

T50T01
Maryland Technology Development Corporation

Operating Budget Data

(\$ in Thousands)

	<u>FY 17</u> <u>Actual</u>	<u>FY 18</u> <u>Working</u>	<u>FY 19</u> <u>Allowance</u>	<u>FY 18-19</u> <u>Change</u>	<u>% Change</u> <u>Prior Year</u>
General Fund	\$19,467	\$19,474	\$19,474	\$0	
Adjusted General Fund	\$19,467	\$19,474	\$19,474	\$0	0.0%
Special Fund	7,345	7,348	7,714	367	5.0%
Adjusted Special Fund	\$7,345	\$7,348	\$7,714	\$367	5.0%
Adjusted Grand Total	\$26,812	\$26,822	\$27,189	\$367	1.4%

Note: FY 18 Working includes targeted reversions, deficiencies, and across-the-board reductions. FY 19 Allowance includes contingent reductions and cost-of-living adjustments.

- The fiscal 2019 allowance for the Maryland Technology Development Corporation (TEDCO) is \$27.2 million, a 1.4% increase from the fiscal 2018 working appropriation. General funds remain flat at \$19.5 million; special funds increase by approximately \$367,000, or 5.0%, reflecting increased administrative costs for the Maryland Venture Fund (MVF).
- The corporation does not report personnel data through the State budget system because its employees are not considered State employees. However, TEDCO reports that it has 22 full-time positions and 7 part-time positions. All positions are funded using State funds.

Note: Numbers may not sum to total due to rounding.

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Analysis of the FY 2019 Maryland Executive Budget, 2018

Analysis in Brief

Major Trends

Drop-off in Follow-on Funding: The Technology Commercialization Fund (TCF) provides seed investments to early-stage technology companies that are economically viable but do not yet have the scale needed for a venture capital investment. A measure of success for the TCF is the ability of funded startups to obtain follow-on funding for commercialization. After a record year in fiscal 2016 in which there was \$203 million in follow-on funding, there was \$48 million in follow-on funding in fiscal 2017.

Program Encourages Startups: The Maryland Innovation Initiative is designed to combine the technology transfer expertise of TEDCO and the research expertise of the State's research universities to create opportunities for commercialization. In fiscal 2017, the number of startups dropped slightly to 13, while the number of proposals received (100) and projects awarded (47) remained stable.

Issues

Report on Nonbudgeted Funds: The 2017 *Joint Chairmen's Report* (JCR) included committee narrative that requested TEDCO provide annual information on the corporation's nonbudgeted funds. Expenditures and encumbrances in the Reserve Fund are more than doubled in fiscal 2018 compared to fiscal 2017, from \$2.4 million to \$5 million. TEDCO estimates that income to the fund will decline in fiscal 2018 to \$2.1 million from \$3.9 million in the prior year. The impact of these changes means that the funds' closing balance in fiscal 2019 (\$5 million) is expected to be less than half of the fiscal 2017 closing balance (\$10.3 million). **TEDCO should comment on what impact the declining Reserve Fund balance could have on its programmatic decisions.**

MVF Annual Report: Private venture capital firms received \$7.3 million from the MVF in fiscal 2017, bringing the total cumulative capital received in the program by private firms to \$33.8 million. According to the report, the investments have led to the creation of 109 jobs in Maryland and the retention of a further 374.5 jobs. The current fair market value of those investments is \$59.3 million. TEDCO also directly invests a portion of the MVF money. In fiscal 2017, MVF directly invested \$3.9 million into five businesses, leading to the creation of 18 new jobs and the retention of 157 jobs in the State. However, the investments and returns data for programs that use other sources of funding was not broken out in the report; it was aggregated together with other venture fund investments. TEDCO did provide the data upon request. **The Department of Legislative Services recommends committee narrative clarifying that the annual report for the MVF include investment information for all of its investments that clearly show the fund source for each investment and when the investments were made.**

TEDCO Rebuilds Stem Cell Research Program: The Stem Cell Research program – funded at \$8.2 million in general funds in fiscal 2019 – underwent a complete overhaul beginning in fiscal 2017. The corporation performed a strategic analysis and developed a program that focuses on company formation and moving technology from universities to the commercial market, with an ultimate goal

of finding cures. The new program is divided into different stages of product development and is intended to provide funding through each step of the process.

Operating Budget Recommended Actions

1. Adopt narrative that requests additional information be included in the Maryland Venture Fund annual report.

Updates

Major Grants: Committee narrative included in the 2008 JCR requested a complete listing of award recipients for all deals or projects closed in fiscal 2008. The corporation has continued to provide this information for subsequent years.

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Maryland Technology Development Corporation

Operating Budget Analysis

Program Description

The Maryland Technology Development Corporation (TEDCO) was launched in 1998 to help commercialize the results of scientific research and development conducted by higher education institutions, federal laboratories, and private-sector organizations. TEDCO also aims to promote new research activity and investments that lead to business development in Maryland.

To achieve its goals, TEDCO provides nonequity investments to early-stage technology businesses, and it funds development and patenting of new technologies at research universities. TEDCO also develops linkages with federal research facilities in the State and helps companies pursue research funds from federal and other sources. The corporation's role was expanded in fiscal 2016 with the enactment of Chapter 141 of 2015 to transfer the operation of the Maryland Venture Fund (MVF) and the biotechnology grant program from the Department of Commerce (Commerce).

