

# Emerging Technology Fund

## Quarterly Report to the Legislature

April 1, 2016 to June 30, 2016

### Summary

The Emerging Technology Fund (ETF) helps to grow technology and advanced manufacturing companies in Massachusetts. Numerous cutting-edge companies have used the ETF to locate or expand, providing jobs and strengthening the innovation economy. Forty-eight loans and guaranties totaling \$68.6 million have closed through June 30, 2016. Companies such as Acacia Communications, Inc. of Maynard, Aspen Aerogels, Inc. of Northborough, BioVex, Inc. of Woburn (acquired by Amgen), Blue Sky Biotech of Worcester, Celldex Therapeutics of Fall River, E-Ink Corporation of Cambridge, Hyaluron, Inc. of Burlington, MicroTest Labs, Inc. of Agawam, Persimmon Technologies Corporation of Wakefield, and Valeritas, Inc. of Shrewsbury have repaid their loans and are thriving in Massachusetts.

Through these financings, the ETF has leveraged private investment for companies while maintaining its ability to serve as an “evergreen fund,” one that provides non-conventional risk capital in the form of debt to development-stage emerging technology companies seeking to commercialize their products. In an effort to increase both employment and production, the Commonwealth passed legislation in 2010 that allowed MassDevelopment to add a working capital term loan financing product, which helps growing companies address staffing and other working capital needs. The new capability has been well-received and more companies are seeking this type of financing. Five term-working capital financings had closed as of June 30, 2016.

In March 2012, the Fund committed \$5 million to a new venture capital fund managed by MassVentures. This partnership allows the ETF to invest equity in earlier-stage companies while leveraging existing resources at MassVentures.

The Fund was last recapitalized in 2007, and in 2010 the Legislature transferred \$15 million to launch the Massachusetts Growth Capital Corporation. Since then, the Fund has taken various measures to ration capital. These measures, as well as early loan payoffs from successful portfolio companies, have stabilized the Fund’s liquidity position. The Fund has restored its maximum loan size to \$2.5 million and, in doing so, can support larger expansions. However,

the Fund continues to rely on loan repayments to capitalize new loans. The Fund may need recapitalization if new investments for business expansions and relocations outpace loan repayments.

### ETF Company of the Quarter



MassDevelopment provided a \$1,687,500 term loan from the Emerging Technology Fund to **T2 Biosystems, Inc.** (“T2 Bio”) in May of 2011. T2 Bio is a privately held company developing a next-generation medical diagnostic platform to change the field of medical diagnostic testing from use of large, specialized analyzers and labs managed by skilled technicians to a single low-cost universal platform easily used by health care professionals, such as doctors, nurses and lab technicians for rapid molecular and biochemical testing (*immunoassays*) at a clinical point of service. Proceeds from the loan were used to finance the purchase of equipment, tooling and beta units for its blood testing development projects and commercialization plan.

Since the time of receiving funding from the ETF, the company successfully conducted the closing of its initial public offering of 5,980,000 shares of its common stock at \$11.00 per share, which includes the exercise in full by the underwriters of their option to purchase up to 780,000 additional shares of common stock. The shares began trading on the NASDAQ Global Market under the ticker symbol “TTOO” on August 7, 2014.

In June of this year, the editors of the *MIT Technology Review* picked 50 companies that best combine innovative technology with an effective business model. Some of this year’s stars were large companies, like Amazon and Alphabet, that are using digital technologies to redefine industries. T2 Biosystems, Inc. was one of the 50 companies selected for development of a device used in detecting the pathogenic fungus *Candida*, an often deadly infection. The test is run in three to five hours, as opposed to two to six days, and today 16 hospitals use it.

## Background

Chapter 141 of the Acts of 2003 created the Emerging Technology Fund (ETF). The statute requires submission of this quarterly report to certain legislative committees. Established to leverage private investment and to recruit and retain technology-based and advanced manufacturing companies in the Commonwealth, the approximately \$35 million Fund provides loans and guarantees for the purchase, expansion, or improvement of real estate, equipment purchases, and working capital needs. The Fund was initially capitalized with \$24.75 million, recapitalized in September 2006 with \$10 million as a result of an economic stimulus bill passed by the Legislature, and then recapitalized again in November 2007 with an additional \$15 million. In November 2010, \$15 million was transferred from the Fund to capitalize the Massachusetts Growth Capital Corporation in accordance with signed legislation. As of June 30, 2016, the Fund had \$16 million available to make loan commitments with a pipeline of \$9.4 million of projects that are considering applying or are in the underwriting process.

