY10, Maine small businesses have won 244 awards totaling over \$60 million, an average of \$5.45 million in SBIR/STTR funding coming into Maine each year.

MTI's outreach, awards and SBIR no-cost consulting support continue to help Maine companies learn about these important Federal programs, identify opportunities that fit their technology areas, and prepare competitive applications for SBIR funding. During this fiscal year, Maine companies continue to secure SBIR/STTR funding. Based on information released to date for Federal FY10 ending in September 2010, Maine small businesses received ten SBIR awards totaling \$2.79million.

Awards to Strengthen Maine's Technology Clusters

Recognizing that dynamic technology clusters require more than a group of individually successful companies, MTI offers awards for collaborative, industry-driven activities aiming to boost activity within and among the seven targeted industry sectors. These awards support the connection among and joint action by similar companies, growing out of the common knowledge, skills, obstacles and innovation shared by these companies and technology partners. These joint efforts in turn stimulate entrepreneurship and lead to new products and services in Maine's technology-intensive clusters.

MTI's Cluster Initiative Program provides planning and feasibility projects (applications accepted on a rolling basis) of up to \$50,000 and competitive multi-year implementation awards totaling up to \$500,000 (with applications accepted twice a year). The program also allows applications that aim to strengthen multiple clusters simultaneously by addressing a common challenge (such as entrepreneurial development).

In FY10, MTI approved funding for five awards aiming to strengthen Maine's high-potential technology clusters, totaling nearly \$690,000 and matched by over \$787,000. All together MTI has provided almost \$8.2 million in cluster awards, matched by more than \$17.8 million for 64 projects that support Maine's technology-driven businesses by improving the infrastructure, resources, connections and linkages necessary for the innovation economy to thrive (Appendix G). Awards made in FY10 included collaborative projects in the areas of support for Maine manufacturers, online marketing for Maine farmers, and meeting the IT training needs of Maine companies.

Award Recipient Collaboration Profile: Cluster Initiative Program – the Maine Food Producers Alliance

In 2009, MTI awarded a cluster enhancement award of \$458,922, matched by outside funding of \$680,268, to the Maine Manufacturing Extension Partnership (MEP). With the funding, MEP, together with the Maine Grocers Association (MGA) and The Maine Food Producers Alliance (MFPA), a trade association formed as part of the cluster initiative, collaborate to promote the state's value-added food producers. In 2008, according to a report prepared for MTI and the Office of Innovation, the cluster included about 200 companies including some 6,000 jobs. The new MFPA supports Maine's specialty food and beverage companies by hosting conferences, sponsoring networking events with distributors, negotiating group rates for trade shows, and performing other cluster-enhancing activities. Members include food providers ranging from established Stonewall Kitchen and Simply Divine Brownies to the fast-rising Zumspart and Maine Distilleries.

Bond Programs: Building the Research-to-Market Pipeline in Maine

MTI administers three bond-funded programs: the Maine Technology Asset Fund aimed at bringing innovative Maine technologies to the market by supporting equipment and lab facilities, and the Maine Biomedical Research Fund and the Maine Marine Research Funds to expand Maine's research capacity in biomedical and marine research.

Maine Technology Asset Fund

In November 2007, the Maine State Legislature authorized and the voters of the State of Maine approved \$50 million in bond funds for research, development and commercialization projects that boost economic development and create and sustain good jobs across the State. The Legislature directed MTI to develop and administer this venture, based on its track record of managing high-impact innovation funding programs in the for-profit, nonprofit and university sectors. In June 2010, Maine voters approved an additional \$3 million to the Maine Technology Asset Fund.

MTI requires MTAF applicants to outline how they will use the requested equipment or facilities to develop products, processes and other innovations that can be brought to the marketplace, grow job opportunities and businesses in Maine, and/or to attract Federal and other funding that expands the State's research infrastructure in ways that boost the Maine economy.

