



**LEADING INNOVATION TO MARKET**

**TESTIMONY OF JOHN M. WASILISIN**

President & Chief Operating Officer, Maryland Technology Development Corporation

Senate Budget & Taxation Subcommittee  
Education, Business & Administration  
Friday, February 10, 2017

House Appropriations Subcommittee  
Education & Economic Development  
Monday, February 13, 2017

**Introductions**

Mr. Chairman, members of the Committee, thank you for the opportunity to appear before you to discuss TEDCO’s FY2018 budget request. I am joined by:

- Andy Jones, Managing Director, Maryland Venture Fund
- Jennifer Hammaker, Director, Maryland Innovation Initiative
- Gerald Meggett, Jr., President, MyQVO, Inc. (2/10)
- Doug Britton, COO, North American Wave Engine Corporation (2/10)
- Wendy Perrow, CEO, AsclepiX Therapeutics, LLC (2/13)
- Ashish Nimgaonkar, CEO, Glyscend (2/13)

Following this panel will be Dr. Dan Gincel, Executive Director of the Maryland Stem Cell Research Fund. He will be joined by:

- Doug Doerfler, MaxCyte Founder and CEO (2/10)
- Dr. Sunjay Kaushal, UMB (2/13)

I would like to thank Jody Sprinkle for her cooperation in working together over the last year.

While many of you are very familiar with TEDCO, for the benefit of others not so familiar, TEDCO was created by the legislature in 1998 to assist in the transfer of research and technology from Maryland universities and federal laboratories into the commercial marketplace. With that backdrop, I’d like to offer the following highlights of the many accomplishments that TEDCO has accomplished over the past year. Data is of December 31, 2016.

**Technology Commercialization Fund (TCF)**

The TCF provides up to \$100,000 to entrepreneurs that are developing technology-related start-up companies. Sources of the technology may come from collaborations with a university in Maryland or any federal laboratory, participation in our Rural Business Innovation Initiative or as a tenant company in Maryland’s technology incubators. Funds are used to defray direct costs of developing early-stage technology.

- 306 companies in portfolio
- TEDCO funding (completed projects) = \$23M

- Follow-on funding received by companies = \$1B
- **Leverage of TEDCO funding = \$43.7 : \$1**
- ***Entrepreneur Magazine*: TEDCO was ranked the #1 seed/early-stage investor in the nation for 5 consecutive years**
- 86% of invested companies are still in business

### **Cybersecurity Investment Fund (CIF)**

The CIF program was passed during the 2014 General Assembly session. The bill designated TEDCO to be the administrator of the CIF.

The CIF program provides up to \$100,000 to support projects that advance a cyber technology toward commercialization. CIF helps companies to reach a critical milestone in their product development that will move their technology further along the commercialization pathway, increase the company's valuation, and lead to follow-on investment for further growth and sustainability.

- 20 start-up companies funded

### **Maryland Innovation Initiative (MII)**

The MII program was passed during the 2012 General Assembly session. The bill designated TEDCO to be the administrator of the MII.

The purpose of the MII is to promote and accelerate the rate of commercializing research conducted in the five Maryland research universities (Johns Hopkins, Morgan State, University of Maryland-College Park, University of Maryland-Baltimore and University of Maryland-Baltimore County). This includes encouraging qualifying universities to partner on commercialization proposals, strategies, and funding sources, including with federal laboratories located in Maryland, and facilitate technology transfer from university labs to start-up companies. The goal is to create start-up companies that are based upon technologies developed in these universities.

