Maryland Technology Development Corporation (TEDCO)

Annual Report

Fiscal Year 2008

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Introduction

Technology continues to be the driving force for the New Economy and is critical to Maryland's future. Maryland is richly endowed with technology assets – the largest concentration of federal laboratories of any State in the nation, nationally recognized research universities, a federal contractor base with a specialty in science, security and communications, and an emergent biotechnology cluster.

In order to maximize these technology assets, the Maryland Technology Development Corporation (TEDCO) was created by the State legislature in 1998 to "(1) assist in transferring to the private sector and commercializing the results and products of scientific research and development conducted by colleges and universities; (2) assist in the commercialization of technology developed in the private sector; and (3) foster the commercialization of research and development described in items (1) and (2) of this subsection to create and sustain businesses throughout all regions of the State."

The Corporation, a "body politic and corporate and constituted as a public instrumentality of the State," is governed by a 15 member Board of Directors, appointed by the Governor with the approval of the Senate and includes the Secretary of the Department of Business and Economic Development (DBED) as an ex-officio member.

The Board of Directors of TEDCO has adopted a bold vision for the State:

> *That Maryland will become internationally recognized as one of the nation's premier 21st century locations for technology and technology-based economic development.*

In considering the mission of the organization, TEDCO's Directors recognized that many factors influence the technology vitality of the State, including: the expertise and availability of a skilled workforce, sensitive environmental policy, balanced transportation goals, and quality educational institutions. The Board further recognized that in order for Maryland to progress, all communities, companies, and citizens must fully participate in the global economy. Accordingly, the Directors have stated that:

> *TEDCO's mission is to foster the development of a technology-driven economy that will create and sustain businesses throughout all regions of the State of Maryland.*

TEDCO's Directors have also identified a clear role for the Corporation:

> *TEDCO's role is to be Maryland's leading source of funding for seed capital and entrepreneurial business assistance for the development, transfer and commercialization of technology.*

Technology Transfer and Commercialization

Maryland Technology Transfer Fund

TEDCO's primary initiative in technology transfer and commercialization is the Maryland Technology Transfer Fund (MTTF). MTTF supports technology and product development by early-stage companies often deemed too early in their development to gain the interest of traditional venture-capital investments. MTTF's investments of up to $75,000 per project are intended to defray the cost of the additional research and development activities that would move a specific technology or technology package to the threshold of commercialization. Since MTTF companies must be collaborating with federal laboratories or universities, they are in a unique position to avail themselves of the expertise and infrastructure of those institutions which would otherwise be unavailable to them. Under certain circumstances, second rounds of funding may be available. This inherent capitalization aspect of the program, in conjunction with its focus on economically viable but underdeveloped projects, sets MTTF apart, for example, from DBED's Challenge and Enterprise programs and the University of Maryland's Maryland Industrial Partnership (MIPS) Program.

Table 1 lists the statistics for MTTF for FY2008. These numbers indicate that TEDCO continues to fill a need in the economic landscape of commercialization that has been traditionally overlooked.

Table 1: FY2008 Maryland Technology Transfer Fund Statistics

# of Submissions	# of Approvals	Funds Requested for Approved Proposals
45	22	$ 1,601,942

TEDCO's primary metric of success has been the downstream funding that awardees have raised since the completion of their projects. MTTF awardees have attracted external downstream funding at a rate of **$32 for every dollar of their MTTF award**. The external funding originates, for example, from a mixture of venture and angel investors, government Small Business Innovative Research grants (SBIR), Advanced Technology Program grants (ATP), and private placements. The capacity of MTTF firms to attract such attention from external investors is demonstrative of the benefit of the university/federal laboratory collaboration facilitated by MTTF.

Table 2 summarizes TEDCO's total MTTF investments and MTTF awardees' downstream financing.