TEDCO is also authorized to create, manage, and provide funds for the statewide Maryland Technology Incubator Program. Technology business incubators offer startup companies physical office space, research space, and an array of business services in hopes of generating new research and jobs.

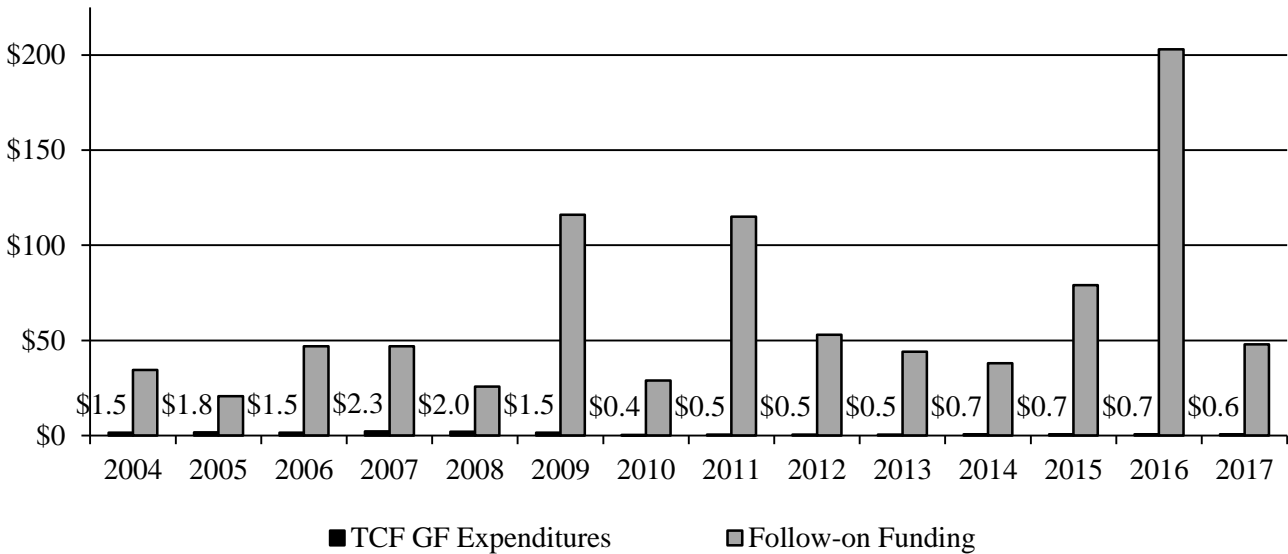
TEDCO supports stem cell research and development at Maryland's research universities and private-sector research corporations in accordance with the Maryland Stem Cell Research Act of 2006. The Maryland Stem Cell Commission established an independent scientific peer review committee to review, evaluate, rank, and rate research based on procedures and guidelines that give consideration to scientific, medical, and ethical implications.

Performance Analysis: Managing for Results

1. Drop-off in Follow-on Funding

The Technology Commercialization Fund (TCF) provides seed investments to early-stage technology companies that are economically viable but do not yet have the scale needed for a venture capital investment. A measure of success for the TCF is the ability of funded startups to obtain follow-on funding for commercialization. The primary sources of follow-on funds include federal grants, venture capital, and other equity investments. TEDCO tracks leveraged funds for at least five years for each TCF recipient. **Exhibit 1** shows follow-on funding for the TCF recipients compared to the amount of general fund investment in the program.

Exhibit 1
Follow-on Funding for Recipients of TCF Investments
Fiscal 2004-2017
(\$ in Millions)



GF: General Fund
TCF: Technology Commercialization Fund
TEDCO: Maryland Technology Development Corporation

