MASSACHUSETTS LIFE SCIENCES CENTER

Fiscal Year 2016 Annual Report

Table of Contents

A Fully Integrated Life Sciences Ecosystem ii
The Bottom Line iii

Tax Incentive Fund & Business Development

Job Creation Tax Incentive Program 2
FY16 Business Development Updates 5

Capital Fund Update & Workforce Development

Investing in Infrastructure 7
STEM Equipment and Supplies Grant Program 8
Additional STEM Grants Update 9
Internship Challenge 11

Investment Fund Update, Next Steps, & The Way Forward

Funding the Companies of Tomorrow 14
Staying Connected 18
Next Steps 19
The Way Forward 21

Appendices

Capital Investment Awards (from Inception through June 30, 2016) 23
2015-2016 Internship Challenge Host Companies 25
Certified Active Life Sciences Companies (as of June 30, 2016) 28
MLSC Board of Directors (as of June 30, 2016) 30
MLSC Scientific Advisory Board (as of June 30, 2016) 31
MLSC Staff 32

A Fully Integrated Life Sciences Ecosystem

As the new President & CEO of the Massachusetts Life Sciences Center, I have joined the organization at an exciting time, for the MLSC, the industry and the Commonwealth. As our agency has matured from a start-up operation to a permanent and central part of our state's economic development infrastructure, Massachusetts has also matured into an integrated life sciences ecosystem, the best place in the world for life sciences companies to develop new technologies and therapies for patients, from discovery, right through to manufacturing and commercialization. Companies from all over the world are coming to the same conclusion: that Massachusetts is where they can find the talent, investors, partners in industry and academia, a supportive state government and other resources that they need to be successful.

Massachusetts has achieved critical mass and then some – seventeen of the world's top twenty biopharma companies, and all ten of the world's leading medical device and diagnostics firms, now maintain a physical presence in Massachusetts. We continue to actively recruit new arrivals, while encouraging and incentivizing our home-grown companies to grow locally. And we continue to invest strategically, in both the current needs of our industry, and in the assets that we will need in the future. In this annual report you will find a summary of our activities over this past year to drive continued growth and to further strengthen our unparalleled life sciences ecosystem.

We count ourselves at the Center as very fortunate to experience firsthand how that ecosystem is driving the Massachusetts economy, contributing to improving patient outcomes and reshaping the human experience through scientific discovery. We meet with and learn from business and scientific leaders, local and civic leaders, educators and academicians, employees and students from across the Commonwealth with one goal in mind: supporting the growth and development of our life sciences industry, the pre-eminent life sciences sector in the world.

Much has been accomplished, but there is much more work to do, and important questions to answer. What can we do to address the unmet needs in Alzheimer's care, one of the leading causes of death in the United States for which there is no available cure? What can we do to address the opioid epidemic ravaging not just our state, but the nation, through non-opioid alternatives for pain management? What programs and resources are needed to encourage the continued growth of life sciences manufacturing in our state? And as policymakers begin the discussion of "Life Sciences 2.0", what resources and programs need to be put in place to build on the progress we've made through the 2008 Massachusetts Life Sciences Initiative?

We appreciate the ongoing strong support we are receiving in this work from the Baker Administration, the State Legislature, and our partners in industry and academia. I know that together, we can continue to make Massachusetts the completely integrated ecosystem it needs to be for our life sciences sectors to thrive, and for unmet patient needs to be addressed, both here in Massachusetts and throughout the world.

The Bottom Line

As of June 30, 2016, the MLSC managed a portfolio of more than 600 grants and loans. Since its creation, the agency has invested or committed more than $600 million, which has generated more than $2.3 billion in additional investment in the Commonwealth. This has created a portfolio of more than $2.9 billion in public-private investments in the state's life sciences ecosystem.

The MLSC's investment portfolio continued to grow in FY16 while, under new leadership, the agency has been evaluating the effectiveness of past programs, and innovating new investment programs and initiatives to address current opportunities in the marketplace.

FY16 investment commitment highlights include:

- Tax incentive awards totaling more than $20 million to 28 companies that committed to create more than 1,300 new jobs by the end of the 2016 calendar year.
- $3.7 million (an increase of $700,000 over the FY15 commitment) to support the placement of more than 400 interns at more than 200 companies across the state.
- $930,000 to support research and development collaborations between Massachusetts companies and international research partners.
- $1.5 million awarded to support early-stage company development through the Accelerator Loan Program.
- $100,000 for the development of the Life Sciences High School Apprenticeship Challenge promoting hands-on STEM training for high school students.

Tax Incentive Fund & Business Development

Job Creation Tax Incentive Program

The Life Sciences Initiative authorizes up to $25 million in tax incentives each year for companies engaged in life sciences research and development, commercialization, and manufacturing. Through this year's program the MLSC focused on achieving two goals: increasing the geographic diversity of life sciences investments within Massachusetts, and targeting small and medium-sized life sciences companies. Toward that end, the agency actively encouraged applications from companies of all sizes located outside of Greater Boston.

A total of 42 companies applied for tax incentives over the past year, and the MLSC awarded over $20 million to 28 awardees (see below). The companies receiving tax incentive awards committed to the creation of 1395 new jobs in the Commonwealth. Companies receiving incentives must commit to the creation of a specific number of net new jobs during a specified calendar year and also to the retention of those jobs for a five-year period.

FY16 Tax Incentive Awardees

Company	Location	Incentive Amount	Jobs
908 Devices Inc.	Boston	$165,000	11
AbbVie Inc.	Worcester	$525,000	35
Abiomed, Inc.	Danvers	$1,050,000	70
Alnylam Pharmaceuticals, Inc.	Cambridge	$2,250,000	150
Amgen Inc.	Cambridge	$780,000	52
Baxalta US, Inc.	Cambridge	$1,320,000	66
Charles River Laboratories, Inc.	Wilmington	$1,200,000	80
Emulate, Inc.	Boston	$318,090	30
Enanta Pharmaceuticals, Inc.	Watertown	$360,000	24
Ginkgo Bioworks, Inc.	Boston	$483,377	50
Juno Therapeutics, Inc.	Waltham	$165,000	11
LFB USA, Inc.	Framingham	$720,000	48
Masy Systems, Inc.	Pepperell	$150,000	10
Merrimack Pharmaceuticals, Inc.	Cambridge	$225,000	15
Moderna Therapeutics, Inc.	Cambridge	$1,875,000	125
Nitto Denko Avecia Inc.	Milford	$450,000	30
Nova Biomedical Corporation	Waltham	$750,000	50
Pharmalucence, Inc.	Billerica	$150,000	10
Quanterix Corporation	Lexington	$225,000	15
Radius Health, Inc.	Waltham	$525,000	35
Sarepta Therapeutics, Inc.	Cambridge	$750,000	50
Seres Therapeutics, Inc.	Cambridge	$945,000	63
Shire Human Genetic Therapies, Inc.	Lexington	$3,235,000	220*
Siemens Healthcare Diagnostics, Inc.	Walpole	$735,000	30
SQZ Biotechnologies Company	Boston	$129,784	20
STC Biologics, Inc.	Cambridge	$150,000	10
Takeda Pharmaceuticals America, Inc.	Cambridge	$1,125,000	75
Web Industries Boston, Inc.	Holliston	$150,000	10

*Shire was awarded $985,000 in early FY16 as a result of its commitment to add 70 new jobs in the 2015 calendar year

The MLSC carefully monitors the performance of companies that have received tax incentives to ensure compliance with the headcount commitments they are required to reach per their agreement with the Center. As part of the MLSC's agreements with awardees, recipients of tax incentives are required to report job creation results to the Center by the end of the calendar year. Under the Life Sciences Act, the Department of Revenue has the authority to recover or "claw back" incentives from companies that the MLSC determines will not meet the minimum job creation threshold in their tax incentive agreement.

Summary of the Tax Incentive Program from Inception to June 30, 2016

Program Year	Number of Awards Provided	Dollar Amount of Awards Provided	Number of Active Awards as of June 30, 2016	Dollar Amount of Active Awards as of June 30, 2016
2011	26	$20,340,884	18	$12,208,937
2012	24	$22,992,583	20	$18,920,583
2013	32	$24,498,182	25	$15,219,328
2014	12	$20,000,000*	10	$17,660,000
2015	28	$19,921,251	27	$19,696,251
Total Active	**122**	**$107,752,900**	**100**	**$83,705,099**

Program Year	Number of Awards Provided	Dollar Amount of Awards Provided	Number of Completed Awards as of June 30, 2016	Dollar Amount of completed Awards as of June 30, 2016
2009 Completed	26	$24,420,000	10	$13,049,260
2010 Completed	24	$24,390,292*	12	$17,166,186
Total Completed	**50**	**$48,810,292**	**22**	**$30,215,446**
Total	**172**	**$156,563,192**	**122**	**$113,920,545**

*Shire HGT, Inc., of Lexington received additional tax incentives of $3.5 million for the 2010 program and $985,000 for the 2014 program under an existing tax commitment by the Commonwealth.