Table 2: Maryland Technology Transfer Fund Projects/Downstream Funding to Date

MTTF Projects Completed as of FY2008	108
MTTF Project Investment	$6,278,344
Downstream Funding of awardees	$200,582,440
Leverage of MTTF Funds	$32 : $1

An MTTF Success Story …

Encore Path, Inc. (formerly Newregen), is a woman-owned medical device company located in Baltimore, MD. Bilateral Arm Trainer with Rhythmic Auditory Cueing (BATRAC) is a rehabilitation device that was developed at the University of Maryland Baltimore (UMB) to assist stroke victims with moderate arm paralysis recover arm movements and function. The company has licensed the technology from UMB and has completely redesigned it to enable it to be mass-produced using low-cost manufacturing methods. In clinical studies, chronic stroke patients who used the device experienced significantly improved arm function and range of motion in their affected limb. The company started its MTTF project on October 1, 2007 and in less than a year, the company has raised additional funding from the DBED's Challenge Fund, an angel investor and the National Institutes of Health Small Business Innovative Research (SBIR) program, which total approximately $250,000. Additionally, the company has received numerous information requests from various publications and institutions dealing with stroke victims without having to advertise its product aggressively. The company has won several business plan competitions (Rockville Economic Development Inc's Women's Business Plan, Purdue University and MIT Enterprise Forum) and is scheduled to launch its product in February 2009. With the amount of interests the company's product has already received, the company expects to generate over $1M in revenue the rest of 2008, which will further fund the company operations and growth.

Johnson & Johnson Collaboration

In looking to establish innovative partnerships with industry leaders, TEDCO entered a collaborative venture with Johnson & Johnson's Corporation Office of Science and Technology (COSAT). COSAT has made additional funding available to seed-stage companies in the health care sector that request follow-on funding from TEDCO. This commercial funding is intended both to improve the sustainability of MTTF companies with promising technologies that have

exhausted their funds, and to help them attract downstream investments from other funding sources. To date, five projects have been funded through this Johnson & Johnson collaboration, which also leverages State funds, and has resulted in one lucrative licensing deal for one of the funded companies.

University Technology Development Fund

TEDCO manages a number of technology transfer and commercialization funds which support early-stage technology innovations originating within Maryland institutions of higher education. Despite the inherent risks of early stage investments, TEDCO's portfolio of university-based technologies have not only grown in value, they have matured to the point that the startup companies emerging from it are capable of independently attracting significant financial support from outside investors. This fund can also be used for proof of concept studies and to broaden patent claims.

Now in its seventh year, the University Technology Development Fund (UTDF) facilitates commercialization of university technologies by providing early stage funding up to $50,000 for the express purpose of helping university innovators increase the attractiveness of their research to outside companies that may be interested in licensing the technology at a later stage. The funds approved can be used by university researchers for activities such as additional experimentation, prototype development and limited patent related activities.

Summary statistics of FY2008 fund activity appear in Table 3.

Table 4 lists the outcomes of all UTDF projects to date.

Table 3: FY2008 University Technology Development Fund Statistics

Category	Number of Proposals	Total Funds Requested
Proposals Received	24	$1,254,761*
Proposals Approved for Initial Funding	12	$634,000*

*In rare cases the level of funding exceeds $50,000 to a maximum of $60,000

Table 4: University Technology Development Fund Projects to Date

Category	Number
Awards funded	88
Projects finished	72
Active projects	16
Technologies licensed or optioned	31
Technologies licensed or optioned to MD companies	24
Projects receiving follow-on MTTF awards	10
Awards leading to startup companies	25

A UTDF Success Story…

Dr. Ron Weiner of the University of Maryland College Park has developed a technology to produce enzymes from microorganisms to degrade cellulose and hemicellulose in plant cell walls. This technology, along with that of Dr. Steve Hutcheson, is the basis for a Maryland-based start-up company, Zymetis, which is using these enzymes to convert cellulosic biomass to useable energy products. This company has subsequently been granted a $75,000 MTTF award, a $117,000 Maryland Industrial Partnership Award, and an angel investment of $1.5M to further develop its technology.

TechStart

Maryland universities are below the national average in spinning out new companies. TEDCO has been working closely with the various university technology licensing offices to identify barriers to new business formation and has identified specific needs, including sophisticated market analysis and business strategy development.

In FY2007, TEDCO developed a new program to increase the number of companies commercializing university-developed technologies. The TechStart Program provides funding to universities to evaluate whether selected technologies or technology packages would have sufficient scope and potential to be the basis of a start-up company formed to commercialize the technology. Five companies have been formed to date as a result of the TechStart program.

Table 5 lists the TechStart activity for FY2008. Table 6 shows TechStart activity to date.