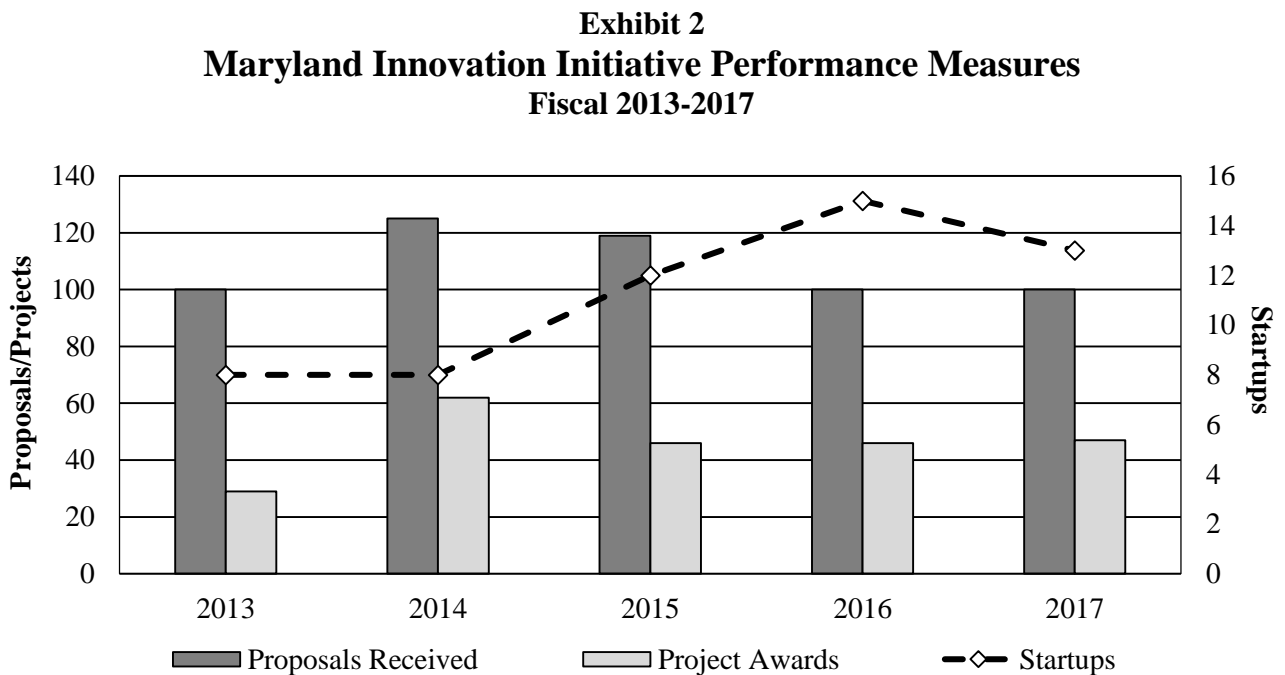
Note: Follow-on funding is measured for companies receiving TCF awards and is tracked over multiple years.

Source: Maryland Technology Development Corporation

This measure is of particular importance to the corporation because success in raising downstream funding is a key criterion in evaluating second award proposals. It should be noted that the TCF program is supplemented by nonbudgeted funds from the corporation's reserve funds and that follow-on funding reflects the impact of the entire investment by the corporation. As shown in Exhibit 1, general funds have declined from a high mark of \$2.3 million in fiscal 2007 to \$600,000 in fiscal 2017. After a record year in fiscal 2016 in which there was \$203 million in follow-on funding, there was \$48 million in follow-on funding in fiscal 2017. The fiscal 2016 amount was driven by \$70 million in investments for LookingGlass Cyber Solutions.

2. Program Encourages Startups

At the request of the Department of Legislative Services (DLS), TEDCO has begun reporting measures that demonstrate the progress of the Maryland Innovation Initiative (MII). MII, created by Chapter 450 of 2012, is designed to combine the technology transfer expertise of TEDCO and the research expertise of the State’s research universities to create opportunities for commercialization. It is meant to encourage a foundation from which startup companies may be formed from university research. **Exhibit 2** shows the number of proposals received under the program, the number of proposals that were awarded funds, and the number of startup companies formed as a result.



Source: Maryland Technology Development Corporation; Governor’s Budget Books, Fiscal 2019

In fiscal 2017, the number of startups dropped slightly to 13, while the number of proposals received (100) and projects awarded (47) remained stable. It is expected that as the program matures, more innovations will reach the stage of commercialization, thereby increasing the number of startups.

Proposed Budget

As a quasi-public agency, the majority of TEDCO’s fiscal 2019 allowance is budgeted as a general fund grant of \$19.5 million and a special fund allowance of \$7.7 million. As shown in **Exhibit 3**, general funds are unchanged compared to the fiscal 2018 working appropriation, while special funds increase by approximately \$367,000.

Exhibit 3
Proposed Budget
Maryland Technology Development Corporation
Fiscal 2017-2019
(\$ in Thousands)

	<u>2017</u>	<u>Working</u> <u>2018</u>	<u>Allowance</u> <u>2019</u>	<u>Change</u>
General Funds				
Operations				
Salaries and Wages	\$2,052	\$2,047	\$2,047	\$0
Contractual Services	41	49	49	0
Equipment	17	15	15	0
Other operational costs	63			0
Subtotal	\$2,173	\$2,111	\$2,111	\$0
Programs				
Maryland Technology Commercialization Fund	\$600	\$662	\$662	\$0
Maryland Industrial Partnership Program	300	300	300	0
Rural Business	500	500	500	0
Cyber Security Investment Fund	900	900	900	0
Life Science Investment Fund	1,101	1,001	1,001	0
Maryland Innovation Initiative	4,800	4,800	4,800	0
Stem Cell Research Fund	9,093	8,200	8,200	0
Gap Investment Fund		1,000	1,000	0
Subtotal	\$17,294	\$17,363	17,363	\$0
General Fund Total	\$19,467	\$19,474	\$19,474	\$0
Special Funds				
Enterprise Fund	\$6,000	\$6,000	\$6,000	\$0
Enterprise Fund Administration	1,345	1,348	1,714	367
Special Fund Total	\$7,345	\$7,348	\$7,714	\$367
Grand Total	\$26,812	\$26,822	\$27,189	\$367

TEDCO: Maryland Technology Development Corporation

Note: Numbers may not sum to total due to rounding.

Source: Maryland Technology Development Corporation

TEDCO Programs Funded by General Funds

TCF

This program awards seed funding to early-stage companies developing technology. The \$100,000 awards are meant to develop and commercialize technology products of Maryland early-stage companies. The fiscal 2019 allowance includes approximately \$662,000 in general funds to support the program. TEDCO is providing an additional \$1.4 million in nonbudgeted funds.