- Some awardees have declined their awards due to changes in their business or general economic conditions.
- Some awardees have also determined that they were unlikely to reach their job creation commitment under the statutory guidelines and opted to voluntarily terminate their agreements, either by foregoing taking the tax benefits at all or by returning the benefits to the Commonwealth if they had already received them.
- Since inception, the MLSC has decertified two awardees for not achieving the statutory thresholds. A total of 26 active companies have received two or more active awards, illustrating their continued commitment to growing their headcount in the Commonwealth.
- As of December 31, 2015, awardees from the 2009 through 2014 programs had hired and maintained 7,779 employees, representing a 173% percent attainment of their commitments.
- As of June 30, 2016, there were 100 active awards from the 2011 through 2015 program years, with a combined 4,466 commitment of fulfilling or maintaining new hires under the program.
- The awardees from the 2009 and 2010 programs completed their 5 year term on December 31, 2014 and December 31, 2015 respectively and no future reporting is required.
- The awardees from the 2011 program will complete their 5 year term on December 31, 2016. The results of these awards will be reported to the MLSC in January 2017.
- As of June 30, 2016, the Tax Incentive Program has resulted in combined net new hire commitments or actual new hires of 5,408 jobs among active and completed awards.

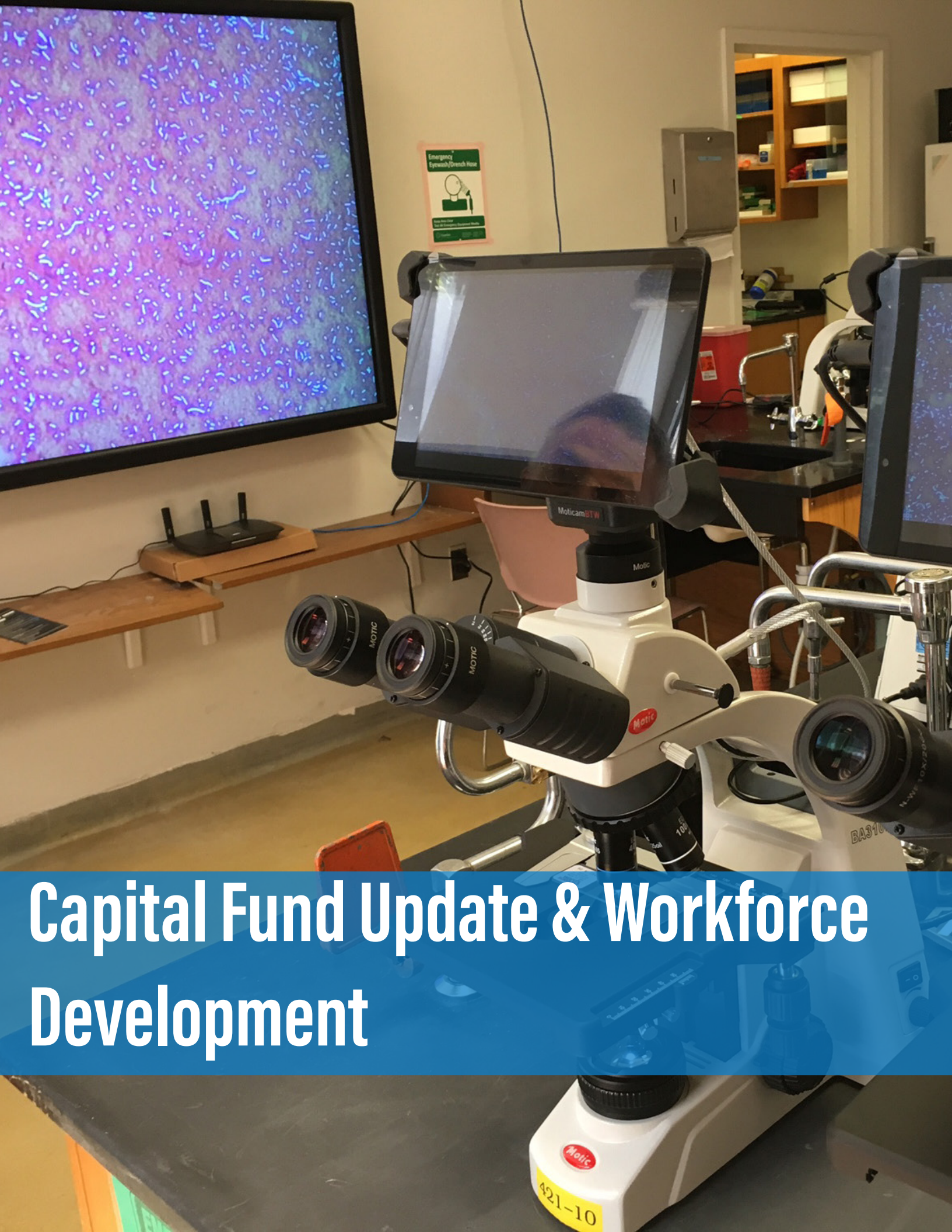
Emulate, Inc. opened its new headquarters and laboratories in Boston's Seaport District in February, 2016. The new facility is a workplace for the company's 40 employees, with plans for expansion to 85 employees within the coming year. The 20,000 square-foot expanded headquarters provides state-of-the-art laboratories and facilities to support commercial activities, product development, and collaborative research programs for the company's Organs-on-Chips technology.

Based on the commitment to create 30 net new jobs in Massachusetts this calendar year, the Center approved Emulate's first tax incentives totaling $318,090 to support the company's growth.

FY16 BUSINESS DEVELOPMENT UPDATES

FY16 saw the continued arrival of numerous domestic and international companies to the Massachusetts life sciences community. Many existing companies also announced expansions of their current operations in Massachusetts. Below is a rundown of some of these companies and their announcements.

- In June 2016, Pfizer broke ground on a new clinical manufacturing facility in Andover. Pfizer will invest more than $200 million in the development of the 175,000 sq. ft. state-of-the-art facility. When complete, the facility will provide 75 new permanent manufacturing jobs.
- Siemens Healthcare Diagnostics announced plans for expansion of its manufacturing plant in Walpole. The $300 million dollar expansion will provide a minimum of 400 jobs in a facility of over 700,000 sq. ft.
- Eurofins Lancaster Labs **(Worldwide)** opened its Northeast office in the Cambridge Innovation Center.
- Zumutor **(India)** announced plans to establish the company's first full-time U.S. operations in the Boston area. The new offices, located at 100 Trade Center in Woburn and 303 Wyman Street, Waltham, will house the company's global headquarters and business development activities.
- Biose **(France)** opened its first US office in the Cambridge Innovation Center.
- Brammer Bio announced plans to build-out a 50,000 sq. ft. facility in Lexington dedicated to late phase development of viral vector-based and cell-based advanced therapies. The facility will house 50 new jobs and be qualified and operational by Q2 of 2017.
- Anagenesis Biotherapies **(France)** opened its first U.S. office at the Cambridge Innovation Center.
- CeQur expanded its Marlborough location to 25,000 sq. ft., and plans to increase its workforce from 50 employees to 150 over the next 24 months.
- Affera, Inc. announced its move to a larger facility and is actively hiring to fill its new 5,395 sq. ft. facility in Watertown.
- Biognosys **(Switzerland)** announced plans to open its first North American location in the Greater Boston area.
- In March 2016, Bayer **(Worldwide)** announced its plans to open a new life sciences center in Cambridge. This East Coast Innovation Center will help the German drugmaker further develop its R&D presence in the area and build on existing relationships with the Broad Institute of MIT and Harvard.
- Bristol-Myers Squibb celebrated the expansion of its Devens manufacturing facility. The expansion added 200,000 sq. ft., with 350 new jobs coming to that location.
- GE Healthcare held the opening for its new North American headquarters in Marlborough, which will house 200 new jobs in 210,000 sq. ft. of space.
- Simcere Pharma **(China)** expanded to Cambridge, its second location in North America.
- Valirix Plc **(United Kingdom)** opened its first North American office in Kendall Square.
- Vantix Diagnostics announced the relocation of its US headquarters from New Hampshire to the University of Massachusetts Lowell Innovation Hub.
- Jana Care **(India)** announced the establishment of its first US office based out of the Business Innovation Center at Boston University.
- Cyclica **(Canada)** announced the establishment of its US office at the Cambridge Innovation Center.
- Selvita **(Poland)** established its North American headquarters in Cambridge.
- Applied Photophysics **(United Kingdom)** located its North American operations at the Cummings Center in Beverly.
- Fiore Healthcare Advisors **(New Jersey)** opened a local office in Cambridge.
- Unum Therapeutics announced the move of its company headquarters into new, 33,000 sq. ft. office and laboratory facilities in Cambridge. This expansion came just one year after the company's launch at LabCentral in Kendall Square.



Capital Fund Update & Workforce Development

Investing in Infrastructure

The MLSC's investments in infrastructure are funded through its Capital Fund. Half of the resources committed to the Life Sciences Initiative ($500 million) are dedicated to capital infrastructure projects.

The MLSC uses its Capital Fund to strategically invest in four key areas:

- Infrastructure investments to accelerate innovation
- Programs designed to train the next generation of life sciences talent
- Working spaces for early stage companies
- Municipal infrastructure to support life sciences growth

Investments in these areas have been awarded on a competitive basis to research hospitals, non-profit organizations, universities, and small business incubators in every region of the Commonwealth.

To date, MLSC infrastructure investments have contributed or will contribute to the creation of more than 1.6 million square feet of new life sciences research and manufacturing space across the Commonwealth, while creating more than 4,800 jobs in the building trades and in the life sciences.

In FY16, the MLSC saw the completion of funding for 11 projects representing more than $22.9 million in investments. The total number of projects where MLSC funding is complete is now 34, representing $213 million in investments. A new round of the Competitive Capital Program was launched in May 2016, and applications are currently under review.