- Applications received-476
- Awards made-206
- Award distribution by school-JHU (101), UMCP (36), Morgan (5), UMB (39), UMBC (25)
- New companies created-42 (21 from JHU technologies, 11 from UMCP technologies, 6 from UMB technologies, 4 from UMBC)

### **Relationships with Federal Labs and Institutions**

- Aberdeen Proving Ground, Science & Technology Board  
(Covers approximately 12 R&D tenant organizations, including the Army Research Lab)
- Johns Hopkins University Applied Physics Lab
- NASA Goddard Space Flight Center; provides access to *all* NASA labs
- National Institute of Standards and Technology
- National Institutes of Health  
(Specific Partnership Intermediary Agreement with National Cancer Institute)

- National Security Agency
- Naval Air Warfare Center Patuxent River
- Naval Medical Research Center
- National Cancer Institute
- Naval Surface Warfare Center Carderock Division
- Naval Surface Warfare Center Indian Head Division
- Naval Surface Warfare Center Crane Division
- United States Army Medical Research and Materiel Command  
(Includes six medical research labs and institutes)
  - 1) U.S. Army Aeromedical Research Laboratory (USAARL)
  - 2) U.S. Army Institute of Surgical Research (USAISR)
  - 3) U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)
  - 4) U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)
  - 5) U.S. Army Research Institute of Environmental Medicine (USARIEM)
  - 6) Walter Reed Army Institute of Research (WRAIR)
- United States Department of Agriculture, Agricultural Research Service  
(Includes over 100 national research locations and the Forestry Service)
- TechLink  
(Department of Defense and NASA technology transfer partner)

### **Technology Business Incubators**

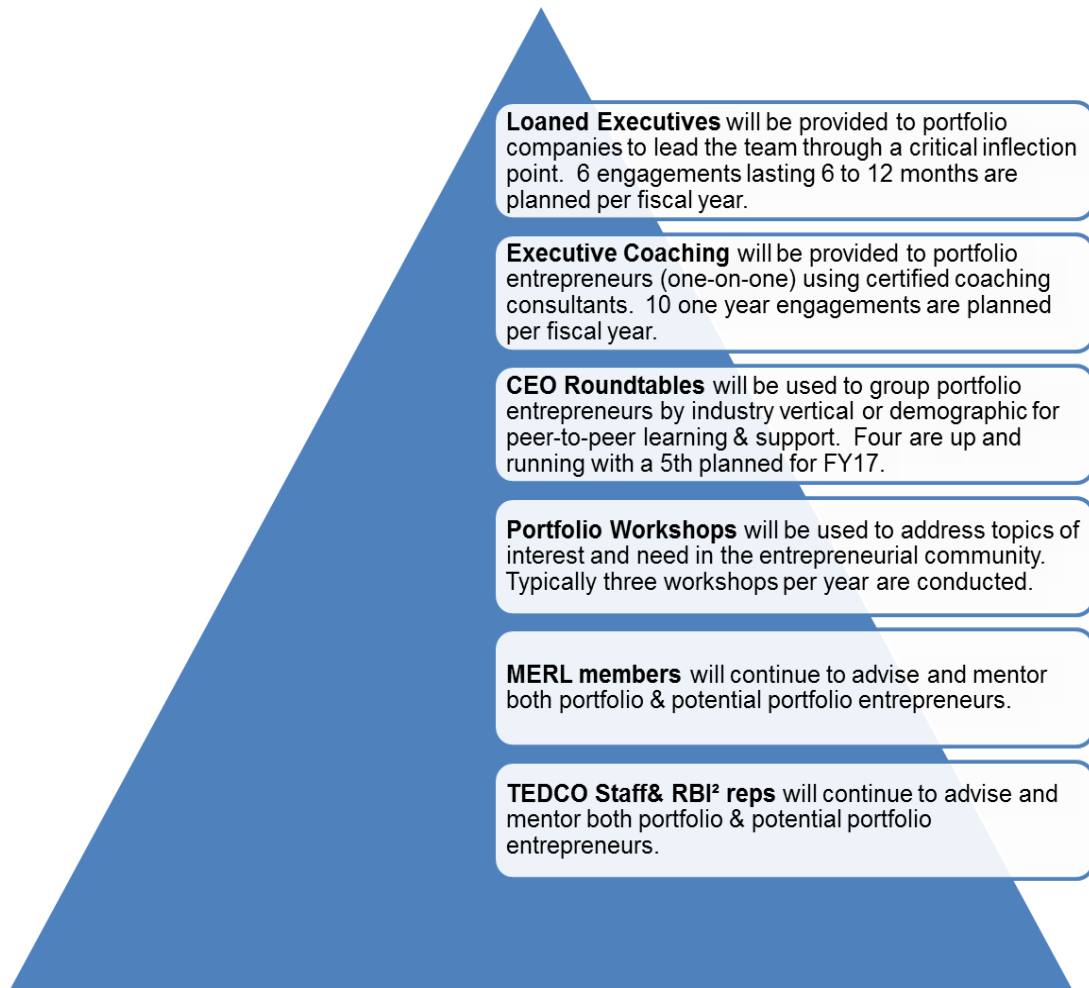
Since introducing the “Maryland Technology Incubator Program” in 2001 as part of TEDCO’s statutory requirements, successful programs have been created and investments have been made in the State’s technology business incubators. Programs have included the Incubator Development Fund (capital incubator projects requiring a minimum 1:1 match), Feasibility Study Grants (to study potential new or expanded facilities; grants require a minimum 1:1 match), Business Assistance Grants (to provide incubator managers with discretionary funding to provide needed and direct assistance to tenant companies), and other grants and programs supporting the annual Incubator Company of the Year Awards and activities of the Maryland Business Incubation Association. The annual Incubator Company of the Year Awards has honored and recognized the superb efforts of the incubator managers and their staff, as well as the finalists and winners of these coveted awards. For twelve years running, hundreds of incubator companies have been deemed, by a committee of distinguished economic development and venture capital professionals, as the best in their respective categories.