MII

The fiscal 2019 allowance includes \$4.8 million in general funds for MII, matching the level of funds in fiscal 2018. MII is designed to combine the technology transfer expertise of TEDCO and the research expertise of the State's research universities to speed commercialization opportunities. To qualify for participation in the initiative, each university must provide funds annually. Funds may be used to (1) provide grant funding to a qualifying university-based entrepreneur or other startup entity to promote the commercialization of technology developed in whole or in part by a qualifying university; (2) pursue grant funding for the initiative or its qualifying universities; (3) develop and implement guidelines for the technology transfer; and (4) identify projects at qualifying universities that may be viable for commercialization. TEDCO is providing an additional \$800,000 in nonbudgeted funds.

Maryland Stem Cell Research Program

The Stem Cell Research Fund was established by Chapter 19 of 2006 to support stem cell research and development at Maryland research institutions or private companies. The Stem Cell Research Commission reviews applicant projects and makes recommendations to the TEDCO board about research grant awards. The fiscal 2019 allowance includes \$8.2 million in general funds for the program, the same as the fiscal 2018 appropriation. TEDCO redesigned the program in fiscal 2017; further discussion of the changes is included in the Issues section of this analysis.

Maryland Industrial Partnership Program

The fiscal 2019 allowance includes \$300,000 in general funds for the Maryland Industrial Partnership program. This level of funding is unchanged from the fiscal 2018 working appropriation. This program is designed to accelerate commercialization by matching funds for university-based research projects that help companies develop new products. Prior to 2010, these funds were budgeted in the Maryland Higher Education Commission and passed through to the University of Maryland, College Park Campus (UMCP). Given TEDCO's expertise with technology commercialization, it was deemed a better fit to be overseen by the corporation. UMCP contributes about \$1 million to the program each year.

Cyber Security Investment Fund

The fiscal 2019 allowance includes \$900,000 in general funds for the Cyber Security Investment Fund (CIF), matching the appropriation from fiscal 2018. The CIF provides up to \$100,000 to support projects that advance cybersecurity technology toward commercialization. Specifically, the funds are meant to move their technology further along the commercialization pathway, increase the company's valuation, and lead to follow-on investment for further growth and sustainability.

Rural Business Initiative

The fiscal 2019 allowance includes \$500,000 in general funds for the Rural Business Initiative (RBI), matching the fiscal 2018 funding level. The RBI is designed to provide technical and business assistance to small and early-stage technology-based companies that are located in rural Maryland. This assistance is provided by regional business mentors that are contractual staff under TEDCO.

Life Sciences Investment Fund

The fiscal 2019 allowance includes \$1 million in general funds for the Life Sciences Investment Fund, unchanged from the fiscal 2018 working appropriation. The fund was formerly a grant program housed under Commerce's BioMaryland Center. It was transferred to TEDCO through legislation in fiscal 2016. TEDCO tailored the program to meet the needs of Maryland companies developing products addressing human health that require approval from the U.S. Food and Drug Administration for commercialization. According to TEDCO, the program makes 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. The same legislation included intent language that all functions of the BioMaryland Center be transferred to TEDCO from Commerce. Funds related to biotechnology market research databases were not transferred by the Administration despite the legislative intent. Budget language adopted in the fiscal 2017 budget bill restricted \$400,000 in the Commerce appropriation to be transferred to TEDCO for this purpose. Again, the Administration chose not to make this transfer and allowed the funds to revert to the General Fund. The General Assembly cut the funding from the fiscal 2018 allowance, and the funding is not included in the fiscal 2019 allowance. The databases are useful to biotechnology entrepreneurs by providing information on licensing opportunities, target markets, federal approval statutes, and clinical trials. As such, TEDCO is providing access to the databases by using its own nonbudgeted funds at a cost of \$93,325 annually. The corporation will also be adding a third database for regenerative medicine to be used by its stem cell and life sciences programs at a cost of approximately \$10,000 per year.

Gap Investment Fund

The fiscal 2019 allowance includes \$1 million in general funds for the Gap Investment Fund, unchanged from the fiscal 2018 working appropriation. The program is intended to fill the gap between TEDCO's traditional seed investment programs and the venture capital programs recently shifted to the corporation from Commerce. TEDCO is providing an additional \$1 million in nonbudgeted funds. With investments in this program at \$500,000 each, the original funding would only allow for two deals

covering approximately six months. The additional funds provide for two more deals and a full year of funding.

Special Funds: MVF

Due to the transfer of the MVF from Commerce to TEDCO, the corporation's budget began to include special funds in fiscal 2016. The fiscal 2019 allowance includes \$1.7 million in special funds for the administration of the program and \$6.0 million in special funds for investments of the MVF. The \$7.7 million allowance is a 5.0% increase over the fiscal 2018 working appropriation. The increase is driven by the hiring of a new employee and other increased administrative costs, including properly allocating costs related to the Office of the Attorney General due to the shift of programs from Commerce to TEDCO. The details on the investments and returns of the MVF are discussed under the Issues section of this analysis.

