

Emerging Technology Fund

Quarterly Report to the Legislature

April 1, 2018 to June 30, 2018

Summary

The Emerging Technology Fund (ETF) helps grow technology and advanced manufacturing companies in Massachusetts. Since its creation in 2003, the ETF has helped cutting-edge companies locate or expand in the Commonwealth, providing jobs and strengthening the innovation economy. Fifty-two loans and guarantees totaling \$76.4 million have closed through June 30, 2018. Fifteen companies have repaid their ETF loans and are thriving in Massachusetts, including 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, ConforMIS Inc. of Burlington, E-Ink Corporation of Cambridge, Hyaluron Inc. of Burlington, MicroTest Labs Inc. of Agawam, Persimmon Technologies Corporation of Wakefield, T2 Biosystems of Lexington, TeraDiode Inc. of Wilmington, and Valeritas Inc. of Shrewsbury.

Through these financings, the ETF has leveraged private investment for companies and maintained its ability to serve as an “evergreen fund,” providing unconventional 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 to the Fund, which helps growing companies address staffing and other working capital needs. The new capability has been well received, and seven term working capital financings closed as of June 30, 2018.

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

The ETF 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 can now support larger expansions. The ETF, however, continues to rely on loan repayments to capitalize new loans and may need recapitalization if new investments for business expansions and relocations outpace loan repayments.

ETF Company of the Quarter

On February 8, 2018, the Mass-Development Board of Directors approved a \$1.5 million term



working capital loan to MedMinder Systems Inc., a medication management company headquartered in Needham. MedMinder produces a complete medication adherence solution, designed for the elderly, which includes patent-protected automated pill dispensers and a full pharmacy service. The company plans to use the loan proceeds to assist in the hiring of 25 full-time employees, who will support the pharmacy service, marketing, and other operations.

The MedMinder pill dispenser helps ensure medication is taken at the correct time by providing a patient with real-time notifications and reminders, including flashing lights, auditory beeps, phone calls or text messages. If the patient does not take medications at the scheduled time, the dispenser then notifies the patient’s caregiver by phone call, text message or email. Additionally, the compartments within a MedMinder pill dispenser are scheduled to unlock and open at specific times of the day according to the patient’s individualized drug regimen, eliminating accidental double dosing and overdosing, as well as medication abuse. The MedMinder pharmacy reconciles and pre-organizes medications by dosage times, packages them into disposable cartridges that fit inside the MedMinder pill dispenser, and delivers them directly to a patient’s home. The MedMinder pharmacy currently has licenses in 45 states.

Founded in 2007, MedMinder Systems Inc. aims to empower seniors, individuals with disabilities, and the chronically ill to maintain their independence and avoid hospitalization or long-term care facilities. MedMinder’s analytics suite tracks patients’ behavior around taking medication and is readily integrated with clinical systems that allow predictive modeling, case management and accurate electronic medical records. Several large health care organizations have deployed the MedMinder solution, and subsequent studies have demonstrated a medication adherence rate of up to 95 percent, higher than the industry range of 50-60 percent.

Background

Chapter 141 of the Acts of 2003 created the 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 \$42 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, 2018, the Fund had \$22.7 million available to make loan commitments and a pipeline of \$35 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, 2018, the ETF made loans and guarantees to 45 companies totaling \$76,447,115. Potential loans of another \$28.7 million were in the ETF pipeline as of June 30, 2018. Additional loans totaling \$3,000,000 were approved by the Mass-Development Board of Directors and were in the closing process as of June 30, 2018. While the Agency has closed 52 loans and guarantees over the lifetime of the ETF, 28 of those 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
Amastan Technologies LLC	\$2,000,000	6/30/17	North Andover	Advanced Material Manufacturer
Biomedical Research Models Inc.	\$500,000 and \$200,000 (Guarantee)	11/17/10	Worcester	Contract Research (Biotechnology)
Biomedical Research Models Inc. (Replacement Facilities)	\$500,000 and \$200,000 (Guarantee)	10/29/14	Worcester	Contract Research (Biotechnology)
Biomedical Research Models Inc. (Replacement Facilities)	\$500,000 and \$500,000 (Guarantee)	12/29/15	Worcester	Contract Research (Biotechnology)
Fusion Optix Inc.	\$1,500,000	8/30/12	Woburn	CleanTech
InVivo Therapeutics	\$2,000,000	10/5/12	Cambridge	Medical Device
Lexington Medical Inc.	\$2,500,000	2/22/17	Billerica	Medical Device
MedMinder Systems, Inc.	\$1,500,000	5/11/18	Needham	Medical Device
N12 Technologies	\$2,500,000	12/12/14	Cambridge	Composite Materials
Quiet Logistics Inc.	\$2,500,000	1/26/12	Devens	eCommerce and Fulfillment Systems
Scencio Systems Inc.	\$650,000	8/18/14	Boxborough	Telemedicine
Vyasa Analytics, LLC	\$1,800,000	6/27/18	Newburyport	Software
Sub-Total	\$19,350,000			