**The first technology incubator on the Eastern Shore opened on February 29, 2016 in Cambridge.** TEDCO, along with the Department of Commerce and Dorchester County, provided funding for this milestone.

### **Entrepreneurial Development**

Entrepreneurs are always looking for new capital, and TEDCO has a number of financial assistance programs that can assist start-up companies. But often what an entrepreneur needs most at any given time is not more money, but mentoring and counsel on how to use that investment. To that end, TEDCO developed in 2015 a variety of assistance programs for various stages of entrepreneurial development. This suite of programs, called **Executive Exchange**, has

six components that provide mentoring and educational support for entrepreneurs as they develop their start-up companies (see graphic below).



To date, Executive Exchange engagements:

- Loaned Executives – 15
- Executive Coaches – 3
- CEO Roundtables - 6 (59 participants)

### **Maryland Stem Cell Research Fund**

The Maryland Stem Cell Research Fund (MSCRF) was established by the Governor and the Maryland General Assembly during the 2006 legislative session. The purpose of the Fund is to promote State-funded stem cell research and cures through grants and loans to public and private entities in the State.

All MSCRF applications are evaluated by a scientific peer review committee. The Stem Cell Research Commission reviews the peer review rankings and then makes funding recommendations to the TEDCO Board for final approval. The annual grant review provides feedback to applicants so they can improve and resubmit previously unfunded proposals.

The MSCRF serves as a catalyst for new collaborations, building the scientific knowledge base and spurring the discovery of improved diagnostics, effective preventions, and long-awaited cures.

In FY2017 the Commission, together with TEDCO staff, developed a new program model to accelerate the treatments and commercialization of stem cell technologies and continue to increase industry collaboration.

### **Rural Business Innovation (RBI) Program**

An important mission for TEDCO is to assist in the development of entrepreneurs throughout the State of Maryland. The RBI program is designed to enhance technology commercialization activities and provide technical and business assistance to small and early-stage technology companies in rural Maryland. Assistance to companies is provided by local business mentors contracted by TEDCO. Each region has a local mentor, whose responsibility is to evaluate potential clients, provide resources, consulting services and technical management assistance. Providing technical and general business assistance is a cornerstone of this program that helps small businesses gain access to investment capital, general business resources, federal laboratory and university research opportunities.