Table 5: FY2008 TechStart Statistics

Category	Number of Proposals	Total Funds Requested
Proposals Received	7	$105,000
Proposals Approved for Funding	6	$90,000

Table 6: TechStart Projects to Date

Awards Funded	10
Projects Finished	9
Active Project	1
Startups from TechStart	5

A TechStart Success Story…

Dr. Rolf Halden of the Johns Hopkins University Department of Environmental Health Sciences designed a device to improve groundwater monitoring. The technology will significantly accelerate site clean up, reduce associated costs, and provide site operators and regulatory agencies with key information. The team of Dr. Halden, entrepreneur Joseph Rightmyer, and Steve Kubisen of the JHU Technology Transfer Office, used TechStart funding to determine if a market exists for this technology and what modifications they needed to make to the device to obtain market acceptance. Answers to the issues were resolved favorably and as a result ISMA, LLC was formed as a Maryland company.

Currently the monitoring device is being manufactured by another Maryland company. The device is scheduled to be on the market by June 2009 and revenues of $12.4 million are expected by 2014.

Federal Laboratory Technology Transfer and Commercialization

Federal Laboratory Partnership Program

TEDCO initiated the Federal Laboratory Partnership Program (FLPP) to link Maryland's technology companies with federal laboratories. Since legislative restrictions and national security considerations prevent federal laboratories from freely generating economic spin-offs of newly developed technologies at a rate commensurate with their capabilities, TEDCO instituted this program to literally "showcase" federal technologies, capabilities and needs to local entrepreneurs, business leaders, angel and venture investors and economic development professionals in order to encourage joint ventures to facilitate the transfer of these federal laboratory-originating technologies to the market place and creative and innovative private sector technologies to the federal government.

Since August 2000, TEDCO has organized 34 technology showcases. The five conducted this year attracted outstanding press coverage and nearly a thousand attendees. More importantly, the showcases elicited numerous solicitations from local companies wanting to partner with federal labs on a number of different projects. The FLPP showcases also draw attention to TEDCO's other programs that encourage collaboration between federal laboratories and small businesses – specifically the Ft. Detrick Technology Transfer Initiative, the MTTF, the BRAC Technology Transfer Initiative and the TechStart program. Two of the highlights of the FLPP program this year were the continuation of the FDTTI-II contract with an award pool of $750,000 for small business projects and initiation of discussions for a new NAVAIR contract to start in FY2009.

Ft. Detrick Technology Transfer Initiative

In March 2005, TEDCO received $799,697 from a Congressional appropriation for the Ft. Detrick Technology Transfer Initiative (FDTTI). FDTTI provides companies with up to $50,000 to transfer medical technology from innovative high tech small businesses into the U.S. Army Medical Research and Materiel Command (USAMRMC) to meet Army needs and technology originating from innovations of the USAMRMC to the public sector. Assisting with the implementation of this initiative are TEDCO's local partners, the Frederick County Office of Economic Development and the Ft. Detrick Business Development Office. Both spin-in projects that meet USAMRMC needs and spin-out projects that entertain the licensing and commercialization of Army inventions are eligible for funding consideration. Funds are used to defray some of the direct costs of developing early-stage technologies. Eleven projects were awarded in FY2006 and work has been completed on all 11 projects. A second round of FDTTI funding in the amount of $1,051,812 was received in June of 2007. This Congressional appropriation is providing funds for 15 more awards. By the end of June 2008, five FDTTI awards were approved and ten more proposals were under consideration with about 20 more prospects in various stages of the application process.

A FDTTI Success Story…

Integrated BioTherapeutics (IBT) of Frederick is a minority-owned startup biotech company in the Frederick Innovative Technology Center, Inc. (FITCI). IBT is focusing on vaccine and therapeutic development to address bioterrorism threats and emerging infectious diseases, starting with Staphylococcal enterotoxins B (SEB). They licensed the patent rights for two lots of the recombinant form of SEB (rSEB) vaccine produced in the year 2000 and stored in an Army freezer. The FDTTI project allowed them to conduct preclinical testing of rSEB lots and to generate FDA-auditable data in support of an Investigational New Drug application. Even before the FDTTI project was completed, they attracted the attention of the Defense Threat Reduction Agency, which provided funding of approximately $500,000 for required primate studies. IBT has gone on to obtain a $400,000 Department of Defense contract and an Army SBIR-I for $70,000. IBT, along with the U.S. Army Medical Research Institute of Infectious Diseases, has submitted a proposal to NIH for $6.5M for 5 years and applied to TEDCO for a $75,000 MTTF project with the University of Maryland. This one-man company has grown to four employees and is expected to grow to eight in the near future.