Awards are available to Maine-based companies, higher-education institutions and non-profit organizations that work in the State's targeted technology sectors. Award recipients are required to match the MTAF funds with at least one dollar for every dollar awarded. The recipient's co-investment in the project helps to insure the organization is equally invested in the new technology and has adequate resources to advance the project; it also expands considerably the overall economic benefit for Maine.

Awards approved in Round One (August 2008) and Round Two (June 2009) were reviewed via an independent and competitive process managed by MTI together with the American Association for the Advancement of Science (AAAS), a respected scientific organization that has worked with over 30 states to implement research and technology commercialization programs. In these two competitive rounds, MTI received 116 applications for over \$220 million, and executed awards totaling \$45.6 million to 25 companies and organizations across Maine. Awards were based on five criteria, listed in order of priority:

- Economic Growth and Impact
- Scientific or Engineering Merit and Feasibility
- Team and Institutional Merit and Commitment
- Relevance to Maine’s Innovation Economy Needs
- Collaboration

In early 2010, MTI released its Round Three request for proposals to award the remaining MTAF funds (approximately \$4 million). These funds were supplemented by an addition of \$3 million by Maine voters in June 2010, when they approved an economic development bond referendum. Round Three awards were approved early in the subsequent fiscal year.

Award Recipient Profile: Maine Technology Asset Fund – FHC, Inc.

The brain contains more than 100 billion cells, and improving the ability to capture data from them is key to medical therapies for diseases such as Parkinson’s. FHC, Inc in Bowdoin developed an electrode to record signals from individual brain cells in 1969, and has seen the market explode for its brain research, surgery and diagnosis technologies. Alongside its mission to develop technologies that enable life-changing medical treatment is its commitment to the state of Maine – both of which are strengthened by funding from MTAF. “We are absolutely committed to maintaining a presence in the state of Maine as a manufacturing company,” says Fred Haer, CEO of FHC. “We do not want to get swallowed up by a big company and get transferred to another location.” Haer understands the impact his company has on the local community in Bowdoin as it has grown to a 90-employee-strong presence there. But that commitment comes at a cost: accessing capital is more challenging for private companies, often requiring them to slow their growth plans or take a pass on emerging markets. In his case, FHC was able to secure a \$438,000 loan from the MTAF bond funds to purchase the micro-fabrication equipment it needed to develop its next generation of neurosurgical devices and continue its growth.

Maine Biomedical Research Fund

MTI administers the Maine Biomedical Research Fund, which supports biomedical research in Maine and is financed by State bonds (as well as General Funds in its early years) and is governed by the Maine Biomedical Research Board. Since its inception, the State has approved \$42.5 million for the Fund and these funds have been awarded by the

Maine Biomedical Research Board for biomedical research projects that typically extend over several years.

During the fiscal year, no new funds were appropriated by the State for this program and no new awards were made by the program. MTI continued to make payments and monitor previous awards to six organizations from Biddeford to Bar Harbor that are carrying out biomedical research. These organizations include the Foundation for Blood Research, Jackson Laboratory, Maine Institute for Human Genetics and Health, Maine Medical Center, Mt. Desert Island Biological Laboratory and the University of New England.

During FY10, MTI disbursed \$1.26 million to this Fund's awardees for projects that had been approved in previous fiscal years. These funds continued projects, such as expansion of computational science and information technology infrastructure at The Jackson Laboratory, and continued development of the Maine Center for Clinical Epidemiology at the Foundation for Blood Research.

Maine Marine Research Fund

The Maine Marine Research Fund was created to support marine research and boost employment in Maine through investment in eligible Maine non-profit institutions, state government and quasi-governmental agencies and academic institutions. The Fund is governed and administered by the MTI Board of Directors. Similar to the Maine Biomedical Research Fund, there were no new funds appropriated by the State for this program in the fiscal year and no new awards were made by the program. In FY10, MTI disbursed over \$507,000 to this Fund's award recipients as they achieved their existing project milestones. These funds continued projects such as a Marine Imaging Center at Mount Desert Island Biological Laboratory, and equipping the Maine Aquatic Animal Health Laboratory at the University of Maine for use by researchers and industrial partners.