### **Entrepreneur Expo**

In an attempt to promote and celebrate entrepreneurship in Maryland, TEDCO held its 6th Annual Maryland Entrepreneur Expo on November 14, 2016 (in conjunction with Global Entrepreneurship Week) to bring together the various entities that have a vested interest in the development of entrepreneurs. The Maryland event was one of 10 nationally-recognized by Global Entrepreneurship Week. **This event attracted almost 700 people** comprised of new and seasoned entrepreneurs, investors, students, legislators, service providers, inventors, tech transfer officers and economic development professionals. Due to its success, TEDCO is planning to continue the Entrepreneur Expo in 2017.

### **New Programs**

- **mdPACE-** TEDCO received a grant from the federal Department of Commerce to develop a program to increase the flow of the U.S. Food and Drug Administration (FDA)-cleared devices in Maryland. The program will provide experienced executives, who have successfully navigated the FDA medical device commercialization process, to assist entrepreneurs to generate 510(k) cleared technology in 12-18 months instead of the typical 36-42 months needed by an inexperienced, unguided team. Program experts will focus the team on an early design freeze and on the specific, proven, design control-oriented requirements of the 510(k) submittal process. The nuances of these requirements are often apparent only after taking several medical devices through the process; they are certainly not readily apparent to an inexperienced team.
- **N-STEP-**The National Institute of Standards and Technology (NIST) asked TEDCO to develop an entrepreneurial development program to train graduating post docs to become entrepreneurs and start new companies utilizing the technologies they were working on while at NIST. This program will combine entrepreneurial development activities with seed investments in start-up companies.

- **Life Science Investment Fund-** The Life Science Investment Fund was developed to meet the needs of Maryland companies developing products addressing human health that require approval from the FDA for commercialization. The program helps to move products along this pathway by making investments that will enable companies to reach critical milestones early in their product development efforts, to increase the company's valuation, and to better position the company for follow-on investment, product commercialization, and job creation.
- **Maryland Venture Fund-**The Maryland Venture Fund (MVF) was transferred from the Department of Business and Economic Development to TEDCO on October 1, 2015. This transfer was the result of legislation passed during the 2015 General Assembly session upon the recommendation of the Augustine Commission, which was created to make recommendations for improving the business climate in Maryland. MVF consists of the Enterprise Fund, the InvestMD fund and the federal State Small Business Credit Initiative (SSBCI). With the transfer of MVF, TEDCO is now able to offer a one-stop opportunity for entrepreneurs (our customers) seeking capital for the technology start-up companies.
- **Market Search-**A service that was part of the former BioMaryland Center was the availability of life science databases that entrepreneurs could use to do research on their markets. When this program was transferred to TEDCO, it was completely redesigned to 1) expand the variety of research by offering databases in non-life science industries as well as life sciences, and 2) establish more convenient locations for entrepreneurs to access these important services. There are now three (3) locations instead of two for these databases and they are located in tech incubators in Baltimore and Montgomery County, as well as TEDCO's office in Columbia.

### **Management and Administration**

As you are aware, TEDCO is required by statute to seek an independent audit of its annual financial statements. **For the seventeenth (17<sup>th</sup>) consecutive year, TEDCO received an unqualified (clean) audited financial statement.**

Also, TEDCO completed its Department of Legislative Services Audit in 2016. **There were no findings in this report.**

I would like to thank members of this Subcommittee for their courtesy toward me and TEDCO, and for your steadfast support of our programs.

### **Responses to DLS Analysis of Issues**

***DLS recommends that TEDCO comment on its report on the performance of the MII program and specifically on how it will collaborate with the participating research universities to ensure their full participation and utilization of the MII program.***

TEDCO submitted a report, as requested in the 2016 Joint Chairmen's Report, to address the seemingly uneven distribution of awards under the Maryland Innovation Initiative. Staff will comment on this report during the hearing.

*DLS recommends that TEDCO comment on the MVF and on any changes it has made in investment strategy and in the administration of the fund. Further, DLS recommends committee narrative that requests that the MVF annual report be expanded to include investment information on the Enterprise Fund legacy monies and on the federal funds from the State Small Business Credit Initiative program.*

### **MVF Investment Strategy Changes**

Under TEDCO management, the Maryland Venture Fund investment strategy and approach to the market is very different, and we believe significantly improved, over prior iterations of the Fund.