Issues

1. Report on Nonbudgeted Funds

The 2017 *Joint Chairmen's Report* (JCR) included committee narrative that requested TEDCO, in consultation with DLS and the Department of Budget and Management, to provide annual information on the corporation's nonbudgeted funds. The budget committees were interested in a more systemic, consistent, and transparent approach to better inform budget decision making. This is especially important in light of TEDCO's increasing responsibilities, such as the recent shift of the administration of the MVF to the corporation from Commerce.

Exhibit 4 shows the status of the Reserve Fund, including its revenues, expenditures, and balance from fiscal 2016 through the fiscal 2019 budget. Of note, expenditures and encumbrances are more than doubled in fiscal 2018 compared to fiscal 2017, from \$2.4 million to \$5 million. TEDCO is estimating that income to the fund will decline in fiscal 2018 to \$2.1 million from \$3.9 million the prior year. The impact of these changes means that the fund's closing balance in fiscal 2019 (\$5 million) is expected to be less than half of the fiscal 2017 closing balance (\$10.3 million).

Exhibit 4 TEDCO Reserve Fund Fiscal 2016-2019 Est.				
	<u>2016</u> <u>Actual</u>	<u>2017</u> <u>Actual</u>	<u>2018</u> <u>Estimated</u>	<u>2019</u> <u>Estimated</u>
Beginning Balance	\$8,128,372	\$8,754,892	\$10,311,847	\$7,351,847
Revenue				
Cash				
MII Program – University Contributions	\$800,000	\$800,000	\$800,000	\$800,000
Repayments from Seed Grants/Investments	485,761	361,539	200,000	200,000
Event Income (Registration, Sponsorship, etc.)	121,497	112,918	100,000	100,000
Licensing Agreement Royalty (MII)	29,000	100,000	0	0
Interest and Dividend Income	50,255	111,222	60,000	60,000
Incubator Capital Note repayment	145,304	137,652	105,000	105,000
Miscellaneous	56,034	53,078	50,000	50,000
Noncash				
Increase Value of Investments	\$608,863	\$711,432	\$250,000	\$250,000
Increase Value of Notes Receivable	577,445	875,232	200,000	200,000
Interest on Convertible Notes	475,472	645,353	300,000	300,000
Total Revenue	\$3,349,632	\$3,908,425	\$2,065,000	\$2,065,000
Total Available Funds	\$11,478,004	\$12,663,318	\$12,376,847	\$9,416,847

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	<u>2016 Actual</u>	<u>2017 Actual</u>	<u>2018 Estimated</u>	<u>2019 Estimated</u>
Expenditures/Encumbrances				
MII Program (Site Miner Costs and Awards)	\$658,000	\$566,909	\$800,000	\$800,000
Event Expense (Expo and Stem Cell Symposium)	113,297	141,765	250,000	250,000
Gap Investment Fund (Awards)	0	0	1,000,000	1,000,000
Technology Commercialization Funds (Awards)	1,467,493	1,138,000	1,400,000	1,400,000
Minority Pre-Seed Business Fund (Awards)	0	60,000	225,000	400,000
Executive Exchange (Mentoring Services)	414,322	394,809	400,000	400,000
Incubation Challenge (Pilot Initiative)	0	0	750,000	0
IT Reconfiguration (New CRM and New Website)	0	0	100,000	100,000
New Initiatives	0	0	100,000	100,000
Tech Validation (Awards)	70,000	49,988	0	0
Total Expenditures/Encumbrances	\$2,723,112	\$2,351,471	\$5,025,000	\$4,450,000
Ending Balance	\$8,754,892	\$10,311,847	\$7,351,847	\$4,966,847

CRM: customer relationship management

IT: information technology

MII: Maryland Innovation Initiative

TEDCO: Maryland Technology Development Corporation

Source: Maryland Technology Development Corporation

In addition to providing additional funding for the new Gap Investment Fund, TEDCO is also providing funds from the Reserve Fund for three new purposes in fiscal 2018.

- ***Incubation Challenge (\$750,000):*** The Incubation Challenge is an effort to solicit new, creative ways to incubate startup companies. TEDCO's Request for Proposals generated 51 responses from 49 organizations, of which six were selected.
- ***IT Reconfiguration (\$100,000):*** TEDCO is implementing a customer relationship management system to better track its portfolio of companies.
- ***New Initiatives (\$100,000):*** Funds are being set aside for unspecified new initiatives.

TEDCO should comment on what impact the declining Reserve Fund balance could have on its programmatic decisions.

2. MVF Annual Report

In fiscal 2014, the President of the Senate and the Speaker of the House appointed a private-sector commission to examine the structure, funding, and efficacy of the State's current economic development activities. The Maryland Economic Development and Business Climate Commission (Augustine Commission) had a charge to make policy and funding recommendations to improve the State's business climate and competitiveness. The commission recommended that State programs to assist early-stage companies be aligned within TEDCO. In fiscal 2016, the Administration transferred, by budget amendment, the MVF (also known as the Enterprise Fund) from Commerce to TEDCO. The MVF provides capital through equity purchases for startup companies that are developing innovative technologies. Beginning in fiscal 2013, this program also became the means for the implementation of the InvestMaryland Program. This is a State-supported venture capital program that was funded through the auction of tax credits against the insurance premium tax for insurance companies. A portion of these funds is invested in-house, and a portion is invested by private venture funds on behalf of the State.