Sector-Specific Assistance: The North Star Alliance and Renewable Energy Technology

From time to time, MTI has the opportunity to focus additional support on a particular sector. During the 2010 fiscal year, MTI completed its funding of companies and organizations in the composites and boatbuilding sectors as part of the North Star Alliance initiative.

MTI was one of the participating agencies in the North Star Alliance, a three-year initiative funded by a \$15 million United States Department of Labor (US DOL) Workforce Innovation and Economic Development (WIRED) grant to the State of Maine. The North Star Alliance aimed to grow Maine's boatbuilding, composite manufacturing and related marine-trade industries, emphasizing job creation in high-growth, high-skill occupations.

As part of this program, the Maine Department of Community and Economic Development contracted with MTI to administer \$1,283,000. The goal of this funding was to enable Maine's innovative companies in these industries to boost their competitiveness and create quality jobs for Maine people. Less than seventeen percent of the funding went to MTI to cover administration, training and outreach by MTI staff. During this fiscal year, MTI closed out this program by paying out \$495,000 to three award recipients.

Sector-specific funding was also awarded in the renewable energy sector. In 2008, the Maine Legislature authorized the annual distribution of 35% of the Renewable Resources Fund at the Public Utilities Commission to MTI to support the development and commercialization of renewable energy technologies. In FY10 MTI received the first allocation of these funds, totaling \$37,596, and distributed them via four Seed Grant awards for tidal, wind and biomass development projects.

Effective Partnerships

University of Maine System

Active collaboration between the University of Maine System and MTI continued in FY10. MTI's Board approved five Seed Grants, two Cluster Initiative Awards and two Technology Transfer Development Awards to University of Maine Orono and University of Southern Maine projects during the fiscal year. In addition, MTI's team made multiple presentations at University System campuses. For example, MTI's President made a presentation to USM faculty and administration members about MTI programs, with a particular focus on the Maine Technology Asset Fund and the opportunities for funding technology transfer activity through the Seed Grant and Development Award programs.

University involvement with MTI ranged from University Centers and personnel being an award recipient, a subcontractor to Maine companies funded by MTI, providing incubator support to MTI-funded companies, commercialization support of UM technology, technology licensing, and business development support to MTI applicants and award recipients. In addition, Jake Ward, the University of Maine's Assistant Vice President for Research, Economic Development and Governmental Relations served on the MTI Board (as the University System Chancellor's designate) and as MTI's Board Secretary.

Maine's Technology Development Centers

MTI funding is critical to the start-up technology companies that receive assistance through Maine's incubators, called Technology Centers. Most of the companies that are either located at the Centers as tenants or avail themselves of support and counseling from the Centers are very early stage companies that are still in the research and development phase as they move towards commercialization. MTI funding is critical to their survival as they are still too early for angel or venture capital investment and far from being "bankable".

In FY10, MTI continued its highly engaged relationships with these Centers. Two out of three of the Center directors served on MTI technology boards and thereby participated in MTI award review processes. In addition, the Centers provided facilities for MTI's workshops and seminars and promoted MTI programs to their clients. One of the Centers, the Maine Center for Enterprise Development in Portland, launched an MTI-funded pilot entrepreneurship development program, called "Top Gun". This competitive program selected twelve companies (several MTI-funded) for its inaugural class and connected them with approximately two dozen volunteer industry mentors. Two of MTI's management staff were involved as advisors to the program's development as well as served as mentors. The evaluation of the program by its entrepreneurs and mentors was very positive and their feedback was folded into the program's second class, which was selected in early 2011.

In the case of the Target Technology Center in Orono, MTI funding has been critical to moving affiliated companies and technologies forward either to the point of successful commercialization or to the point that their companies become attractive to other, later stage investors. During FY10, Target Technology Center staff assisted multiple companies to prepare successful proposals for MTI funding.

Finally, during FY09 the Maine Aquaculture Innovation Center (MAIC) provided support to a number of MTI funded aquaculture companies, including Sea and Reef Aquaculture and Mook Sea Farm.