The investment strategy change starts with **active engagement** with our portfolio company management teams. We have re-built the Maryland Venture Fund team to include individuals with successful company building and operating experience. This translates into the Maryland Venture Fund being “more than just a check” to our portfolio companies. We are engaged on a continuous basis with our companies, helping them with strategy, recruiting, financing, sales and marketing, and other aspects of their business. We believe this active engagement increases our chances of success. Our goal is to partner with great entrepreneurs and build Maryland companies that grow roots and remain in the state. Lasting, sustainable businesses yield a growing, recurring payback to the state in the form of new job creation, serial and first-time entrepreneurs, recurring tax base, and supply-chain benefits.

Because this is a time-intensive strategy, the Maryland Venture Fund is making larger initial investments (\$500,000 to \$1.5 million) in fewer companies, while still building a diversified portfolio.

Another strategy change is that the team is extremely disciplined around “following our winners” and “cutting off our losers”. Said another way, we are willing to provide more capital, i.e., follow-on investment, to our portfolio companies that are achieving their milestones, but we are also very serious about holding companies accountable and not risking our follow-on capital if the company is not achieving their milestones. This discipline will lead to improved ROI for the Maryland Venture Fund.

The other big investment strategy change is our **proactivity in the market**. The team is out in the community every day, working our networks proactively seeking the best Maryland entrepreneurs. We actively try to help everyone we interact with, including those who we choose not to fund. This helps our brand because entrepreneurs communicate with each other, and if we continue with this strategy then over time the Maryland Venture Fund will become the “go-to fund” for local entrepreneurs. We want to be their first call when they are looking for capital to expand their business.

The feedback that we are hearing from the market is that our strategy is working. We are slowly changing the reputation of the Maryland Venture Fund in the marketplace, to smart, value-added money. The turnaround of the Maryland Venture Fund is progressing well, but our job is not done. Like all turnarounds, this effort takes time to change market perceptions, but we are confident that we will get there.

### **Fund Administration Changes**

The administration and processes, which we believe were lacking in the legacy Maryland Venture Fund, have been brought up to professional fund management standards. Because the new team has significant experience at other professional venture capital funds, we have taken the “best practices” from those fund experiences and applied them to the Maryland Venture Fund.

We created an Advisory Committee comprised of three senior experienced local venture capitalists. No investment dollar (new deal or follow-on financing) goes out the door without a formal investment memo and a meeting of the Advisory Committee to seek their input. Also, we conduct quarterly in-person Advisory Committee meetings to review in-depth the portfolio fair market values and Fund performance.

We instituted a quarterly written portfolio company reporting process, which is industry standard and was not in place prior to when TEDCO assumed control of the Maryland Venture Fund on October 1, 2015.

We assigned ownership of existing portfolio companies and venture fund relationships, and hold the team accountable to managing those relationships.

We instituted a policy of management team presentations to the full Maryland Venture Fund team prior to any potential investment (inclusiveness of all team members). Early in the investment evaluation process, we instituted a 1st chair/2nd chair protocol, in which one team member takes the lead on the opportunity with the support of a second team member. We believe the engagement of all team members leads to better investment decisions. This was not the case prior to TEDCO running the Fund.

Lastly, we implemented a prospective investment tracking system (now running on Salesforce.com). No historical tracking system existed prior to this change, making it very difficult to “get a handle” on the entire portfolio.

Most importantly, we have changed the culture of the Maryland Venture Fund to an **ownership culture**, which we believe is critical for our success.

TEDCO supports the request to broaden the scope of the Maryland Venture Fund annual report to include the activities of both the legacy Enterprise Fund and the federal State Small Business Credit Initiative program.

***DLS recommends that the budget committees adopt committee narrative requesting a multi-agency effort to develop a plan that will provide consistent and transparent reporting of TEDCO nonbudgeted funds through the State budget process.***

TEDCO will work with DLS and DBM to develop a plan that will provide consistent and transparent reporting of TEDCO nonbudgeted funds through the State budget process.