Regis College Contributes to Job Readiness

FY16 saw the culmination of a $355,000 Capital Fund investment as Regis College opened its newly renovated science laboratory. The college, which serves a diverse population of students, many the first in their families to attend college, invested in state-of-the-art scientific equipment to support biology and biochemistry studies, including a Vertical Laminar Flow Hood, a minus-86 degree freezer, an inverted phase contrast microscope, a glass still for purified water, centrifuges, and a Countess II cell counter – all of which will advance student tissue culture training and research. Regis was awarded the funds in 2015 to strengthen the science learning opportunities on campus and foster regional partnerships.

"We are focused on accelerating STEM learning to help more students fully participate in today's innovation economy. We are very appreciative to Travis McCready and the Massachusetts Life Sciences Center for their tremendous support."

- Antoinette M. Hays, PhD, RN., President of Regis College

STEM Equipment & Supplies Grant Program

The STEM (Science, Technology, Engineering and Math) Equipment and Supplies Grant Program enables the purchase of equipment and supplies for high schools and middle schools in the Commonwealth in order to train students for life sciences careers. Consistent with the goals of the Massachusetts STEM Plan, the program seeks to increase student achievement and student interest in STEM fields, as well as supporting the implementation of the state's STEM standards.

Vocational technical high schools, public high schools and middle schools located in Gateway Cities, and public high schools and middle schools with a student population of at least 25% designated by the Massachusetts Department of Elementary and Secondary Education as "economically disadvantaged," are eligible to apply for up to $100,000 in grant funding. Applicants seeking funding of greater than $100,000 (but no more than $250,000) are required to secure matching funds, in cash or as an in-kind donation, for any amount over $100,000 from an industry partner. To date, the program has awarded over $13 million to more than 100 different schools throughout Massachusetts and leveraged more than $1 million in matching funds from industry partners.

By focusing on underserved and low-income communities, the MLSC is working to increase the diversity of students who are trained and prepared to positively impact the state's future life sciences workforce.

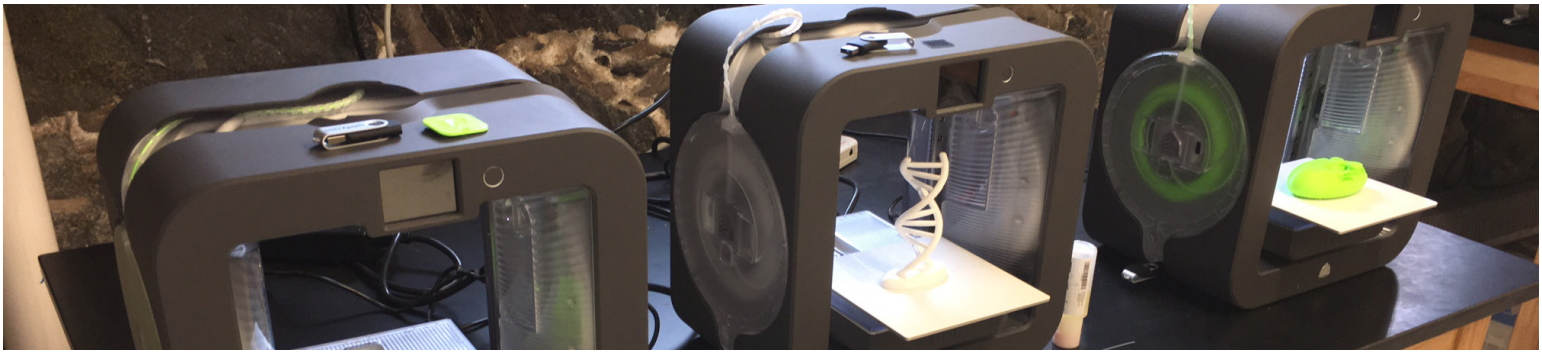
In FY16, 44 grant recipients representing 77 schools received funding for equipment and supplies purchases totaling more than $3.7 million. In May 2016, the MLSC announced a new solicitation for FY17 funding. Next year's program will offer funding for teacher professional development to ensure that all recipient schools have teachers that are trained to use the equipment and have access to relevant curricula to support learning goals throughout the academic year.

Lowell High School Life Sciences Maker Space

The Lowell High School (LHS) Life Sciences Maker Space, funded through a $100,000 grant from the Center that was awarded in FY15, opened in May 2016, and is outfitted with high powered microscopes, life sciences lab supplies, computers with technical computing software, 3-D printers, and more.

Starting next year, each Lowell High School Freshman will spend at least one week of their biology period per year at the Maker Space, making their life sciences learning hands-on and authentic. Unlike other Maker Spaces throughout the country, LHS Life Sciences Maker Space is a rare one that focuses specifically on life sciences. The Maker Space, operated in part by UMass Lowell, complements the M2D2 Life Science Entrepreneurship high-school course where students pitch medical-device ideas for the university's DifferenceMaker Idea Challenge.

The LHS Maker Space has offered each student a change of pace from the regular classroom. It has provided students a space for inspiration, design and collaborative thinking. Through the LHS Maker Space, students and teachers have had the chance to explore new technology together and developed many project ideas for the future.



Additional STEM Grants Update

High School Apprenticeship Program

In FY16, the Life Sciences High School Apprenticeship Challenge training program was launched and funded through a $100,000 investment from the Massachusetts Life Sciences Center. The goal of the program is to train local, underserved high school students interested in life science and biotech careers, so they can be solid contributors at the laboratory bench. The training, led by BioBuilder and hosted by MIT, taught 27 students from diverse backgrounds laboratory and professional skills that will prepare them for internship opportunities and eventual careers with local life sciences companies and research institutions.

The eight-week training program received generous support from Cold Spring Harbor Laboratory Press, which donated $3,000 worth of lab books, and MIT's Department of Biological Engineering, which provided lab and classroom space for the students.

The program graduated the first class of students on May 19, 2016. A number of the graduates were then placed in paid summer internships at institutions such as Massachusetts General Hospital and Cambridge-based life sciences companies such as AB Biosciences and Abcam. Intern stipends of up to $2,880 (based on $12/per hour for six weeks) will be reimbursed by the MLSC.

With the launch of this program, the MLSC now supports a pipeline of workforce training that spans from middle school through graduate school.

"I learned a lot of biology that I didn't learn in high school, and developed better laboratory skills. I think the most important thing I learned is how to communicate with people that I have never met before to make a scientific poster with them."

Jefferson Lopez-Garcia of Boston, a graduate of the program

In FY16 Talbot Middle School in Fall River, last year's winner of the MLSC Space Station STEM Challenge, got a visit from the team at the Center for the Advancement of Science in Space (CASIS) and astronaut Fred Gregory. The visit helped progress the students' International Space Station (ISS) bound project on the development of tadpoles in UV-B light found in space. Students further prepped their NanoLab, which will house the experiment on the way to, and on, the ISS. Afterwards, students listened to Mr. Gregory describe what space-based research can offer us now and in the future.

Training the Next Generation

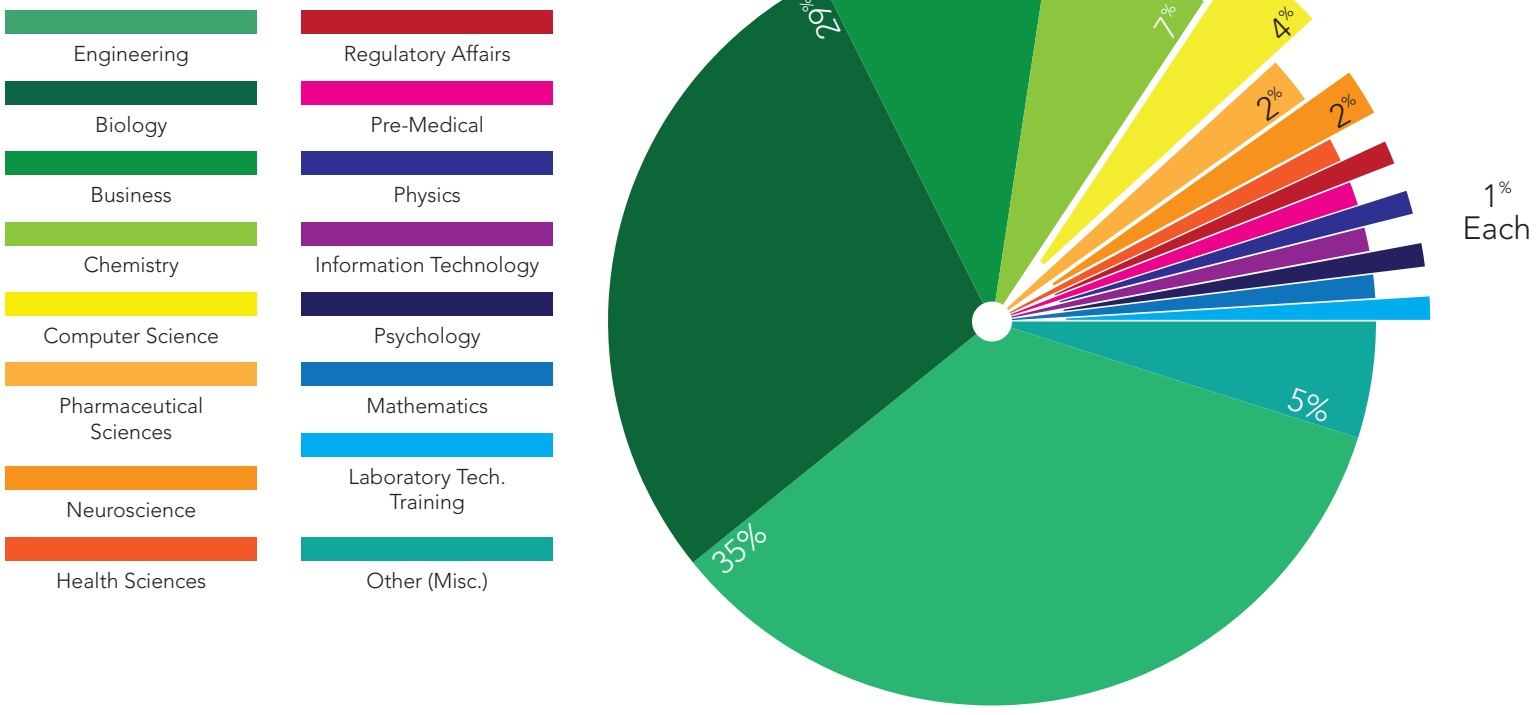
The Internship Challenge has continued to be the MLSC's flagship workforce development program. The year-round program is designed to expand the pool of prospective employees who have practical experience, enhance opportunities for mentoring, enable more students to explore career opportunities, and expose students to entrepreneurship. To date, the program has created more than 2,600 paid internship opportunities at over 560 life sciences companies throughout the Commonwealth. Interns have represented nearly 190 different colleges and universities.