Maine International Trade Center

Export markets are an increasingly important source of customers for Maine technology companies. MTI and the Maine International Trade Center (MITC) continued their partnership offering MTI Development Award companies one year of free membership to the Trade Center so that they can access the Center's export assistance services and be more likely to position their technologies for export. As part of our collaboration, MTI staff annually make at least one presentation to MITC members, to make sure that they are familiar with MTI programs, and MTI and MITC staff meet periodically to explore new avenues for joint work.

Maine Manufacturing Extension Partnership

During FY10, Maine Manufacturing Extension Partnership (MEP) reached out to 37 MTI award recipients in the manufacturing sector and provided assistance to 17 of these. MEP activity with MTI award recipients include projects involving quality management systems audits, lean manufacturing training and implementation, facility layouts, and workforce development, accounting for hundreds of hours of training and consulting services. According to MEP, the organization also contributed over 140 additional hours during this period educating manufacturers about MTI programs and introducing MEP services to MTI award recipients.

Finally, as part of their ongoing partnership agreement, MTI's awards of over \$1.46 million to manufacturing companies, in combination with other funds secured by MEP,

allowed MEP to draw down its full allocation of Federal matching funds, which were used to provide additional services and programs to Maine manufacturers.

Small Business Development Center

MTI and the Small Business Development Center have worked collaboratively together in multiple ways since MTI's founding. Currently, MTI's President and the SBDC Director participate in the monthly DECD meeting of economic development agency directors to discuss current activities and areas for future collaboration and periodically bring their staff teams together to update each organization on its programs and capacities. Furthermore MTI staff and its website refer interested company applicants and award recipients to seek out business planning and execution assistance from the regional SBDC business counselors.

Small Enterprise Growth Fund

MTI continued a close and mutually supportive relationship with the State-sponsored venture capital fund, the Small Enterprise Growth Fund (SEGF). The director of the Office of Innovation sits on both the MTI and SEGF boards, providing an important link between MTI funding assistance and the equity investments made by SEGF. MTI and SEGF also worked collaboratively to educate Maine entrepreneurs about sources of capital in Maine, including meeting with companies together and making joint presentations in a variety of events. The two organizations also collaborated closely on the development and implementation of the aforementioned MCED Top Gun program. Finally, nine out of 23 SEGF portfolio companies have secured financing and other assistance from MTI. This confirms that MTI is helping to build a pipeline of companies ready for equity financing here in Maine.

Maine Procurement Technical Assistance Center (PTAC)

Maine PTAC helps Maine companies secure contracts with government agencies at the federal, state and local levels. Maine PTAC fulfills its Federal mandate to support the Federal SBIR program by partnering with MTI. MTI's SBIR program expenses provided \$105,784 of in-kind match funding for Maine PTAC's Federal procurement assistance program in FY10.

Maine Patent Program

In FY10, MTI continued to fund intellectual property-related activities as part of its awards to Maine companies. This work is only funded after companies have received advice from the Maine Patent Program or intellectual property lawyers that the proposed activity is merited. According to data collected for the State's Comprehensive R&D Evaluation, the Maine Patent Program counseled more than 79 companies during FY10 that had previously received MTI support. Furthermore, MPP staff and MTI staff meet periodically to provide each other with program updates and to discuss opportunities for further collaboration.

Private Capital Sources

To help boost access of MTI-funded companies to follow-on funding from private venture capital sources as well, MTI maintained close relationships with many of the venture capital funds and investors in the state and region. The MTI president serves as a member of the Maine Investment Exchange (MIX) Advisory Committee, and in that role helps introduce Maine's technology-intensive companies to early stage equity investors. MTI partners with the Maine Angel Network, organizing a joint event to introduce MTI-funded companies to Maine angel investors. Finally, two of MTI's Board of Directors represent the finance sector and include a venture capitalist and a banker. They advise MTI on how the organization can best help Maine companies secure private capital to fund the commercialization of new technologies.