The MVF is capitalized with other funds besides the InvestMaryland proceeds. The fund is also comprised of the funds from the legacy investment program, the Enterprise Fund, and with funds from the federally funded State Small Business Credit Initiative (SSBCI). In 2011, the State was awarded a total of \$23 million from the U.S. Department of the Treasury in support of this initiative. This federal program was designed to utilize existing State economic development programs to increase the capital available to small businesses. In 2017, the budget committees were concerned that the statutory reporting requirements for the MVF's annual report were too limited and asked TEDCO to revise future annual reports. The annual report should include complete investment, fair market value, and return on investment data on all funds housed within the MVF as well as funds related to the InvestMaryland Program, the legacy Enterprise Fund, federal funds under the SSBCI, and any other funds credited to the MVF.

According to the annual report, private venture capital firms received \$7.3 million from the MVF in fiscal 2017, bringing the total cumulative capital received in the program by private firms to \$33.8 million. According to the report, the investments have led to the creation of 109 jobs in Maryland and the retention of a further 374.5 jobs. The current fair market value of those investments is \$59.3 million. TEDCO also directly invests a portion of the MVF money. In fiscal 2017, the MVF directly invested \$3.9 million into five businesses, leading to the creation of 18 new jobs and the retention of 157 jobs in the State. **Exhibit 5** shows the total investment by funding source.

Exhibit 5
Maryland Venture Fund Total Investments
Fiscal 2013-2017
(\$ in Thousands)

	<u>Total Investments</u>
InvestMaryland (State Portion)	\$16,079
Enterprise Fund	10,166
SSBCI (Federal Funds)	11,075
Total	\$21,241

SSBCI: State Small Business Credit Initiative

Source: Maryland Technology Development Corporation

However, the investments and returns data for SSBCI and legacy programs was not broken out in the report; it was aggregated together with other venture fund investments. TEDCO provided the data upon request. **DLS recommends committee narrative clarifying that the annual report for the MVF include investment information for all of its investments that clearly show the fund source for each investment and when the investments were made.**

3. TEDCO Rebuilds Stem Cell Research Program

The Stem Cell Research Fund was established by Chapter 19 of 2006 to support stem cell research and development at Maryland research institutions or private companies. The Stem Cell Research Commission reviews applicant projects and makes recommendations to the TEDCO board about research grant awards. The research commission includes 15 members, as directed by statute, who include the Attorney General or designee, patient advocates, individuals with experience in biotechnology, scientists who work for the University System of Maryland and The Johns Hopkins University and do not engage in stem cell research, bioethicists, and individuals with expertise in biomedical ethics as it relates to religion. Several commission members work at institutions that are applying for funding. Therefore, the commission has adopted conflict of interest guidelines to help members avoid inappropriately influencing commission decisions.

The Stem Cell Research program – funded at \$8.2 million in general funds in fiscal 2019 – underwent a complete overhaul beginning in fiscal 2017. The first eight years of the program focused on supporting research with the awards provided across different categories, as shown in **Exhibit 6**. However, as the stem cell field evolved and the technology matured, TEDCO decided to rebuild the program from scratch. The corporation performed a strategic analysis and developed a program that focuses on company formation and moving technology from universities to the commercial market, with an ultimate goal of finding cures. The new program is divided into different stages of product development and is intended to provide funding through each step of the process.

Exhibit 6
TEDCO Stem Cell Program Grants Awarded
Fiscal 2012-2017

<u>New Program</u>	<u>2017</u>	<u>Prior Program</u>	<u>2012-2016 Average</u>
Discovery	11	Investigator Initiated	8.4
Validation	3	Exploratory	12.6
Clinical	2	Postdoctoral Fellowships	9.6
Commercialization	4	Pre-clinical	0.8
Fellowship	10		
Total	30		31.4

TEDCO: Maryland Technology Development Corporation

Source: Maryland Technology Development Corporation

- **Discovery:** Maximum award of \$345,000 over 24 months. Funding for research grants is designed to support investigators working on new and innovative hypotheses in the stem cell field.
- **Validation:** Maximum award of \$230,000 over 18 months. Funding is to foster commercialization of stem cell technologies through validation, market assessment, and creation of university startup companies in Maryland.
- **Commercialization:** Maximum award of \$300,000 over 12 months. Funding is to transition promising technologies from universities to the commercial sector for development into products and services for identified needs.
- **Clinical:** Maximum award of \$750,000 over 24 months and requires at least a one-to-one funding match. Funding is for companies to perform clinical trials.
- **Postdoctoral Fellowship:** Maximum award of \$130,000 over 24 months. Funding is to provide grants for postdoctoral fellows to conduct research involving human stem cells.

TEDCO indicates that early feedback on the new structure of the program is positive, and the corporation is pleased with early results. In the first eight years of the program, the corporation funded six stem cell companies. Since the reboot of the program in fiscal 2017, TEDCO has already funded six stem cell companies.