The Internship Challenge focuses on enhancing the talent pipeline for life sciences companies while providing students and recent graduates with practical, "hands-on" experience that prepares them to step into the workforce ready to meet the job requirements of life sciences employers. The program subsidizes paid internships for undergraduate sophomores, juniors and seniors, community college students, Masters students; and recent college graduates.

In FY16 the MLSC updated its online interface used to connect host companies with student candidates. This update provides an easier and more accessible process for students to complete an online application and for host companies to review applications to match students' skills with their needs.

As in past years, host companies could hire up to two interns per year, but had the option to hire an additional two interns that are enrolled in a community college. At the conclusion of the internship, the MLSC reimburses companies for intern stipends of up to $8,160, up from $7,200 in past years, due to a $700,000 increase in funding. This allows for 12 weeks of full-time work at the maximum reimbursable pay rate of $17 per hour, increased from $15 per hour that was offered in previous years.

Internship Challenge Participants by Major



"I learned more than I have in any semester at Brown."

Jackie Alois, of Andover, Massachusetts, will be a senior at Brown University this fall. This past summer she was awarded an internship at Bach Pharma in North Andover.

"My critical thinking skills were exponentially sharpened. I had to research and understand all that Bach Pharma's drug has proved in various animal models and create evidence for how the drug can slow the progression of this devastating disease. I learned how to intertwine these pieces of information to tell a story and convey a powerful message. "

"In this time I have gotten a crash course on the biology of ALS, as well as the steps needed to advance Bach Pharma's lead candidate into patients who have ALS. I learned more than I have in any semester at Brown. I attribute all of the knowledge that I have gained to the Internship Challenge. I am not sure where I will end up in the next year after college, but Bach Pharma has given me the tools necessary to succeed in any endeavor that I may take on."

Internship Challenge Impact Across Massachusetts

The Internship Challenge serves as a human-capital subsidy program for small and early-stage companies. Because participating interns work in smaller companies, they also receive exposure to a dynamic entrepreneurial environment. Students from more than 280 (nearly 80%) of the 351 cities and towns in Massachusetts have benefitted from the Internship Challenge Program, while companies from over 120 cities and towns have brought on interns through this program.

"Working for a start-up right out of college was an absolute game-changer for me; not only did I have a great deal of responsibility in a newly established lab, but was also able to play a role in the early stages of the company. I am now an Associate R&D Engineer at Access Vascular, and am grateful for the strong foundation that my internship gave me for a career with Access Vascular and for future endeavors in the life sciences field."

- Felicity Meyer, Associate R&D Engineer, Access Vascular

Investment Fund Update, Next Steps, & The Way Forward

Funding the Companies of Tomorrow

In FY16, the MLSC continued its commitment to entrepreneurship and the pipeline of new life sciences companies in Massachusetts by selecting two early-stage companies for Accelerator Loans totaling $1.5 million. From the Accelerator Loan Program's inception through the end of FY16, the MLSC has funded or committed to lend a total of $23.1 million in Accelerator Loans to 33 early-stage companies. To date, Accelerator companies have raised more than $250 million in funding and acquisition proceeds subsequent to receiving a loan from the MLSC.

During FY16, the MLSC administered the twelfth round of the Accelerator Loan Program, receiving a total of 21 applications, 18 of which were eligible for review by experts selected from among the MLSC's 200-plus volunteer peer reviewers. The MLSC's peer reviewers recommended 13 of these applicants for review by the MLSC's Scientific Advisory Board (SAB). Three companies were then recommended by the SAB for due diligence and review by the Investment Subcommittee of the MLSC's Board of Directors. Two of these companies were approved for a loan by the full Board of Directors.

Accelerator loans have provided working capital to early-stage life sciences companies at a critical stage in their development. This program seeks to de-risk companies for future – usually private – investment by funding the steps necessary to achieve critical milestones. Some of these companies may hold the promise of developing cures for the rarest diseases, while others will be acquired by large companies that are increasingly dependent on external innovation for growth. Massachusetts' robust culture of new idea generation remains a key driver in attracting early-stage companies to set up operations here. Leading companies in life sciences are also drawn to expand in Massachusetts to gain access to key advances that are taking place here.

Accelerator Loans awarded in FY 2016

First Light Biosciences, Inc. in Bedford was awarded $750,000. First Light develops rapid tests to detect all types of hospital infections and identifies infectious agents causing them to determine the best antibiotic treatment.

MX Orthopedics, Corp.* in Lexington was also awarded $750,000. Their work involves developing effective orthopedic devices made from the shape memory alloy Nitinol.

*MX Orthopedics declined their Accelerator Loan Award after being acquired in August of 2016.

allurion

In 2011, Allurion received $750,000 in funding through the MLSC's Accelerator Loan Program, and the company has since raised over $14 million in follow on funding. At the time of its award, Allurion had 3 employees. The company has now grown to 16 employees, and is planning a 20 percent increase in its workforce by the end of 2016. Allurion has also served as a host company for the MLSC's Internship Challenge Program, hosting seven interns to date for which they have or will receive salary reimbursement through the MLSC. The Elipse gastric balloon for weight loss received a CE mark late last year, the company's first regulatory approval allowing sale of the product in the European Union. Elipse is currently available in select weight loss centers in France, Italy and the U.K., with plans for a US clinical trial in 2017.

Milestone Achievement & Universal Partnerships Program Updates

During FY16 the MLSC tracked the progress of other early stage companies that received funding through our Milestone Achievement Grant Program and our Universal Partnerships (UP) Grant Program, and provided six additional grants through the UP Program.

Milestone Achievement Program

In FY15, the MLSC launched a grant program, known as the Milestone Achievement Program (MAP). This program was intended to support early-stage life sciences companies in need of completing a critical milestone in order to attract additional outside funding and propel the future development of their technology. The MLSC Board of Directors approved awards to twelve companies for a total of over $2 million in grants, enabling these companies to continue work on fundamental milestone projects.

Of particular mention, in 2015, **Akita Innovations, Inc.** was accepted as a member of the National Armaments Consortium (NAC), a group of more than 340 companies and universities working together with the Department of Defense to enhance our Warfighter's lethality, survivability, and combat effectiveness. Akita Innovations was also awarded a Phase I SBIR contract by the Defense Threat Reduction Agency to develop and scale a method of production for a stabilized biocidal oxidizer material.

Aquinnah Pharmaceuticals announced in 2015 that it received a $5 million investment from Takeda Pharmaceutical Company, Ltd, in its first private equity financing. The company is developing drugs to fill the gap in the fields of ALS, protein and RNA regulation, and other neurodegenerative diseases.