The MTI president and staff network informally on a regular basis with organizations and groups that are potential capital sources, such as the Small Enterprise Growth Fund, the Finance Authority of Maine, Coastal Enterprises, Inc., other early-stage venture funds in the State, as well as the Maine Angel Network and individual investors.

Outreach

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

- MTI prepared **statewide press releases** and **worked closely with media outlets** in an effort to promote its programs, program milestones, and to highlight companies who received MTI funding. MTI sent statewide press releases after each round of awards and to announce new programs.
- MTI sent its **monthly e-NEWS** to more than 1900 individuals, companies and organizations with award deadlines, workshops and seminars, announcements of relevance to the targeted industry sectors and notices of MTI award recipients in the news.
- MTI continued to highlight the technologies brought to market by MTI funded companies and the employment impact that these companies are having in their communities through its **newsletter, The Innovator**. In addition to MTI award recipients, the newsletter is sent to Maine's legislators, small businesses, economic service providers, state and Federal officials, and various trade associations around the state. This print publication will be phased out in the fall, as MTI transitions to its upgraded website (see below).
- MTI conducts **workshops about how to apply for its programs** and makes **presentations about the importance of innovation to the Maine economy**. Publicized in the press and through the economic development community, these educate the public and help entrepreneurs develop competitive applications and

proposals for MTI funding. MTI began planning webinars that were launched in FY11 to expand access to MTI program workshops.

- MTI's **website, www.mainetechnology.org**, is updated frequently with all of the information and documents necessary to apply for funding, the latest MTI news and deadlines, MTI recipients in the news, a calendar of events, and business resources. In FY10, MTI upgraded its website, adding more functionality, data, program information and educational material for applicants, partners, and the public for more cost-effective statewide outreach.
- MTI attendance, sponsorship or presentations across the state continued to increase. In the past year MTI participated in events of, or provided support to, the following:
 - Association for Consulting Expertise
 - Bioscience Association of Maine
 - Coastal Enterprises, Inc.
 - Economic Development Council of Maine
 - Efficiency Maine Trust
 - Environmental and Energy Council of Maine
 - Finance Authority of Maine
 - Juice: Powering the Creative Economy
 - Knowledge Transfer Alliance
 - Maine Angel Network
 - Maine Aquaculture Association
 - Maine Center for Enterprise Development
 - Maine Development Foundation
 - Maine Entrepreneurs Network
 - Maine Innovation Economic Advisory Board
 - Maine International Trade Center
 - Maine Investment Exchange (MIX) Forum
 - Maine Manufacturing Extension Partnership
 - Maine Procurement Technical Assistance Center
 - Maine Patent Program
 - Maine Philanthropy Center
 - Maine Public Utilities Commission
 - Maine Small Business Development Center
 - Maine Small Enterprise Growth Fund
 - Manufacturers Association of Maine
 - National Collegiate Inventors and Innovators Alliance
 - North Star Alliance Initiative
 - Ocean Energy Task Force
 - Potatoes to Plastics Council
 - Science, Technology, Engineering and Mathematics Summit and Dialogue and Careers Roundtable
 - Service Core Of Retired Executives (SCORE)
 - Small Enterprise Growth Fund
 - State Science and Technology Institute

- Tech Maine, formerly known as MESDA
- UMaine Advanced Structures and Composites Center
- UMaine Business School
- UMaine Center for Law and Innovation
- UMaine Target Technology Center
- University of Southern Maine School of Applied Science and Technology

Impact and Accountability

All MTI-funded award recipients are required to submit information annually to the State's evaluator for its Comprehensive Research and Development Evaluation for five years following a project's completion. The compiled data are independently evaluated to determine the impact of MTI' programs as well as other publicly funded innovation programs on Maine's economy.

Data from awards ending between July 1, 2006 and June 30, 2008 were analyzed by the Center for Business and Economic Research at the University of Southern Maine led by Dr. Charles Colgan. These results were then presented to the Joint Standing Committee on Business, Research and Economic Development in January of 2009.