Applied Research Development Project

In September 2007, the Applied Research Development Project (ADRP) was established. Funding for the project in the amount of $936,000 was made possible by the Maryland Congressional Delegation. The ARDP is an agreement with the Maryland Research and Applied Sciences Consortium (MRASC) and the USAMRMC at Ft. Detrick and is managed by TEDCO. The MRASC is comprised Maryland's Historically Black Colleges and Universities (Bowie State University, Coppin State University, Morgan State University, Sojourner-Douglass College, and the University of Maryland Eastern Shore). The ARDP awards funding to increase institutional research capacity by meeting the biotechnological needs of the U.S. Army while providing collaborate opportunities for Maryland minority-owned businesses. An estimated seven to ten science and technology projects at the MRASC Institutions will be funded by the new program.

Technology Business Incubation

Incubator Development Fund

On June 1, 2001, TEDCO's enabling legislation was modified to create the Incubator Development Fund (IDF). To date, capital appropriations for the fund total $9,267,500.

The IDF summary is shown in Table 7.

Table 7: Incubator Development Fund Summary

Incubator	Funding Awarded	Sq. Ft.
techcenter@UMBC	$1,000,000	101,000
Silver Spring Innovation Center	$1,000,000	20,000
ETC@Johns Hopkins Eastern	$1,000,000	45,000
Frederick Innovative Technology Center@Hood	$425,000	10,000
Prince George's County Technology Assistance Center	$230,000	15,000
Rockville Innovation Technology Center	$1,000,000	26,000
Frederick Innovative Technology Center@Monocacy	$562,500	20,000
Hagerstown Technical Innovation Center	$450,000	20,000
University of Maryland-Baltimore	$1,000,000	8,000
White Oak Innovation Center*	$1,000,000	30,000
Germantown Innovation Center	$600,000	33,000
Eastern Shore**	$1,000,000	TBD
Subtotals	**$9,267,500**	**328,000 sq.ft.**

* White Oak Innovation Center has been approved by the Board for IDF funding but has not yet closed on their contract.
** Eastern Shore-TEDCO holds $1M for an incubator project on the Eastern Shore until December 31, 2008.

To date, ten completed projects have been funded at $7.27 million, leveraging over $20.3 million. In addition, two other facilities (Montgomery County's White Oak Innovation Center and an incubator located on the Eastern Shore) have received commitments totaling $2 million. TEDCO reprogrammed $267,500 to complete the fund.

Incubator Feasibility Studies

In order to identify appropriate opportunities for the creation of new or expanded incubator facilities, TEDCO initiated a formal program in 2001 to sponsor independent, professional studies of the feasibility of potential incubator projects. Each study is sponsored by a local government, college, university, or non-profit corporation, and provides at least a 1:1 cash match. Twenty-three studies have been commissioned to date. TEDCO investments of $504,000 were matched by $614,177. There were two feasibility studies initiated in FY2008 to evaluate the potential of incubation sites within Maryland. Final reports of these studies will be presented in the Fall 2008.

Table 8 represents TEDCO's allocations for feasibility studies executed in FY2008.

Table 8: FY2008 Incubator Feasibility Studies

Incubator	Jurisdiction	Award Amount	Local Match
Carroll County Department of Economic Development	Carroll County	$25,000	$25,000
Emerging Technology Centers	Baltimore City	$30,000	$30,000
Award Total		$55,000	$55,000

Business Assistance Fund

In FY2008 TEDCO provided $287,500 to 12 incubator programs (16 distinct physical facilities) to provide directed and targeted business assistance to their tenant and affiliate companies. The individual incubator grant amounts are pursuant to a formula developed in conjunction with the Maryland Business Incubation Association. To date, this funding helped to provide assistance to over 65 companies affiliated with or located in the 15 incubator and 1 accelerator facilities.

