



MASSACHUSETTS TECHNOLOGY COLLABORATIVE

FY 2015 ANNUAL REPORT

MASSACHUSETTS TECHNOLOGY COLLABORATIVE BOARD OF DIRECTORS

EXECUTIVE COMMITTEE

Jay Ash, *Board Chairperson; Secretary*, Executive Office of Housing and Economic Development, Commonwealth of Massachusetts

Donald R. Dubendorf, Esq., *Board Vice-Chairperson; Attorney*, Dubendorf Law

Emily Nagle Green, *President and CEO*, Smart Lunches

Alain Hanover, *Co-founder*, CommonAngels, and *Active Mentor*, MIT Venture Mentoring Service

Robert E. Johnson, *President*, Becker College

Pamela D.A. Reeve, *Vice Chair*, The Commonwealth Institute; *Former CEO*, Lightbridge, Inc.

Mitchell Tyson, *Principal*, Tyson Associates

BOARD MEMBERS

George Anderson, *Consultant*, Spencer Stuart

Robert L. Caret, PhD, *Former President*, University of Massachusetts

Julie Chen, PhD, *Vice Provost for Research*, Francis College of Engineering, University of Massachusetts Lowell

Leland Cheung, *City Councilor*, City of Cambridge

Justin Dangel, *CEO*, Goji/Consumers United

Ernesto DiGiambattista, *Senior Vice President and Chief Technology Officer*, Sentinel Benefits and Financial Group

Joseph Dorant, *President*, Massachusetts Organization of State Engineers and Scientists (MOSES)

Richard M. Freeland, PhD, *Commissioner*, Massachusetts Department of Higher Education

Michael Greeley, *General Partner*, Flare Capital Partners

The Honorable Kristen Lepore, *Secretary*, Executive Office for Administration and Finance, Commonwealth of Massachusetts

Richard K. Lester, PhD, *Japan Steel Industry Professor and Department Head*, Nuclear Science and Engineering; *Faculty Chair and Founding Director*, The Industrial Performance Center, Massachusetts Institute of Technology

Dr. Annmarie Levins, *General Manager*, Technology and Civic Engagement, Microsoft Corporation

Anne Margulies, *Vice President and University Chief Information Officer*, Harvard University

Michael Monahan, *International Vice President*, IBEW Second District/IBEW Local 103

Andrei Ruckenstein, PhD, *Founding President*, Massachusetts Green High-Performance Computing Center; *Professor of Physics and Former Vice President for Research*, Boston University

Carlos E. Santiago, PhD, *Commissioner*, Massachusetts Department of Higher Education

Dear Reader,

This Fiscal Year 2015 Annual Report highlights a dynamic year at the Massachusetts Technology Collaborative (MassTech), supporting the growing technology and innovation-based economy across all regions of the Commonwealth.

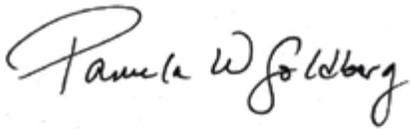
This report summarizes significant progress in programs designed to expand high-speed Internet access, accelerate the use of health information technologies, support a talented workforce for our innovation economy, and partner with industry leaders and researchers to keep our thriving tech sector growing and competing. These activities are shaped by our Board of Directors, and are in alignment with economic development strategies championed by industry, the Administration, and the state Legislature.

For example:

- The Massachusetts Broadband Institute at MassTech (MBI) developed municipal and industry partnership strategies to reach the remaining unserved homes and businesses in Western Massachusetts communities with the high-speed Internet access they need;
- The Massachusetts eHealth Institute at MassTech (MeHI) launched new programs designed to support communities and providers in using health information technology, with a priority focus on the behavioral health and long-term and post-acute care communities;
- The Innovation Institute's Collaborative Research and Development Matching Grant Program announced two new major awards, supporting growth of a marine robotics industry cluster through Woods Hole Oceanographic Institution and advancement of flexible and printed electronics through UMass-Lowell; and
- The Innovation Institute launched a major three-year partnership with Entrepreneurship for All (EforAll) to support the expansion of entrepreneurship culture in the South Coast region.

We appreciate the support and valuable insight from our many partners throughout industry, government and academia throughout the past fiscal year. To engage further, please visit us online at www.masstech.org.

Sincerely,



Pamela W. Goldberg
Chief Executive Officer



Jay Ash
Chair, Board of Directors
Secretary, Executive Office of Housing and Economic Development

Our mission is to strengthen the innovation economy in Massachusetts, for the purpose of generating more high-paying jobs, higher productivity, greater economic growth, and improved social welfare.

The Massachusetts Technology Collaborative, or MassTech, is an innovative public economic development agency which works to support a vibrant, growing economy across Massachusetts.

Through our three major divisions - the **Innovation Institute**, **Massachusetts eHealth Institute**, and the **Massachusetts Broadband Institute** - MassTech is fostering innovation and helping shape a vibrant economy.

We develop meaningful collaborations across industry, academia and government which serve as powerful catalysts, helping turn good ideas into economic opportunity. We accomplish this in three key ways, by:

FOSTERING the growth of dynamic, innovative businesses and industry clusters in the Commonwealth, by accelerating the creation and expansion of firms in technology-growth sectors;

ACCELERATING the use and adoption of technology, by ensuring connectivity statewide and by promoting competitiveness; and

HARNESSING the value of effective insight by supporting and funding impactful research initiatives.



On May 12, 2015, Chris Rezendes of New Bedford's INEX Advisors keynoted the Mass. Tech Hub Caucus' 3rd Technology State House Day 2015 on the 'Internet of Things'.

MassTech is composed of three major divisions, each with a unique mission that drives innovation and supports a vibrant economy across the Commonwealth.