Highlights of the evaluation included the following:

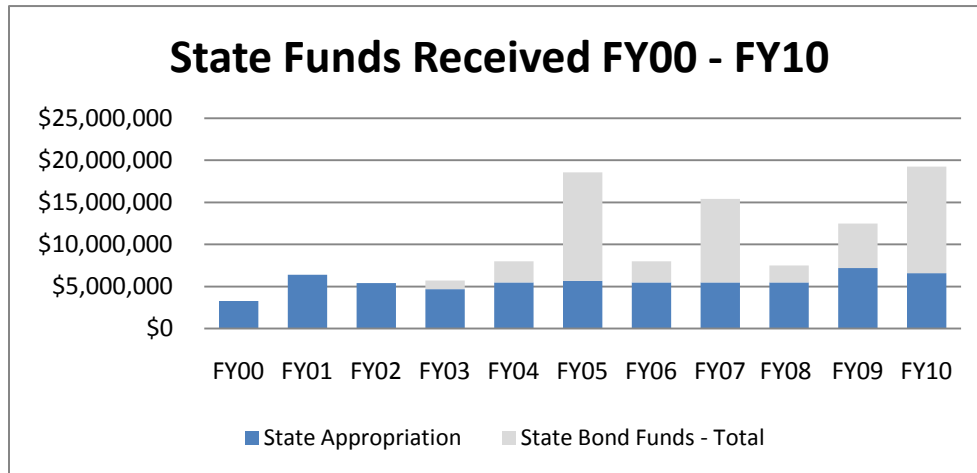
- "MTI projects closing in 2007 and 2008 yielded \$14.27 for every \$1.00 of MTI funds, up from \$12.00 in 2002-2006."
- "Research is an inherently risky activity, but MTI-funded companies have had a high rate of success."
- "The number of new products resulting from MTI research that are on sale at the time of survey has been at a consistently high level over the last three years."
- "MTI research projects continue to generate a high level of successful efforts to secure intellectual property protection in the form of patents, trademarks, and registered trade secrets."
- "Almost [four out of five] MTI companies reported stable or growing employment from year to year."
- "MTI is ...the organization whose assistance is most frequently cited as "critically important" by those who use it."

The complete evaluation can be found at www.mainetechnology.org.

More recent data are included in the Comprehensive State Research and Development evaluation, completed in February 2010. The data in this report noted that MTI was ranked highest by 363 companies that ranked the value and assistance from Maine and out-of-state resources. The State's comprehensive R&D evaluation report can be found at www.maineinnovation.com.

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 general funds (ie. non-bond) appropriated for its operations.



Financial highlights of FY10 include the following:

- MTI received \$6,969,813 from a State appropriation through the Department of Economic and Community Development (“DECD”) for general programs and \$11 million of the \$50 million of State bond funds for research, development and commercialization via the Maine Technology Asset Fund (MTAF).
- MTI approved for funding 130 projects totaling just over \$6.1 million, a decline of approximately \$500,000 in core program awards over the previous year. No awards were approved this year under the MTAF Program as the fund was fully awarded during Fiscal 2009.
- MTI disbursed nearly \$15.1 million according to agreed-upon project award milestones, \$5.2 million more than in the previous fiscal year; all of the increase was due to MTAF disbursements.
- MTI’s outstanding commitments for its core awards comprise \$7.2 million, including approximately \$3.3 million in approved awards with unexecuted contracts as of June 30, 2010. MTAF outstanding commitments total over \$32.2 million, including one \$540,000 approved award with an unexecuted contract subject to specific conditions as of June 30, 2010.
- MTI received \$240,435 in Development Award repayments, over \$630,000 less than in fiscal year 2009.
- MTI received \$142,638 as a contractor to DECD for the federally-funded North Star Alliance project aiming to boost employment in the composite technologies and boatbuilding sectors. Including \$372,061 in funds received during FY 2009, MTI paid out \$495,411 for awards and \$19,287 in expenses.