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
Atentiv Holdings Inc. and Atentiv LLC (terminated by borrower 6/17/17)	\$3,000,000	3/4/16	Waltham	Medical Device
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
ConforMIS Inc. (paid off 12/23/16)	\$1,445,000	6/28/11	Burlington	Medical Device
Court Square Group Inc. (paid off 9/30/16)	\$500,000	3/28/12	Springfield	Software & IT
CryoXtract Instruments LLC (paid off 4/21/17)	\$800,000	5/15/12	Woburn	Medical Device
Cytonome Inc. (paid off 2/27/09)	\$600,000	6/30/05	Boston	Medical Devices
Dynamo Micropower (paid off 5/12/16)	\$175,000	1/30/15	Somerville	Fuel Flexible Turbine Power Systems
E-Ink Corporation (paid off 8/31/09)	\$1,000,000	5/15/07	Cambridge	Electronic Display
Ginkgo Bioworks Inc. (paid off 10/5/16)	\$1,000,000	12/15/14	Boston	Biotech Engineering
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 Guarantee)	7/6/05	Agawam	Contract Manufacturer (Biopharma)
Middleton Aerospace Corporation (paid off 8/31/16)	\$2,000,000	8/11/06	Haverhill	Military and Commercial Aircraft Component Manufacturer
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
PowerHouse Dynamics Inc. (paid off 3/1/18)	\$1,000,000	3/30/12	Newton	CleanTech
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
T2 Biosystems Inc. (paid off 12/30/16)	\$1,687,500	5/9/11	Lexington	Medical Device
TeraDiode Inc. (paid off 3/7/17)	\$2,000,000	12/6/12	Wilmington	Industrial Lasers
Valeritas Inc. (paid off 5/19/14)	\$2,500,000	1/12/07	Shrewsbury	Medical Device
Sub-Total	\$42,227,997			

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			
Total	\$76,447,115			

Uncommitted Fund Balance

Between April 1, 2018 and June 30, 2018, the ETF received \$950,069 in loan repayments, interest income, and fees. Investment income for the period totaled \$112,021 and other income totaled \$63,313. Operating expenses were \$133,617 exclusive of loan loss provision. The uncommitted balance of the Fund on June 30, 2018 is \$22,651,701.

As of 6/30/18

Beginning Fund Balance	\$ 24,750,000
Fund Recapitalization	10,000,000
Fund Recapitalization	15,000,000
Total Funding	49,750,000

Cash Activity (accumulated):

Loan Disbursements*	(53,322,559)
Loan Principal Repayments	43,270,550
Operating Income	9,198,551
Operating Expenses	(5,376,979)
Transfer to MGCC	(15,000,000)
Investment Income	4,656,664
Non-operating Income	5,416,485
Accrued Expenses	800
Accrued Interest Income	(41,953)
Prepaid Insurance	(2,350)
Unearned Insurance Premium	7,398
Deferred Income	172,579
Investment in Common Stock	(698,040)
Equity Investment - Contributions	(3,915,672)
Cash Balance	34,115,475

Less: Cash Commitments:

Reserved for Guarantees Closed	(550,188)
Undisbursed Loans	(6,829,258)
Committed Loans (not closed)	(3,000,000)
Available Committed Equity - MTDC	(1,084,328)
Uncommitted Cash Balance:	22,651,701

Less:

Current Pipeline - potential new loans	(35,050,000)
Pipeline Exceeding Available Cash	\$12,398,299

* Total loan write-offs as of 6/30/18 \$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, 2018, the ETF has closed loans and guarantees with companies in each of the Commonwealth's five geographic regions as follows:

Region	Closed Loans	# of Companies
North	\$ 17,800,000	8
South	\$ 5,903,657	3
Central	\$ 13,980,000	7
West	\$ 3,905,958	4
Greater Boston	\$ 34,857,500	23
Total	\$ 76,447,115	45

Emerging Technology Fund Advisory Committee

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