Operating Budget Recommended Actions

1. Adopt the following narrative:

Maryland Venture Fund Annual Report: The statutory requirements for the Maryland Venture Fund's (MVF) annual report are limited to information on the InvestMaryland Program. However, this encompasses only a portion of the funds housed within the MVF. The budget committees are concerned that the most complete information be available and transparent in order to make informed budgetary and policy decisions. The annual report should include complete investment; fair market value; and return on investment data on all funds housed within the MVF, including funds related to the InvestMaryland Program, the legacy Enterprise Fund, federal funds under the State Small Business Credit Initiative, and any other funds credited to the MVF. The report should provide a list of all investments from each of the funding sources available in the fund. The Maryland Technology Development Corporation (TEDCO) should collaborate with the Department of Legislative Services to ensure the format of the report meets the budget committees' request.

Information Request	Author	Due Date
Report on detailed investment information on the MVF	TEDCO	With the submission of the annual report each year

Updates

1. Major Grants

Committee narrative included in the 2008 JCR requested a complete listing of award recipients for all deals closed or projects approved in fiscal 2008. The corporation has continued to provide this information for subsequent years. **Exhibit 7** shows such awards for all of TEDCO's programs, including those funded with general, federal, or nonbudgeted funds. Some programs, such as the Stem Cell Research Program, award funds over multiple years, so funding levels do not necessarily match appropriation amounts.

Exhibit 7 Maryland Technology Development Corporation Award Recipients Fiscal 2017

	<u>Recipient</u>	<u>Award Amount</u>
Cyber Security Investment Fund	Untethered Labs, Inc.	\$100,000
	PerCredo Technology Solutions	100,000
	Network Alarm Corporation	100,000
	SecuLore Solutions LLC	100,000
	Machfu, Inc.	100,000
	Atomic Mole, LLC	100,000
	SecondWrite, LLC	100,000
		\$700,000
Incubator Assistance	UMBC Research Park Corporation, Inc.	\$28,000
	TowsonGlobal Incubator	10,000
	Bethesda Green Inc.	12,000
	Emerging Technology Center Inc.	17,000
	University of Baltimore	6,000
	Bowie Business Innovation Center	16,000
	Betamore Inc.	10,000
	BioHealth Innovation Inc.	10,000
	BioHealth Innovation Inc.	10,000
	Maryland Center for Entrepreneurship	10,000
	Launch Workplaces	5,000
	Energetics Technology Center Inc.	5,500
	UM Center for Environmental Science	10,000

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	<u>Recipient</u>	<u>Award Amount</u>
	Sinai Hospital of Baltimore, Inc.	9,900
	Frederick Innovative Technology Center, Inc.	12,000
		\$171,400
Life Science Investment Fund	Promaxo, Inc.	\$200,000
	SAJE Pharma	200,000
	Antidote Therapeutics	200,000
	Vixiar Medical	200,000
	xMD Diagnostics	200,000
	Rise Therapeutics LLC	200,000
		\$1,200,000
Maryland Innovation Initiative	Ashviattha Therapeutics	\$150,000
	CoapTech LLC	150,000
	Cyves LLC	149,857
	EduMD LLC	149,961
	Galen Robotics Inc.	150,000
	Glyscend Inc.	150,000
	Hazel Analytics	149,670
	Johns Hopkins University	2,349,706
	Lyse-It	150,000
	Morgan State University	115,000
	NanoDirect LLC	149,300
	NexGen Forensic Science	149,620
	North Amer Wave Engine	150,000
	Octava LLC	150,000
	Pataigin LLC	150,000
	PathOTrak, LLC	150,000
	Serenta Biotechnology	150,000
	Theraly Fibrosis	150,000
	University of Maryland, Baltimore Campus	510,000
	University of Maryland, College Park Campus	229,971
	University of Maryland Baltimore County	573,835
	VakSea Inc.	150,000
	WebbCurves LLC	150,000
		\$6,326,920

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	<u>Recipient</u>	<u>Award Amount</u>
Minority Business Pre-Seed Fund	Implicit Solutions	\$20,000
	Game ChangHer LLC	20,000
	KweliTV Inc.	20,000
		\$60,000
Rural Business Innovation Initiative	3 Notch Chemicals	\$5,510
	Barttron	12,500
	G3 Technologies	7,050
	Gavenlli	3,950
	GOEFER	3,750
	HBVtech	7,000
	Kingdomware	9,500
	Phycin	10,683
	Picklehead, LLC	4,957
	Plum Dragon	9,900
	RBI2 / ByteLion	2,900
	SentenceWheel	7,500
	Thor Long Board	4,858
	True Chesapeake	5,598
	TSC	7,500
	Xologies	7,416
		\$110,572
Stem Cell Research Fund	3Dnamics Inc.	\$300,000
	Hugo W. Moser Research Institute at Kennedy Krieger, Inc.	575,000
	Johns Hopkins University	3,653,013
	Lieber Institute for Brain Development	345,000
	Longeveron LLC	750,000
	MaxCyte, Inc.	300,000
	Propagenix Inc.	300,000
	Seraxis Inc.	298,960
	The Hussman Institute for Autism	343,845
	TissueGene, Inc.	750,000
	University of Maryland, Baltimore Campus	575,000
	University of Maryland, College Park Campus	260,000
		\$7,575,818