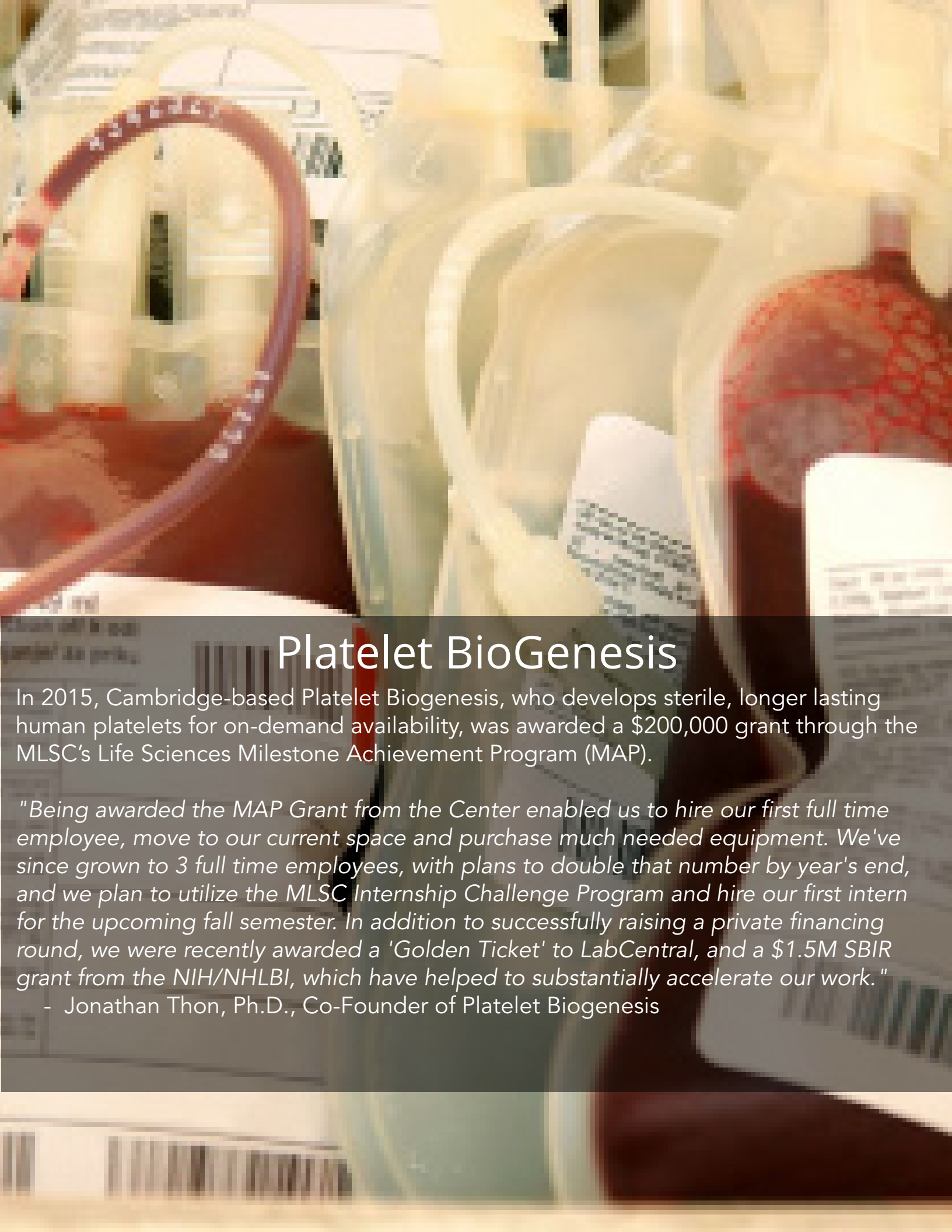
Lastly, in 2016, **Micro-Leads** announced that it is contributing medical electronics system design in the Defense Advanced Research Projects Agency (DARPA) Hand Proprioception and Touch Interfaces (HAPTIX) program to create a prosthetic hand system that moves and provides sensation like a natural hand.

Universal Partnerships Program

The Universal Partnerships Program (UP) was launched in FY14 and reflects the MLSC's commitment to further strengthen Massachusetts's global leadership position in the life sciences, to drive future economic growth and employ new models of collaboration. The UP program provided grants to Massachusetts companies to support an R&D collaboration with a non-U.S. organization (such as: a company, research institution, or university). In FY 2016, the MLSC Board of Directors awarded six Massachusetts companies with $930,000 in grant funding.

Company	Location	Partner	Partner Location	Amount Awarded
Akili Interactive Labs	Boston	Starlab	Barcelona, Spain	$190,000
DetectoGen	Westborough	Universidade Federal de Minas Gerals	Brazil	$200,000
LX Medical	Westwood	BC Cancer Agency Research Center	Vancouver, BC, Canada	$70,000
Agile Devices	Cambridge	Agile MV	Montreal, QB, Canada	$100,000
Akrivis Technologies	Salem/Cambridge	CEA-Leti	Genoble, France	$174,705
Revolution Biosciences	Boston	Merck Serono	Darmstadt, Germany	$195,000

Previous awardees through the program continued to make progress this year. **Felicitex Therapeutics** earned an UP grant to pursue a project related to new targets for cancer. Working with their partner, Selvita the largest drug discovery company in Central and Eastern Europe, they have made progress towards identifying a new target. Additionally, Selvita decided to expand closer to its partners and clients and open a fully-owned US subsidiary in Cambridge, Selvita Inc.



Platelet BioGenesis

In 2015, Cambridge-based Platelet Biogenesis, who develops sterile, longer lasting human platelets for on-demand availability, was awarded a $200,000 grant through the MLSC's Life Sciences Milestone Achievement Program (MAP).

"Being awarded the MAP Grant from the Center enabled us to hire our first full time employee, move to our current space and purchase much needed equipment. We've since grown to 3 full time employees, with plans to double that number by year's end, and we plan to utilize the MLSC Internship Challenge Program and hire our first intern for the upcoming fall semester. In addition to successfully raising a private financing round, we were recently awarded a 'Golden Ticket' to LabCentral, and a $1.5M SBIR grant from the NIH/NHLBI, which have helped to substantially accelerate our work."

- Jonathan Thon, Ph.D., Co-Founder of Platelet Biogenesis

Staying Connected

The MLSC's communications and marketing program keeps stakeholders and the general public informed about the MLSC's investment of public dollars, promotes public accountability for the MLSC's progress in accomplishing its mission, and provides ongoing updates and information exchange with the life sciences community in order to encourage its involvement and input.

In FY16, communication and marketing efforts remained a key part of attracting a robust and diverse pool of applicants for MLSC programs, in addition to engaging with prospective companies for expansion and relocation in Massachusetts. The MLSC continued to engage with the life sciences community through the news media, and digitally through the Weekly Digest, social media platforms, and the MLSC website. The MLSC also participated in numerous public and private events around the state and nation to explain the benefits of doing business in Massachusetts.

Conferences and Tradeshows

The MLSC participated in trade shows and conferences in Boston, San Francisco, Dubai, and Dusseldorf, Germany. The Center had its usual strong presence at the 2016 BIO International Convention, and for the first time took part in the cluster of events that surround the JP Morgan Healthcare Conference, both in San Francisco. Through participation in these events the MLSC had the opportunity to connect with companies from every part of the world and explain the benefits of doing business in Massachusetts.

At BIO, we announced the FY17 launch of the Massachusetts Transition and Growth Program (MassTAG - see next page), the arrival of Biose to Massachusetts, and the expansion of Brammer Bio into Lexington.

MLSC Marketing and Communications Outreach

The MLSC Weekly Digest reached more than 6,000 email subscribers and had click rates well above industry averages at 9.5%

Posts on the LinkedIn company page for the MLSC averaged more than 900 impressions in FY16

The MLSC Twitter profile more than doubled the amount of new followers from the previous year (1,100 vs. 2,700)

The MLSC website was visited more than 210,000 times. Spikes in traffic can be attributed to new announcements, and click-throughs from the Weekly Digest

Learning Through Regional Visits

Throughout FY16, MLSC President & CEO Travis McCready has made multiple day long visits to communities outside of the Greater Boston and Cambridge areas. The goal of these visits has been three-fold: to familiarize the MLSC with the strengths of different regions of the Commonwealth, to gain first-hand knowledge of how the MLSC's previous investments are being utilized to enhance the ecosystem in regions across the state, and to obtain feedback on ways in which the Center can improve upon our engagement with communities throughout the Commonwealth. Regional visits included communities such as Pittsfield, Worcester, Lowell, and Franklin.

While each was unique, all visits included a tour at an MLSC funded facility, and roundtable discussions with industry, academia, and economic development stakeholders in the region. Some key takeaways from the visits include:

- Lowell's resurgence and promising future in both biotech and medical devices
- Worcester's unmatched positioning to be a leader in biomanufacturing
- The unrivaled partnerships that have been formed between industry and academia at UMass Lowell and in the Franklin Public Schools.

The visits have been a great learning experience for the Center as well as our hosts and as such, more visits are currently in the works for FY17.

Next Steps

In consultation with stakeholders in government, industry and academia, the MLSC is constantly innovating and creating new programs that will meet the current and future needs of our life sciences community. In FY16, the MLSC announced a new convening effort focused on Alzheimer's Disease, and a funding program focused on new company recruitment.

Massachusetts Transition and Growth Program

Announced at the BIO International Convention in June 2016, and slated for launch in FY17, the Massachusetts Transition and Growth Program (MassTAG) will provide grant funding to companies establishing new operations in the Commonwealth. Critical objectives for this program are job creation and scientific advancement that will benefit patients and further growth of the Massachusetts life sciences ecosystem.

Awards will be given in grant form to companies with a current workforce of at least five workers that have an intention to hire or locate at least ten employees in Massachusetts during the company's initial twelve months of operations in the Commonwealth. Grants will be provided on a per-job basis (in amounts comparable to the awards provided under the MLSC's existing Job Creation Tax Incentive Program).

Massachusetts Center for Alzheimer Therapeutics Science

The Massachusetts Life Sciences Center's Neuroscience Consortium, founded in 2012, is a pioneering model designed to leverage Massachusetts' rich environment of neurobiology and neuroscience. The goal of this consortium was to bring together industry and academic partners dedicated to solving some of the most intractable neurodegenerative diseases. In previous years, industry members have contributed a total of $3.25 million to support the research of 12 investigators studying Alzheimer's, Multiple Sclerosis, Parkinson's, Neuropathic Pain and Amyotrophic Lateral Sclerosis (ALS).

In its latest round, the consortium decided to focus their efforts on Alzheimer's Disease, culminating in the launch of the Massachusetts Center for Alzheimer Therapeutics Science (MassCATS). Alzheimer's is one of the leading causes of death in the United States for which there is no known cure. Alzheimer's currently affects more that 5 million Americans, with the number of new diagnoses expected to skyrocket in the next decade. MassCATS brings scientists in Massachusetts and across the country together with biopharmaceutical industry partners in a new effort to find effective treatments and cures for Alzheimer's disease. Industry partners - AbbVie, Biogen, Janssen Pharmaceuticals Inc., Merck and Sunovion Pharmaceuticals - have collectively committed $1.25 million in Alzheimer's-related research funding.