The funding was used for a variety of business assistance services that these incubators would not have been able to provide otherwise. This includes but is not limited to the following types of assistance:

- negotiating strategic investments or partnerships
- raising venture funding
- recruiting top management
- raising bridge funding
- reviewing business plans
- analyzing cash flow projections
- developing marketing strategies
- reviewing budget assumptions, cost structure and financial statements
- discussing potential public relations opportunities, researching media coverage
- attending workshops on government accounting and cost proposals
- conducting a market assessment
- identifying business opportunities with the federal government

- developing new marketing materials

Working Capital Loan Fund

The Working Capital Loan Fund (WCLF) completed its final year of offering at- or below-market rate loans to incubation-stage technology-oriented companies located in Western Maryland, the Eastern Shore, and Baltimore City. Capitalized in FY2005 at $500,000 through the collaborative efforts of the U.S. Department of Commerce's Economic Development Administration and TEDCO, the fund received an additional $500,000 from the State in FY2007 to expand the program to incubator-stage companies in other areas of Maryland. The fund is revolving, allowing loan repayments to be re-lent to other borrowers. Companies participating in the program must submit a letter of support from either a Maryland incubator, an SBDC representative, an economic development official or a professional consultant. The working capital loans distributed through this fund range in value from $15,000 to $50,000 and are serviced by HarVest Bank of Maryland.

A loan committee supports staff's review of applications for the program. The following agencies are represented on that committee:

- Baltimore Development Corporation
- Montgomery County Department of Economic Development
- Lower Shore Regional Council
- Maryland Department of Business and Economic Development
- Mid-Shore Regional Council
- Maryland Agricultural and Research-Based Industry Development Corporation
- Tri-County Council of Western Maryland
- HarVest Bank of Maryland

A WCLF Success Story…

LiveHealthier, located at the Rockville Innovation Center, is a health and wellness company that offers a web platform where individuals can actively manage their health by providing access to comprehensive health management tools, personal health records, health information and health professionals. LiveHealthier's tools are marketed to employee health and well-being in order to control rising healthcare costs, improve productivity and reduce absenteeism. Founded in 2005, LiveHealthier received the Maryland Incubator Company of the Year Award in 2007 in the information technology company category. Live Healthier is using the $50,000 loan to hire new employees and purchase equipment in order to service new and expanding contracts.

2008 Maryland Incubator Company of the Year

TEDCO continued the tradition of recognizing the achievements of incubator tenants and graduates by hosting the 8th annual Maryland Incubator Company of the Year Awards with co-sponsors Saul Ewing LLC, RSM McGladrey and the Maryland Department of Business and Economic Development, with additional support from the Maryland Business Incubation

Association. The thirty-five member selection committee for the awards is comprised of both private venture capital and public investment managers. The review process has the unique aspect of granting newly-emerged technology startups the undivided attention of the investment community. Over thirty-five companies submitted applications for review.

This year the awards were held on June 10, 2008 at the Center Club in Baltimore. Over 155 guests were in attendance. The *Baltimore Business Journal* produced and circulated to attendees a supplement containing articles highlighting the winners and their accomplishments.

The 2008 winners are listed in Table 9.

Table 9: 2008 Incubator Company of the Year Awards

Award	Winner	Incubator/Location
New Incubator Company	AccuStrata, Inc.	Technology Advancement Program University of Maryland, College Park
Life Science	Integrated BioTherapeutics, Inc.	Frederick Innovative Technology Center, Frederick
Information Technology	Millennial Media, Inc.	Emerging Technology Center, Baltimore
Technology Service	Government Contracts Consultants	Garrett Information Enterprise Center, Garrett County
Technology Transfer	Zymetis, Inc.	Technology Advancement Program University of Maryland, College Park
Homeland Security	TRX Systems, Inc.	Technology Advancement Program University of Maryland, College Park
Graduate Company	PharmAthene, Inc.	Chesapeake Innovation Center, Annapolis
2008 Robert A. Spar Hall of Fame Inductee	VISICU, Inc.	Emerging Technology Center, Baltimore

Maryland Incubator Impact Analysis

TEDCO released the findings of the Incubator Impact Analysis, conducted by RTI International, in January 2008.