T50T01 – Maryland Technology Development Corporation

	<u>Recipient</u>	<u>Award Amount</u>
Technology Commercialization Fund	Subscribe Pro Inc.	\$100,000
	Fusiform Inc.	100,000
	Otomagnetics LLC	100,000
	Sprint R, LLC	100,000
	Lazy Corp	100,000
	GamersOnline Inc.	100,000
	Proscia Inc.	100,000
	ShipLync Inc.	100,000
	BurnAlong Inc.	100,000
	CourceArc	100,000
	MyQVO Inc.	100,000
	OcuFlow Inc.	100,000
	Visbyl, Inc.	100,000
	Beacon Tech Inc.	100,000
	GrekTek LLC	100,000
	AperioHealth Inc.	100,000
	Vista Research Group	100,000
	Blue Sources LLC	100,000
	Caoexist Superfood Company LLC	100,000
	TeamedOn International Inc.	100,000
	Arbit Inc.	100,000
	Knowledge Diffusion	100,000
	Linshom LLP	100,000
		\$2,200,000
Total		\$18,344,710

UM: University of Maryland

UMBC: University of Maryland Baltimore County

Source: Maryland Technology Development Corporation

Appendix 1
Current and Prior Year Budgets
Maryland Technology Development Corporation
(\$ in Thousands)

	<u>General Fund</u>	<u>Special Fund</u>	<u>Federal Fund</u>	<u>Reimb. Fund</u>	<u>Total</u>
Fiscal 2017					
Legislative Appropriation	\$19,467	\$7,345	\$0	\$0	\$26,812
Deficiency Appropriation	0	0	0	0	0
Cost Containment	0	0	0	0	0
Budget Amendments	0	0	0	0	0
Reversions and Cancellations	0	0	0	0	0
Actual Expenditures	\$19,467	\$7,345	\$0	\$0	\$26,812
Fiscal 2018					
Legislative Appropriation	\$19,474	\$7,348	\$0	\$0	\$26,822
Cost Containment	0	0	0	0	0
Budget Amendments	0	0	0	0	0
Working Appropriation	\$19,474	\$7,348	\$0	\$0	\$26,822

Note: The fiscal 2018 appropriation does not include deficiencies, targeted reversions, or across-the-board reductions. Numbers may not sum to total due to rounding.

Fiscal 2017

The fiscal 2017 legislative appropriation was unchanged.

Fiscal 2018

The fiscal 2018 working appropriation is unchanged from the legislative appropriation.

Appendix 2
Object/Fund Difference Report
Maryland Technology Development Corporation

<u>Object/Fund</u>	<u>FY 17 Actual</u>	<u>FY 18 Working Appropriation</u>	<u>FY 19 Allowance</u>	<u>FY 18 - FY 19 Amount Change</u>	<u>Percent Change</u>
Objects					
08 Contractual Services	\$ 12,093	\$ 15,141	\$ 13,440	-\$ 1,701	-11.2%
12 Grants, Subsidies, and Contributions	26,799,919	26,806,919	27,175,199	368,280	1.4%
Total Objects	\$ 26,812,012	\$ 26,822,060	\$ 27,188,639	\$ 366,579	1.4%
Funds					
01 General Fund	\$ 19,467,480	\$ 19,474,480	\$ 19,474,480	\$ 0	0%
03 Special Fund	7,344,532	7,347,580	7,714,159	366,579	5.0%
Total Funds	\$ 26,812,012	\$ 26,822,060	\$ 27,188,639	\$ 366,579	1.4%

Note: The fiscal 2018 appropriation does not include deficiencies, targeted reversions, or across-the-board reductions. The fiscal 2019 allowance does not include contingent reductions or cost-of-living adjustments.

Appendix 3
Fiscal Summary
Maryland Technology Development Corporation

<u>Program/Unit</u>	<u>FY 17 Actual</u>	<u>FY 18 Wrk Approp</u>	<u>FY 19 Allowance</u>	<u>Change</u>	<u>FY 18 - FY 19 % Change</u>
01 Technology Development, Transfer and Commercialization	\$ 4,674,480	\$ 4,574,480	\$ 4,574,480	\$ 0	0%
03 Maryland Stem Cell Research Fund	9,093,000	8,200,000	8,200,000	0	0%
04 Maryland Innovation Initiative	4,800,000	4,800,000	4,800,000	0	0%
05 Cybersecurity Investment Fund	900,000	900,000	900,000	0	0%
06 Enterprise Fund Administration	1,344,532	1,347,580	1,714,159	366,579	27.2%
07 Enterprise Investment Fund	6,000,000	6,000,000	6,000,000	0	0%
08 Second Stage Business Incubator	0	1,000,000	1,000,000	0	0%
Total Expenditures	\$ 26,812,012	\$ 26,822,060	\$ 27,188,639	\$ 366,579	1.4%
General Fund	\$ 19,467,480	\$ 19,474,480	\$ 19,474,480	\$ 0	0%
Special Fund	7,344,532	7,347,580	7,714,159	366,579	5.0%
Total Appropriations	\$ 26,812,012	\$ 26,822,060	\$ 27,188,639	\$ 366,579	1.4%

Note: The fiscal 2018 appropriation does not include deficiencies, targeted reversions, or across-the-board reductions. The fiscal 2019 allowance does not include contingent reductions or cost-of-living adjustments.