Through MassCATS, neuroscientists from Massachusetts General Hospital (MGH), Harvard Medical School, Broad Institute, Whitehead Institute, MIT, Picower Institute for Learning and Memory, Emory University School of Medicine in Atlanta, and the Rush University Medical Center in Chicago will collectively use industry and academic resources and the expertise of their respective labs to validate and move targets toward an effective therapy for Alzheimer's.

Academic leads are developing platforms that will be shared across the consortium. In addition, bioinformatics experts on the teams are developing the MassCATS DataLens, a unique repository for sharing and analyzing large public domain data sets, as well as research data, to facilitate and accelerate data sharing.

The new Center will operate out of MGH under the leadership of Dr. Bradley Hyman, and project teams will be comprised of academic and industry scientists working together to share knowledge and resources. To facilitate this effort, industry partners are providing special purpose libraries of compounds to enable further exploration of the biology and therapeutic potential of new target ideas.

"In working with the Massachusetts Life Sciences Center and collaborators in the biopharmaceutical industry, investigators will have access to shared expertise and resources to accelerate the testing of new ideas while designing innovative ways to translate them toward new treatments for our patients"

- Dr. Bradley T. Hyman, Director, Massachusetts Alzheimer's Disease Research Center at MGH

The Way Forward

Change is never easy. While the status quo provides familiarity and comfortability, progress requires innovation and experimentation. We needn't look too far back in our own state's history to see what complacency can mean for our leadership of an industry, whether it be textiles, or computers. As the life sciences industry evolves, our approach to supporting the industry's future growth will need to evolve as well.

We've seen significant change here at the MLSC over the past year. We want to thank Scientific Advisory Board Chairman Harvey Lodish for his many contributions to the work of the MLSC, along with our outgoing Board members, Dana-Farber President & CEO Ed Benz, Inifinity Pharmaceuticals Chair, President & CEO Adelene Perkins, and recently retired Vice President for Economic Development for the University of Massachusetts Tom Chmura, who often represented the UMass President on our Board. We owe each of them a debt of gratitude for being so generous with their time, knowledge and leadership and wish them all the best in future endeavors.

The state budget provides for an FY17 investment fund appropriation of $10 million, contingent on the State Comptroller's declaration of a consolidated net surplus for FY 2016. The MLSC appreciates, and is grateful to Governor Baker and his Administration, and the State Legislature under the leadership of Senate President Stan Rosenberg and Speaker of the House Robert DeLeo, for prioritizing this funding within the state budget. We look forward to working with these leaders and our partners in industry and academia as we chart the path forward for "Life Sciences 2.0".


MASSACHUSETTS
LIFE SCIENCES CENTER
ting in the State of Innovation

Appendices

Capital Investment Awards From Inception Through June 30, 2016

Awardee	Total Award	Year of Award	Funding Status at End of FY 2016
Bay Path College	$50,000	FY 2013	Completed
Bay Path University	$500,000	FY 2015	Ongoing
BayState Medical Center/Health Informatics & Technology Innovation Center	$5,500,000	FY 2013	Ongoing
Berkshire Community College	$500,000	FY 2015	Ongoing
Boston Children's Hospital	$4,014,031	FY 2013	Completed
Boston Children's Hospital	$2,263,133	FY 2015	Ongoing
Boston University Biomedical Lab and Clinical Sciences Program	$180,000	FY 2015	Completed
Boston University Business Innovation Center	$363,750	FY 2015	Ongoing
Boston University Medical School	$1,743,648	FY 2015	Ongoing
Brigham & Women's Hospital	$2,603,537	FY 2015	Ongoing
Bunker Hill Community College	$200,000	FY 2013	Completed
Cape Cod Community College	$395,485	FY 2014	Completed
City of Taunton	$55,000	FY 2014	Completed
Dana Farber Molecular Cancer Imaging Center	$10,000,000	FY 2012	Completed
Framingham State University	$3,000,000	FY 2014	Completed
Framingham Wastewater and Pumping Station	$12,860,534	FY 2009	Completed
Harvard Medical School	$5,000,000	FY 2013	Ongoing
Holyoke Community College	$3,800,000	FY 2013	Completed
Holyoke Community College	$300,000	FY 2015	Ongoing
Joslin Translational Center for the Cure of Diabetes	$5,000,000	FY 2012	Completed
Just-A-Start	$46,099	FY 2014	Completed
Just-A-Start	$49,992	FY 2015	Completed
LabCentral	$4,955,515	FY 2013	Completed
LabCentral	$5,000,000	FY 2014	Ongoing
MA Green High Performance Computing Center	$4,540,000	FY 2013	Ongoing
Marine Biological Laboratory in Woods Hole	$10,000,000	FY 2009	Completed
Massachusetts Institute of Technology	$1,838,000	FY 2015	Ongoing
MassBay Community College	$50,000	FY 2014	Completed
MassBiologics-UMass Medical School	$5,000,000	FY 2014	Ongoing
Middlesex Community College	$36,664	FY 2013	Completed
Middlesex Community College	$3,000,000	FY 2014	Ongoing
Mount Wachusett Community College	$500,000	FY 2014	Ongoing
Museum of Science "Hall of Human Life"	$5,000,000	FY 2012	Completed
New Bedford Economic Development Council	$75,000	FY 2014	Completed
North Shore Biotech Consortium	$5,000,000	FY 2014	Ongoing
Northern Essex Community College	$1,242,000	FY 2013	Completed
Pittsfield Economic Development Authority	$55,000	FY 2013	Completed
Pittsfield Economic Development Authority	$9,670,000	FY 2014	Ongoing
Quincy College	$78,799	FY 2013	Completed
Quincy College	$500,000	FY 2014	Ongoing
Quinsigamond Community College	$310,000	FY 2013	Completed
Quinsigamond Community College	$499,880	FY 2014	Completed
Quinsigamond Community College	$5,000,000	FY 2015	Ongoing
Regis College	$50,000	FY 2013	Completed
Regis College	$355,000	FY 2015	Ongoing

Capital Investment Awards From Inception Through June 30, 2016

Awardee	Total Award	Year of Award	Funding Status at End of FY 2016
Roxbury Community College	$3,000,000	FY 2015	Ongoing
Springfield Technical Community College	$85,673	FY 2013	Completed
Springfield Technical Community College	$972,850	FY 2015	Ongoing
The Forsyth Institute	$4,133,215	FY 2013	Completed
The Forsyth Institute	$2,210,229	FY 2015	Ongoing
Tufts/Cummings School of Veterinary Medicine, NE Regional Biosafety Lab in Grafton	$9,500,000	FY 2009	Completed
UMass Amherst Life Sciences Laboratories	$95,000,000	FY 2013	Ongoing
UMass Boston /Dana Farber Center for Personalized Cancer Therapy	$2,000,000	FY 2011	Ongoing
UMass Boston /Dana Farber Center for Personalized Cancer Therapy Expansion	$8,000,000	FY 2014	Ongoing
UMass Boston VDC	$588,848	FY 2014	Ongoing
UMass Dartmouth Advanced Technology Manufacturing Center (ATMC)	$11,400,000	FY 2012	Completed
UMass Lowell Emerging Technologies and Innovation Center	$10,000,000	FY 2012	Completed
UMass Lowell Innovation Hub	$1,000,000	FY 2014	Ongoing
UMass Lowell M2D2	$4,046,697	FY 2014	Ongoing
UMass Medical School	$5,000,000	FY 2015	Ongoing
UMass Medical School Albert Sherman Center	$90,000,000	FY 2010	Completed
UMass Medical School/Vector Manufacturing Center	$20,600,000	FY 2012	Completed
Venture Cafe	$347,000	FY 2014	Ongoing
Wellesley College	$50,000	FY 2015	Ongoing
Western New England University	$500,000	FY 2014	Completed
Worcester Polytechnic Institute (Biomanufacturing Education & Training Center)	$5,150,000	FY 2010	Completed

Total Number of Projects	66
Total Investment in Capital Projects	$394,765,579
Total Number of Projects for Which MLSC Funding is Complete	34
Total Investment in Projects for Which MLSC Funding is Complete	$213,372,887
Total Number of Ongoing Projects	32
Total Investment in Ongoing Projects	$181,392,692
Total Number of Projects for Which MLSC Funding was Completed in FY16	11
Total Investment in Projects for Which MLSC Funding was Completed in FY16	$22,961,859