The following are the key results and findings:

- Tenants and graduates of the technology incubators have found their incubator experiences to be very important to their companies, giving them an average rating of 3.1–3.2 on a scale of 0 (not at all important) to 4 (extremely important).
- Maryland has the potential to support new high-tech incubators, as evidenced by the state's strong high-tech economy, abundant research, concentration in high-tech employment, and exceptional political support.
- The state can assist incubator graduates, especially those in the life sciences, by creating business accelerators that include wet lab space and/or establishing grant or loan programs to assist companies in customizing their own post-incubator space.
- Incubators in Maryland employed 14,044 employees in the state (5,374 direct employees and 8,670 indirect employees)
- The average annual pay for high-tech jobs is $75,000, more than 60% higher than the statewide average annual wage of $46,000.
- These jobs contributed $845 million in annual salary and benefits to Maryland households
- Gross state product contributions totaled $1.2 billion
- Increased state output by $2.7 billion per year
- Contributed $104 million in state and local taxes

Rural Business Initiative and Entrepreneurial Programs

Rural Business Initiative

Studies conducted by the United States Small Business Administration (SBA) have shown that high-tech companies based in rural areas are often impeded by the absence of infrastructure necessary to support technical commercial enterprises, and the inability to recruit critical masses of people with the appropriate education and skill-sets to fully staff such enterprises. However, the same studies show that when rural policy initiatives are enacted to provide small business assistance through non-profits and rural development centers, economic development in those areas is enhanced.

To this end, the Maryland Congressional delegation supported a SBA award to TEDCO in the amount of $494,739 to address the needs of small businesses in the rural areas of Maryland, specifically its Lower Eastern Shore and Southern counties. TEDCO's partners in this program included the University of Maryland Eastern Shore and the College of Southern Maryland. Together, the three worked to enhance technology commercialization activities in these areas by providing technical and business assistance to incubator-stage companies and incubators in the targeted counties.

The project ended on April 28, 2007 and proved successful. The hands-on involvement of the Technical Assistant Specialists (TAS) and the consultants' involvement in the company beyond the initial scope of work were key factors in furthering the growth of companies. More than 45 companies received a general business analysis and of those companies twenty-one companies were qualified to receive in-depth technical or business assistance. Examples of business assistance included:

- Marketing strategy development
- Contract analysis
- Funding source identification assistance
- Funding assistance to attend key industry meetings
- Funding for infrastructure development
- Funding for technical assistance
- Funding for product development

The program on the Lower Eastern Shore identified that a technology industry, albeit small, exists. Technology companies can flourish in rural areas with the right mentoring and strategic funding assistance. Building on the success of this effort, TEDCO plans to expand this program to include Western Maryland, the entire Eastern Shore, Southern Maryland, and Northern Maryland.

ACTiVATE Program: Achieving the Commercialization of Technology in Ventures through Applied Training for Entrepreneurs

ACTiVATE is the University of Maryland Baltimore County (UMBC) initiative that is training women entrepreneurs to create successful technology-based startup companies. In addition to increasing the numbers of active entrepreneurs working in Maryland, the program is intended to increase technology transfer rates by empowering professionals to develop their own startup companies through a systematic and focused approach to the study and, more importantly, the practice of commercializing technology. ACTiVATE is an interdepartmental program involving cooperation between the Office of Technology Development, the Center for Women in Information Technology, the Alex Brown Center for Entrepreneurship, and techcenter@UMBC. UMBC has also partnered with six other Maryland universities and key state agencies including TEDCO. The program was initially funded a National Science Foundation Partnership for Innovation grant awarded in the summer of 2004. The $600,000 grant supported three one-year classes. TEDCO provided the required $60,000 matching funds. At the conclusion of the third year, ACTiVATE had far exceeded its goals in creating new companies which prompted UMBC to continue ACTiVATE for an additional year. However, without the National Science Foundation outside funding was needed to support the curriculum. TEDCO participated in supporting the fourth year at $50,000.

ACTiVATE's strength stems from its use of actual technologies, originating from federal laboratories and local universities, to help its students evaluate market strategies and pathways to commercialization. TEDCO's proximity to and collaborations with federal laboratories and universities puts it in the unique position to help UMBC select a set of invention disclosures available for commercialization that can be used by its students as test cases. Typically, students working in teams perform market analyses to determine the viability of the technologies in the market place. They also craft business plans for startup companies based on the technologies. As these are real technologies awaiting commercialization, the goal of the program is to launch approximately three startup companies at the conclusion of the two-semester course. December 2007 marked the end of the third year of the program. The class of 2007 generated four new companies: Alnitek, LLC, Ayres Green Corporation, Lily Pad Sensors, Inc., and Resilient Technologies, LLC.