- \$301,364 was realized from interest, a decrease of approximately \$28,000 compared to the previous year, due to lower average invested cash balances.
- The bonds that funded the Maine Technology Asset Fund were approved by Maine voters in November 2007. In the two prior fiscal years, MTI received General Funds to cover ongoing monitoring and administration costs. Of the \$327,777 carried forward at the end of FY09, \$104,570 was expended during FY10. MTI's monitoring obligation will extend for four years.
- FY10 administrative and operating costs were approximately \$980,000, a decrease of over \$315,000 (24%) over the previous year. MTAF operating costs, particularly application review fees and expenses, fell by \$359,000. Expenses for all other programs and activities increased by \$44,000, or 5%. All operating expenses other than the costs to monitor and administer the Maine Technology Asset Fund are paid by interest earnings plus 7% of development award repayments.
- In December of FY10, MTI's State appropriation was curtailed by \$381,071.
- For FY10, the Board of Directors voted to forego recognition of the 7% of the State appropriation that MTI is allowed in order to fund its operating expenses, thereby preserving 100% of the State's appropriation for programs. As a result, FY10's usage of net assets increased to nearly \$433,000, compared to \$159,000 for the previous fiscal year.

For detailed audited financial information for FY10, see Appendix H.

Looking Ahead: A Plan To Guide MTI Into Its Second Decade

MTI's ultimate goal is to help Maine companies to use technology to grow and remain vibrant and competitive, therefore creating good jobs, greater wealth, and a vibrant economy in Maine. The organization does this by providing seed capital and targeted business assistance to Maine companies for technology development and commercialization and making grants to strengthen Maine's high-potential technology clusters. MTI has operated since 2000 and has developed into a mature yet dynamic organization with an independently evaluated track record that demonstrates a return on investment of more than \$14 for every \$1 awarded.

In the fiscal year covered by this report, MTI continued stewarding six times the resources that it had two years previously, due to the launch of the MTAF and Cluster Initiative programs, with minimal increases in administrative costs that were covered by MTI's net assets in order to maximize funds available for awards to projects. Going forward, MTI will continue to manage this expanded menu of programs in an environment of fiscal austerity, with a continued commitment to excellence in its operations and a high return on investment for taxpayers in terms of growing technology companies, strengthened technology clusters, and good jobs for people across Maine. The related fiscal picture continues the reduction in MTI's general appropriation in FY10 and FY11 of approximately 10% in each of the two years.

During FY11, MTI expects to see continued repayment of development awards by MTI-funded companies as products developed with support of early awards enter the market and gain market share; however, these repayments are by nature dependent on company success and the still sluggish economic conditions. Over time, such repayments will continue to provide a limited and erratic source of revenues for MTI. This is because MTI awards are made at a very early stage of technology development when technology and business risks are extremely high. In addition, development awards are the only MTI awards that have a payback requirement, which is conditioned only when commercialization is successful. (No interest is charged during the first three years after commercialization, unless the company moves out of state, when special and immediate repayment is required.) Thus, award repayments will never grow sufficiently to replace the funding received through State appropriation and outside grants.

To ensure that MTI continues to achieve its high standards, the MTI Board approved a three-year action plan for 2010-2013 that identified four strategic priorities summarized as follows:

- Increase the success of MTI-funded companies;
- Help Maine's high potential clusters grow and innovate;
- Continue to enhance and build strategic alliances with key partners; and
- Continue to develop and adopt best practices in the management of MTI's programs and overall operations.

The staff and Board will work to carry out the activities specified to advance these priorities in FY11.

Other notable program activities will include the completion of a third competition for MTAF awards totaling approximately \$7.4 million, which will include a new \$3 million bond approved by Maine voters in June 2010 as well as approximately \$4.4 million remaining from the second round. (Several Round Two award recipients were not able to meet their award conditions so their awards were not executed, and one revised their award amount downward due to changes in its project.) MTI will also receive and administer funds from the Efficiency Maine Trust for the development and commercialization of renewable energy technologies in Maine. Finally, as part of the completion of MTI's tenth year, MTI will communicate more examples of success stories and data to the public, to Maine companies and to policymakers regarding the role that innovation, new technology development, and technology intensive clusters are playing to create quality jobs across Maine.