The Fund is governed by an Advisory Committee that has adopted the following mission statement:

*The mission of the Emerging Technology Fund is to create jobs in Massachusetts by providing financing for facilities, equipment and working capital that leverages private financing to growing companies employing or commercializing emerging technologies.*

## ETF Activity Summary

As of June 30, 2016, the ETF had made loans and guaranties to 41 companies totaling \$68,647,115. Potential loans of another \$9.4 million were in the ETF pipeline as of June 30, 2016. Additionally, two loans totaling \$1,750,000 were approved by the MassDevelopment Board of Directors and proceeding to the closing process. While the Agency has closed 46 loans and guaranties, 17 of those loans have been paid off in full and are no longer in the portfolio. The Fund also received partial proceeds after liquidation of certain assets on loans provided to eight companies in the portfolio and charged-off \$5,775,098. Six of the companies involved have ceased to exist.

## Closed Loan Activity

### Loans Closed

Company	Loan Amount	Date Closed	Municipality	Industry
Atentiv Holdings, Inc. and Atentiv, LLC	\$3,000,000	3/4/16	Waltham	Education
Biomedical Research Models, Inc.	\$500,000 and \$200,000 (Guaranty)	11/17/10	Worcester	Contract Research (Biotechnology)
Biomedical Research Models, Inc. (Replacement Facilities)	\$500,000 and \$200,000 (Guaranty)	10/29/14	Worcester	Contract Research (Biotechnology)
Biomedical Research Models, Inc. (Replacement Facilities)	\$500,000 and \$500,000 (Guaranty)	12/29/15	Worcester	Contract Research (Biotechnology)
ConforMIS, Inc.	\$1,445,000	6/28/11	Burlington	Medical Device
Court Square Group, Inc.	\$500,000	3/28/12	Springfield	Software & IT
CryoXtract Instruments, LLC	\$800,000	5/15/12	Woburn	Medical Device
Dynamo Micropower	\$175,000	1/30/15	Somerville	Fuel Flexible Turbine Power Systems
Fusion Optix, Inc.	\$1,500,000	8/30/12	Woburn	CleanTech
Ginkgo Bioworks, Inc.	\$1,000,000	12/15/14	Boston	Biotech Engineering
InVivo Therapeutics	\$2,000,000	10/5/12	Cambridge	Medical Device
Middleton Aerospace Corporation	\$2,000,000	8/11/06	Haverhill	Military and Commercial Aircraft Component Manufacturer
N12 Technologies	\$2,500,000	12/12/14	Cambridge	Composite Materials
PowerHouse Dynamics, Inc.	\$1,000,000	3/30/12	Newton	CleanTech
Scencio Systems, Inc.	\$650,000	8/18/14	Boxborough	Telemedicine
Scenic Technology Corporation	\$2,500,000	1/26/12	Devens	eCommerce and Fulfillment Systems
T2 Biosystems, Inc.	\$1,687,500	5/9/11	Lexington	Medical Device
TeraDiode, Inc.	\$2,000,000	12/6/12	Wilmington	Industrial Lasers
Sub-Total	\$25,157,500			

## Loans Closed and Repaid in Full

Company	Loan Amount	Date Closed	Municipality	Industry
Acacia Communications, Inc. (paid off 5/14/15)	\$3,000,000	2/25/11	Maynard	Information Technology
Aspen Aerogels, Inc. (paid off 12/2/11)	\$1,500,000	1/12/05	Northborough	Advanced Materials
BioVex, Inc. (paid off 3/1/11)	\$2,500,000	6/29/06	Woburn	Biotechnology
Blue Sky BioTech, Inc. (paid off 7/9/07)	\$150,000	9/24/05	Worcester	Contract Research (Biotechnology)
Celldex Therapeutics, Inc. (formerly Avant) (paid off 3/30/11)	\$903,657	12/12/03	Fall River	Biopharmaceutical
Cytonome, Inc. (paid off 2/27/09)	\$600,000	6/30/05	Boston	Medical Devices
E-Ink Corporation (paid off 8/31/09)	\$1,000,000	5/15/07	Cambridge	Electronic Display
Hyaluron, Inc. (paid off 6/14/10)	\$1,000,000	12/19/05	Burlington	Contract Manufacturer (Biopharma)
Luminus Devices (paid off 8/22/13)	\$2,500,000	12/26/07	Billerica	Solid State Lighting
MicroTest, Inc. (paid off 7/31/12)	\$799,340 (Loan) \$367,500 (Mortgage Guaranty)	7/6/05	Agawam	Contract Manufacturer (Biopharma)
Nuvera Fuel Cells, Inc. (paid off 12/22/10)	\$2,500,000	1/31/07	Billerica	Hydrogen Fuel Cell Developer and Manufacturer
Persimmon Technologies Corporation (paid off 12/18/15)	\$1,500,000	10/1/13	Wakefield	Vacuum Robots
PoroGen Corporation (paid off 10/2/15)	\$1,000,000	4/1/13	Woburn	Industrial Filtration Systems
Premium Power Corporation (paid off 4/13/12)	\$2,500,000	5/28/09	North Reading	POS Battery Manufacturer
Qteros, Inc. (terminated by borrower 11/22/10)	\$2,000,000	10/29/09	Chicopee	Biofuel Developer
RenaMed Biologics, Inc. (paid off 12/29/06)	\$2,300,000	6/14/06	Westborough	Bioreplacement Therapies
Valeritas, Inc. (paid off 5/19/14)	\$2,500,000	1/12/07	Shrewsbury	Medical Device
Sub-Total	\$28,620,497			