The fourth session of ACTiVATE began in February 2008. Twenty-two women were selected from a pool of 76 applicants to participate in the program. TEDCO selected 18 new university- and federal lab-originating technologies to be analyzed during the scholastic year. The inventions selected include sensors, diagnostic therapies, electronics, software, and food related technologies.

In the first three years of ACTiVATE, thirteen companies have been formed exceeding the goal of nine companies during the same period. Over 270 women inquired about the program that resulted in 170 submitting applications of which 85 were selected to participate. The ACTiVATE program has become so successful that UMBC will be offering the course for a fifth year and plans are underway to expand the program to other campuses.

Maryland Minority Research and Development Initiative

The Maryland Minority Research and Development Initiative (MMRDI) was introduced into TEDCO's portfolio of programs to provide Maryland-based minority, women, veteran, and disabled-owned small businesses improved access to the federal research and development contracts and grants that have been specifically set aside for small business. The subset of federal research and development awards that fall under the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs are highly competitive, and according to reports by the Census Bureau and the National Research Council, minorities – especially racial minorities - have been persistently underrepresented among the awardees relative to the minority population of firms operating in the state. The Maryland Congressional delegation supported a SBA grant to TEDCO that is geared towards improving participation rates of Maryland minority companies in the SBIR/STTR program by identifying research-oriented minority-owned firms and educating them about the merits of these awards. Particular focus has been paid to Prince George's County-based companies because of the concentration of federal research assets and the prevalence of high-tech minority-owned firms in the region. Partners in this initiative include the Prince George's County Economic Development Corporation (PGCEDC) and the Small Business Development Center (SBDC) at the University of Maryland College Park.

Services made available to MMRDI companies include information sessions which facilitate access to federal SBIR/STTR program managers, intensive writing workshops, pre-submission reviews of proposals and a newsletter that answers frequently asked questions and spotlights the accomplishments of MMRDI companies. Information sessions provide an informal setting for interested companies to learn about the federal program. Attendees can direct specific questions to invited federal SBIR Program Managers and hear about the challenges and rewards of winning from a minority awardee who has been able to leverage his/her award, raise additional funding, and ultimately commercialize his/her technology. Workshops are intensive full-day events that provide attendees with the specifics of how to write a competitive and compelling SBIR proposal. National SBIR/STTR experts provide the training. Workshops address not only the specifics of "what" to write, but also the importance of "how" to write in order to evoke responses in the reviewers who will score the proposals. The information sessions and workshops are scheduled to coincide with the release of a specific agency's solicitation topics. The speakers selected and material presented coincide with the target agency.

For those people unable to attend workshops, MMRDI has purchased two outreach libraries of SBIR Toolkits which are housed at the SBDC and PGCEDC. The information contained in these libraries is a concentrated version of the material presented during the workshops and includes budgeting software. Each toolkit addresses specifics of a single SBIR/STTR agency. The materials are updated regularly to incorporate programmatic changes in the application process. MMRDI client researchers and entrepreneurs may make appointments with the program partners to build their proposals using the tools.

Table 10 indicates the number of companies that have taken advantage of MMRDI services to date.

Table 10: MMRDI Program Activity to Date

Services	Information Sessions 5 events	Workshops 6 events	Proposal Reviews	SBIR/STTR Submissions
Total attendees	140	45	15 companies	15 companies

Maryland Stem Cell Research Fund

On April 6, 2006 the Maryland Stem Cell Research Act of 2006 was signed into law. TEDCO was designated the Administrator of the Fund. The Maryland Stem Cell Research Commission (Commission) was established and operates within TEDCO.

In FY2008 the Commission received 122 applications in response to its three Requests for Applications, requesting a total amount of over $64 million. Following the scientific peer review and the recommendations by the Commission, the TEDCO Board of Directors approved 11 Investigator-Initiated grants, 32 Exploratory grants and 15 Fellowship grants. All grant agreements were executed in FY2008 and the research has begun.

A more detailed report regarding the project summary and financial support will be provided in the 2008 Stem Cell Annual Report to the Governor as indicated in section § 5-2B-09 of the 2006 Stem Cell Research Act.

Table 11: FY2008 Stem Cell Research Fund

Category	Number of Proposals	Total Funds Requested
Proposals Received	122	~$64,000,000
Grants Awarded	58	$22,540,000

Table 12: Stem Cell Research Fund Activity to Date

Proposals Received	207
Grants Awarded	82