2015-2016 Internship Challenge Host Companies

A Chemtek, Inc.	Worcester
AB Biosciences, Inc.	Boston
Abpro Labs	Woburn
Access Vascular, Inc.	Woburn
Acetylon Pharmaceuticals, Inc.	Boston
AdMeTech Foundation	Boston
Advanced Instruments, Inc.	Norwood
Advanced Radiation Therapy, LLC	Tyngsboro
Advanced Research and Development (ARD)	Lexington
AdvanDx, Inc.	Woburn
Agilux Laboratories	Worcester
Akaza Research , LLC (DBA Open Clinica)	Waltham
Akrivis Technologies, LLC	Cambridge
Alacrita LLC	Cambridge
Albright Technologies, Inc.	Leominster
Allurion Technologies	Wellesley
Alzheimer Disease Center	Quincy
Amplyus	Cambridge
Anderson Biotest, LLC	Boston
Antera Therapeutics	Cambridge
Aphios Corporation	Woburn
Artaic, LLC	Boston
Arteriocyte Medical Systems	Hopkinton
Asaman, Inc.	Avon
Atlantic Lab Equipment, LLC	Salem
Avaxia Biologics, Inc.	Lexington
Averica Discovery Services, Inc.	Marlborough
AVIA Biosystems LLC	Norton
Bach Pharma, Inc	North Andover
Barrett Technology, Inc.	Newton
Berkshire Sterile Manufacturing, Inc.	Lee
BethCare, Inc.	Boston
Bio2 Technologies	Woburn
Biomedical Research Models, Inc.	Worcester
BioScale, Inc.	Lexington
BioSensics LLC	Cambridge
BioVolutions, Inc.	Woburn
Blend Therapeutics, Inc.	Watertown
Blue Sky Biotech, Inc.	Worcester
Blue Stream Laboratories	Woburn
Boston 3T Biotechnologies	Fall River
Boston MedTech Advisors	Dedham
Boston Microfluidics, Inc.	Medford
Boston Micromachines Corporation	Cambridge
Boyd Technologies	Lee
Cam Med, LLC	West Newton
Catapult Product Development, Inc.	Waltham
Celldex Therapeutics, Inc.	Fall River
CellMosaic, LLC	Worcester
Celltreat Scientific Products	Shirley
CeQur Corporation	Marlborough
Cerulean Pharma, Inc.	Cambridge
Cisbio US, Inc.	Bedford
CMC Consulting Boston, Inc.	Framingham
Cocoon Biotech, Inc.	Lowell
Collegium Pharmaceutical, Inc.	Canton
Constant Therapy, Inc.	Lexington
CONTINUUS Pharmaceuticals, Inc.	Woburn
Corbus Pharmaceuticals, Inc.	Norwood
Courtagen Life Sciences, Inc.	Woburn
Covaris, Inc.	Woburn
CreaGen Biosciences Inc.	Woburn
CryoXtract Instruments, LLC	Woburn
CSA Medical, Inc.	Lexington
CuriRx, Inc.	Wilmington
CYTO Consulting	Lexington
Cytrellis Biosystems, LLC	Boston
Daktari Diagnostics, Inc.	Cambridge
Delsys, Inc.	Natick
Dermal Photonics Corporation	Middleton
Detector Technology, Inc.	Palmer
DNA Medicine Institute	Cambridge
DocBox, Inc.	Newton
Dyax Corp	Burlington
Embera Neuro Therapeutics, Inc.	Sudbury
EnBiotix, Inc.	Boston
enEvolv, Inc.	Cambridge
Enumeral Biomedical	Cambridge
Environmental Health, Inc.	Dover
EpigenDx, Inc.	Hopkinton
Essential Life Solutions Ltd	Stoughton
Etiometry, LLC	Boston
Everost, Inc.	Sturbridge
Extend Biosciences, Inc.	Cambridge
EyeNetra, LLC	Somerville
Fairbanks Pharmaceuticals	Concord
First Light Biosciences, Inc.	Bedford
Five Star Manufacturing, Inc.	New Bedford
FloDesign Sonics	Wilbraham
Flow Forward Medical, Inc.	Lowell
Fractyl Laboratories Inc.	Lexington
G & F Medical, Inc.	Danvers
Gecko Health Innovations, Inc.	Cambridge
Gel4Med	Brighton
Genocea Biosciences, Inc.	Cambridge
GenoSpace, LLC	Cambridge
Giner, Inc.	Newton
Guided Surgery Solutions, LLC	Wellesley Hills
Gweepi Medical, Inc.	Cambridge
Harvard Apparatus Regenerative Technology	Holliston
Health Policy Associates, Inc. (FKA HPA Ventures)	Westwood
HelixBind, Inc.	Marlborough
Hemedex Inc.	Cambridge
Imagine Optic Inc.	Boston

2015-2016 Internship Challenge Host Companies

InCrowd, Inc.	Boston
Infraredx, Inc.	Burlington
Institute for Pediatric Innovation, Inc.	Cambridge
inviCRO, LLC	Boston
InVivo Therapeutics Corporation	Cambridge
iOmics Corporation	Cambridge
IonSense	Saugus
iSpecimen, Inc.	Lexington
iWalk (DBA "BiOM")	Bedford
Jounce Therapeutics	Cambridge
KBioBox, Inc.	Worcester
KeraFAST	Boston
KnipBio	Harvard
Labminds, Inc.	Boston
Lariat Biosciences, Inc.	Beverly
Lattice Automation, Inc.	Boston
Launchpad Medical	Boston
LaVoie Strategic Communications	Cambridge
LayerBio, Inc.	Arlington
Life Science Nation	Boston
Lighthouse Proteomics, LLC	Beverly
Little Sparrows Technologies, LLC	Winchester
Macrogen Corp	Boston
Matrivax R&D Corporation	Boston
Mayly Company	Brighton
MCR Labs, LLC	Framingham
MedPanel	Cambridge
Medrobotics	Raynham
MedTechna, Inc.	Dedham
Merrimac Ventures, LLC (DBA Avastus Preclinical Services	Cambridge
Metastat, Inc.	Boston
Microbiome Health Research Institute (OpenBiome)	Medford
Microbiotix, Inc.	Worcester
Micro-Leads, Inc.	Boston
MiMecore Therapeutics	Beverly
Mouse Specifics, Inc.	Quincy
MX Orthopedics	Billerica
Myomo, Inc.	Cambridge
N2 Biomedical, LLC.	Bedford
Nano Terra Inc.	Cambridge
NEHI, Inc.	Cambridge
Nemucore Medical Innovations, Inc.	Worcester
NeuroFieldz, Inc.	Newton
NeuroScouting LLC	Cambridge
New England Peptide, LLC	Gardner
Nexcelom Bioscience LLC	Lawrence
NexGen Arrays, LLC	Boston
NinePoint Medical, Inc.	Cambridge
Nix, Inc.	Cambridge
Northpaw Ventures Corp (DBA OnDeckBiotech)	Cambridge
Nonspec Inc.	Carlisle
Nuclea Biotechnologies, Inc.	Pittsfield
Olaris Therapeutics, Inc	Cambridge
OMNI Life Science, Inc.	East Taunton
PatientsLikeMe, Inc.	Cambridge
Pear Therapeutics	Boston
Persomics USA	Waltham
Phosphorex, Inc.	Hopkinton
PLC Medical Systems, Inc.	Brighton
PNA Innovations, Inc.	Woburn
Podimetrics, Inc.	Cambridge
Polestar Technologies	Needham
Polycarbon Industries (PCI Synthesis, Inc)	Newburyport
Portal Instruments, Inc.	Cambridge
Precision Fabricators Ltd.	Stoughton
Pressure BioSciences, Inc.	South Easton
Privo Technologies	Cambridge
Putnam Associates	Burlington
Quad Technologies LLC	Beverly
Quantum Diamond Technologies, Inc.	Somerville
Ra Pharmaceuticals	Cambridge
RainDance Technologies, Inc.	Billerica
RAN Biotechnologies, Inc.	Beverly
Ras Labs, LLC	Quincy
Real Food Solutions, LLC	Cambridge
Respiratory Motion, Inc.	Waltham
ReWalk Robotics, Inc.	Marlborough
Riparian Pharmaceuticals, Inc.	Cambridge
Robie Device Group, LLC	North Andover
Rogers Sciences, Inc.	Boston
Rubius Therapeutics, Inc.	Cambridge
RXi Pharmaceuticals	Marlboro
S2N Health, LLC	Newton
SafePath Medical, Inc.	Methuen
Safety Partners, Inc.	Bedford
Sage Product Development, Inc.	North Attleboro
SBH Sciences, Inc.	Natick
Securus Medical Group, Inc.	Beverly
Seeding Labs	Boston
Selecta Biosciences, Inc.	Boston
SemiNex Corporation	Peabody
Senscio Systems, Inc.	Boxboro
seqWell, Inc.	Beverly
SevenOaks Biosystems	Boston
Shaser, Inc.	Woburn
Sproxil, Inc.	Cambridge
SRS Medical Systems, Inc.	North Billerica
STAR Analytical Services (Speech Technology and Applied Research)	Bedford
STC Biologics, Inc.	Cambridge
Sync Think, Inc.	Boston
T2 Biosystems, Inc.	Lexington
TARIS Biomedical, LLC	Lexington

2015-2016 Internship Challenge Host Companies

Thermedical, Inc.	Waltham
Thync, Inc.	Boston
TRA360 (Tim Rosa Associates)	Waltham
Triple Ring Technologies, Inc.	Lynnfield
Triple Sharp Venture Engineering, LLC	Topsfield
Ubiqi Health, Inc. (DBA Klio Health)	Somerville
Union Biometrica, Inc.	Holliston
VasoTech, Inc.	Lowell
Vaxess Technologies, Inc.	Cambridge
Vedanta Biosciences, Inc.	Boston
Veritas Genetics, Inc.	Beverly
Viatar LLC	Lowell
Virtudent	Boston
Visterra, Inc.	Cambridge
VitaThreads, Inc.	Worcester
Vittamed Corporation	Lexington
Vivonics, Inc.	Waltham
VocaliD, Inc.	Belmont
WorldCare Clinical, LLC	Boston
X-CHEM, Inc.	Waltham
Xtal BioStructures, Inc.	Natick
ZS Genetics, Inc.	Wakefield

List of Certified Active Life Sciences Companies as of June 30, 2016

As part of the MLSC's award process, any for-profit company that receives funds through any of the MLSC's competitive programs must be certified as a "certified life sciences company" in accordance with the MLSC's statutory authority. The companies below are currently certified by the MLSC.