## Loans Closed and Principal Partially Charged-Off

Company	Loan Amount	Date Closed	Municipality	Industry
Acusphere, Inc.	\$2,000,000 (\$1,522,133 charged-off 5/19/09)	8/16/04	Tewksbury	Specialty Pharmaceutical
Advanced MicroSensors, Inc.	\$2,000,000 (\$1,462,387 charged-off 3/31/14)	10/13/11	Shrewsbury	Electronics
Beacon Power Corporation	\$2,500,000 (\$898,333 charged-off 3/7/12)	6/30/08	Tyngsboro	Renewable Energy
ECI BioTech	\$630,000 (\$530,004 charged-off 1/31/16)	11/16/07	Worcester	Health Care Products
Konarka Technologies, Inc.	\$2,500,000 (\$344,417 charged-off 11/25/13)	2/11/09	New Bedford	Solar Power Consumer Product Manufacturer
Lilliputian Systems, Inc.	\$2,500,000 (\$298,507 charged-off 6/30/14)	11/13/09	Wilmington	Portable Fuel Cell Power Developer
Spherics, Inc.	\$2,500,000 (\$568,458 charged-off 11/19/08)	7/12/05	Mansfield	Pharmaceutical
WorkshopLive, LLC	\$239,118 (\$150,860 charged-off 6/30/12)	5/26/05	Pittsfield	Music Software and Technology
Sub-Total	\$14,869,118			
<b>Total</b>	<b>\$68,647,115</b>			

## Uncommitted Fund Balance

Between April 1, 2016 and June 30, 2016, the Fund received \$1,120,846 in loan repayments, interest income, and fees. Investment income for the period totaled \$29,482. Operating expenses were \$111,004 exclusive of loan loss provision. The uncommitted balance of the Fund on June 30, 2016 is \$16,059,057.

	As of 6/30/16
Beginning Fund Balance	\$ 24,750,000
Fund Recapitalization	10,000,000
Fund Recapitalization	15,000,000
<b>Total Funding</b>	<b>49,750,000</b>
<b>Cash Activity (accumulated):</b>	
Loan Disbursements*	(50,870,329)
Loan Principal Repayments	36,623,733
Operating Income	6,833,612
Operating Expenses	(4,426,216)
Transfer to MGCC	(15,000,000)
Investment Income	4,870,316
Non-operating Income	53,636
Accrued Expenses	732
Accrued Interest Income	(59,041)
Accounts Receivable	-
Prepaid Insurance	-
Unearned Insurance Premium	12,500
Deferred Income	1,665,761
Investment in Common Stock	89,860
Equity Investment	(3,292,050)
<b>Cash Balance</b>	<b>26,252,515</b>
<b>Less: Cash Commitments:</b>	
Reserved for Guarantees Closed	(961,642)
Undisbursed Loans	(5,773,866)
Committed Loans (not closed)	(1,750,000)
Available Committed Equity - MTDC	(1,707,950)
<b>Uncommitted Cash Balance:</b>	<b>16,059,057</b>
<b>Less:</b>	
Current Pipeline - potential new loans	(9,400,000)
<b>Projected Cash Balance (Deficit)</b>	<b>\$6,659,057</b>
* Total loan write-offs as of 6/30/16	\$5,775,098

## Financial and Technical Assistance

MassDevelopment assisted Acusphere, Inc., Celldex Therapeutics, Inc. (formerly Avant Immunotherapeutics, Inc.), and Cytonome, Inc. in finding suitable facilities in the Commonwealth. All loan applicants received assistance in structuring financing for their projects with MassDevelopment and other lenders.

## Geographic Distribution

As of June 30, 2016, loans and guaranties have been closed with companies in each of the Commonwealth's five geographic regions as follows:

Region	Closed Loans	# of Companies
North	\$ 11,500,000	5
South	\$ 5,903,657	3
Central	\$ 13,980,000	7
West	\$ 3,905,958	4
Greater Boston	\$ 33,357,500	22
<b>Total</b>	<b>\$ 68,647,115</b>	<b>41</b>

## Emerging Technology Fund Advisory Committee

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