3Derm Systems, Inc.	Cambridge
908 Devices, Inc.	Boston
AbbVie Inc	Worcester
Abiomed, Inc.	Danvers
Aegerion Pharmaceuticals, Inc.	Cambridge
Agile Devices Inc.	Cambridge
Akili Interactive Labs Inc.	Boston
Akita Innovations, Inc.	North Billerica
Akrivis Technologies LLC	Cambridge
Alcyone Lifesciences, Inc.	Concord
Alexion Pharmaceuticals, Inc.	Lexington
Alkermes, Inc.	Waltham
Allurion Techologies, Inc.	Wellesley
Alnylam Pharmaceuticals, Inc.	Cambridge
Amgen Inc.	Cambridge
Aquinnah Pharmaceuticals, Inc.	Cambridge
Arch Therapeutics, Inc.	Framingham
Barrett Technology Inc.	Newton
Bind Therapeutics, Inc.	Cambridge
Bio2 Technologies, Inc.	Woburn
Biogen, Inc.	Cambridge
Bluebird Bio, Inc.	Cambridge
Blueprint Medicines Corporation	Cambridge
Boston Heart Diagnostics Corporation	Framingham
Bruker Corporation	Billerica
Cam Med LLC	West Newton
Cell Signaling Technology	Danvers
Charles River Laboratories, Inc.	Wilmington
Charm Sciences, Inc.	Lawrence
Cognition Medical Corp.	Cambridge
Covaris, Inc.	Woburn
Cre8MDI LLC	Cambridge
Cristcot Medical, Inc.	Sudbury
CSA Medical, Inc.	Lexington
DePuy Othopaedics, Inc.	Raynham
DetectonGen Inc.	Grafton
EMD Millipore Corporation	Billerica
Emulate, Inc.	Boston
Enanta Pharmacueticals, Inc.	Watertown
Energesis Pharmaceuticals Inc.	Cambridge
Epizyme, Inc.	Cambridge
Eutropics Pharmaceuticals, Inc.	Cambridge
Excellims Corporation	Acton
Extend Biosciences Inc.	Cambridge
Felicitex Therapeutics Inc.	Newton
First Light Biosciences, Inc.	Bedford
Foundation Medicine, Inc.	Cambridge
GE Healthcare Bio-Sciences Corp.	Marlborough
Ginko Bioworks, Inc.	Boston
Guided Surgery Solutions, LLC	Wellesley
Hepatochem, Inc.	Cambridge
Immunexcite, Inc.	Lexington
InsomniSolv, Inc.	Beverly
Instrumentation Laboratory Company	Bedford
inviCRO, LLC	Boston
Jounce Therapeutics, Inc.	Cambridge
Juno Therapeutics, Inc.	Waltham
KEW Group Inc.	Cambridge
Lantern Pharma, Inc.	Cambridge
LayerBio, Inc.	Arlington
LeMaitre, Inc.	Burlington
LFB USA, Inc.	Framingham
Lightlab Imaging, Inc.	Westford
Lumicell Diagnostics, Inc.	Wellesley
LX Medical Corporation	Westwood
Masy Systems, Inc.	Pepperell
Matrivax R&D Corporation	Boston
MCC Global Laboratories, Inc.	Beverly
MedicaMetrix, Inc.	Wayland
Merrimack Pharmaceuticals, Inc.	Cambridge
Micro-Leads, Inc.	Boston
Moderna Therapeutics, Inc.	Cambridge
Momenta Pharmaceuticals, Inc.	Cambridge
MX Orthopedics, Corp.	Lexington
Myomo, Inc.	Cambridge
New England Biolabs, Inc.	Ipswich
NinePoint Medical, Inc.	Cambridge
Nitto Denko Avecia Inc.	Milford
Nova Biomedical Corporation	Waltham
NxStage Medical, Inc.	Lawrence
OMNIlife science, Inc.	Taunton
Pall Corporation	Westborough
PAREXEL International Corporation	Lowell
Parsagen Diagnostics, Inc.	Boston
PathMaker Neurosystems, Inc.	Boston
PerkinElmer, Inc.	Waltham
Pharmalucence, Inc.	Bedford
Philips Electronics North America	Andover
Platelet Biogenesis, Inc.	Chestnut Hill
PNP Research Corporation	Drury
Quanterix Corporation	Cambridge
Quest Diagnostics, Incorporated	Cambridge
Ra Pharmaceuticals, Inc	Cambridge
Radius Health, Inc.	Waltham
Revolution Biosciences LLC	Boston
Riparian Pharmaceuticals	Boston
Sanofi, Inc.	Cambridge
Sarepta Therapeutics, Inc.	Cambridge

List of Certified Active Life Sciences Companies as of June 30, 2016

As part of the MLSC's award process, any for-profit company that receives funds through any of the MLSC's competitive programs must be certified as a "certified life sciences company" in accordance with the MLSC's statutory authority. The companies below are currently certified by the MLSC.

SBH Sciences, Inc.	Natick
Seres Therapeutics, Inc.	Cambridge
Shire Human Genetic Therapies, Inc.	Lexington
SMC Ltd	Sterling
SQZ Biotechnologies Company	Boston
STC Biologics, Inc.	Cambridge
Strohl Medical Technologies, Inc.	Weymouth
Takeda Pharmaceuticals America, Inc.	Cambridge
T2Biosystems, Inc.	Lexington
Triton Systems, Inc.	Chelmsford
uniQure, Inc.	Lexington
Vaxess Technologies, Inc.	Cambridge
Web Industries Boston, Inc.	Holliston
Windgap Medical	Somerville
Wolfe Laboratories, Inc.	Watertown

Massachusetts Life Sciences Center Board of Directors as of June 30, 2016

Jay Ash, Co-Chair
Secretary, Executive Office of Housing and Economic Development

Kristen Lepore, Co-Chair
Secretary, Executive Office for Administration and Finance

Edward J. Benz, Jr., M.D.
President and CEO, Dana-Farber Cancer Institute

Martin Meehan
President, University of Massachusetts

Adelene Perkins
Chair, President and Chief Executive Officer, Infinity Pharmaceuticals

Lydia Villa-Komaroff, Ph.D.
Director and Retired Founding CEO, Cytonome/ST

Peter Parker, Ph.D.
President, BioInnovation LLC, Co-Founder, LabCentral

Massachusetts Life Sciences Center Scientific Advisory Board as of June 30, 2016

Hillel Bachrach
Chairman - Viztek & UltraSPECT

James Barry Ph.D.
Executive Vice President & Chief Operating Officer - InspireMD Inc.

Kevin J. Bitterman Ph.D.
Principal - Polaris Venture Partners

Dalia Cohen Ph.D.
Head of Research - Beryllium

James J. Collins Ph.D.
Professor of Biomedical Engineering & Science - Massachusetts Institute of Technology

John M. Collins Ph.D.
Chief Operating Officer - Center for Integration of Medicine & Innovative Technology (CIMIT)

T. (Teo) Forcht Dagi M.D.
Chairman - CV6 and healthEgames

Robert D'Amato M.D. Ph.D.
Judah Folkman Chair in Surgery and Director - Center for Macular Degeneration Research Children's Hospital Boston

Glenn R. Gaudette Ph.D.
Associate Professor Biomedical Engineering - Worcester Polytechnic Institute

José-Carlos Gutiérrez-Ramos Ph.D.
President and Chief Executive Officer - Synlogic Inc

Henry Kay
U.S. Partner - Medica Venture Partners

Dale Larson
Director of Biomedical Systems - Draper Laboratory

Judith Lieberman Ph.D. M.D.
Senior Investigator Immune Disease Institute - Children's Hospital Boston and Professor of Pediatrics - Harvard Medical School

Lita L. Nelsen
Former Director Technology Licensing Office - Massachusetts Institute of Technology

Barbara Osborne Ph.D.
Professor of Veterinary and Animal Sciences - University of Massachusetts Amherst

Carmichael Roberts Ph.D.
Partner - North Bridge Venture Partners

Frederick J. Schoen M.D. Ph.D.
Executive Vice-Chairman Department of Pathology at Brigham and Women's Hospital

Lauren Silverman Ph.D.
Managing Director - Novartis Option Fund

Alison Taunton-Rigby Ph.D.
Co-Founder, Chief Executive Officer and Director - RiboNovix Inc.

Guillermo Tearney M.D. Ph.D.
Professor of Pathology - Harvard Medical School

David Walt Ph.D.
Robinson Professor of Chemistry and Howard Hughes Medical Institute Professor - Tufts University

MLSC Staff

Front Row L-R

Rob Ramos
Tal Dinnar
Emily Azcue
Cheryl Sadeli
Nancy Goryl
Sandhya Iyer
Monica Anc
Brad Rosenblum
Pamela Norton

Back Row L-R

Ryan Mudawar
Colin Donnelly
Ben Bradford
Dami Aina
Travis McCready
Angus McQuilken
Karyn Hoffman
Beth Nicklas
Cheryl Purnell
Barb Platt

MASSACHUSETTS LIFE SCIENCES CENTER
1000 WINTER STREET SUITE 2900
WALTHAM MASSACHUSETTS 02451

WWW.MASSLIFESCIENCES.COM
INFO@MASSLIFESCIENCES.COM