THE INNOVATION INSTITUTE

The **Innovation Institute at MassTech** was created in 2003 to improve conditions for growth in the innovation economy by:

- Enhancing industry competitiveness;
- Promoting conditions which enable growth; and
- Providing data and analysis to stakeholders in the Massachusetts innovation economy that promotes understanding and informs policy development.

The Institute manages programs which drive support for emerging sectors such as Big Data, Advanced Manufacturing, and Robotics, and takes on initiatives to support and develop a talented workforce for the Commonwealth, such as the Intern Partnership program or entrepreneur mentorship initiative.

THE MASSACHUSETTS BROADBAND INSTITUTE

The **Massachusetts Broadband Institute at MassTech (MBI)** is working to extend high-speed Internet access to homes, businesses, schools, libraries, medical facilities, government offices, and other public places across the Commonwealth.

The MBI also works to promote broadband usage and adoption by our residents and small businesses.

MBI managed the construction and rollout of *MassBroadband 123*, a 1,200-mile fiber-optic network that has delivered high-speed Internet access directly to over 1,100 key facilities in more than 120 communities in Western and Central Massachusetts.

THE MASSACHUSETTS eHEALTH INSTITUTE

MeHI, or the Massachusetts eHealth Institute at MassTech, is the state's entity for health care innovation, technology, and competitiveness and is responsible for advancing the dissemination of health information technology throughout Massachusetts. This includes the deployment of electronic health records systems in all health care provider settings and connecting them through the statewide health information exchange, the Mass Hlway.

MeHI oversees programs and makes investments which help accomplish these goals.





OUR YEAR

With a demonstrated, decade-long track record in the innovation economy, the Innovation Institute at the Massachusetts Technology Collaborative has designed and piloted a comprehensive suite of novel, public-private economic development interventions which support expanded growth and opportunity for all across the Commonwealth. To date, these interventions have attracted the participation of more than 9,000 stakeholders and leveraged the investment of \$264 million in private and federal dollars. They reside in 130 projects in different regions throughout the state and were customized based on existing university, institutional, and industry assets. The common objective in this suite of economic development tools is to strengthen the conditions for economic growth. In FY15, the Innovation Institute supported the expansion of new and existing industry clusters, local and regional entrepreneurship, and other economic development pathways that grow and create employment and investment opportunities within the Commonwealth.



Matt George, CEO of data-driven transportation startup Bridj, speaks to students from around the Boston region at the Massachusetts Big Data Initiative's fall 2014 'Tech Trek'.



BY THE NUMBERS

230
INTERNS

The MassTech Intern Partnership program has funded more than **230** interns and registered more than **1,500** potential interns with more than **500** companies having applied and completed registration.

300
PEOPLE

State House Day 2015 was attended by **300** people and included **33** organizations and more than **40** speakers to discuss the opportunities around the Internet of Things in the Commonwealth.

125
TEAMS

Valley Venture Mentors, an Innovation Institute grantee, graduated its first cohort from its three year pilot entrepreneurship accelerator in May 2015 with over **450** people attending the graduation celebration at the MassMutual Center in Springfield. Over **125** teams competed for the 30 slots in this first group.

\$30
MILLION

Matching Grant Awards totaling **\$9 million** were approved to UMass-Lowell for the Printed Electronics Research Collaborative (**\$4M**) and to the Center for Marine Robotics at the Woods Hole Oceanographic Institution (**\$5M**). These awards leverage over **\$30 million** in combined matching funds.

117
STARTUPS

MassTech sponsored the New England Venture Capital Association's program to develop and manage a platform, called Tech Generation, to drive startup and student interest in technology internships. The platform received interest from **117** startups, representing **440** summer internship positions, and **782** prospective interns. Overall, **251** interns participated in Tech Generation's programming in 2015.

301
STUDENTS

In late 2014, the Innovation Institute launched the Mass Big Data Tech Trek event series to connect top university talent with founders, CEOs and technologists at the area's leading data-driven companies included an extensive group of students and speakers: **301** students engaged, **9** universities, **35** speakers, **23** companies, **6** days of treks at **13** venues. In April 2015, this success continued with a new Trek launched at WPI in Worcester, which brought together 50-plus students from Central Mass. universities, 8 speakers, and 7 data-driven companies.

418
TEACHERS

With the support of the Innovation Institute, MassCAN, managed by the Education Development Center, successfully engaged **418** teachers and more than **1,000** students in various Computer Science training programs.



ENTREPRENEURSHIP & MENTORING INITIATIVES ACHIEVEMENTS

Entrepreneurship for All (EforAll)

The Innovation Institute made an FY'15 award in the amount of \$346,785 to expand EforAll's programs and support networks to the South Coast region of Massachusetts, which will reshape the economic development landscape in the region by building and enhancing conditions for entrepreneurship. EforAll is a premier initiative of the Deshpande Foundation, building upon the successes of the Deshpande Center at MIT, MassChallenge, and the Merrimack Valley Sandbox EforAll to support entrepreneurship as a means for economic and social impact in communities and neighborhoods in Gateway Cities. Over the course of the fiscal year the Innovation Institute assisted EforAll's start up efforts to connect with key South Coast stakeholders to build out a regional entrepreneurship support network. This South Coast support network will be connected to EforAll's existing mentoring and business support resources. The Innovation Institute expects to make follow-on support for the program in the next two fiscal years.

Valley Venture Mentors (VVM)

VVM provides entrepreneurs with free mentoring support to launch and scale their business. The Innovation Institute's path-breaking work in support of VVM - maturing from a monthly ad-hoc pitch event, to the state's first fully functioning replication of MassChallenge at the regional-scale - is widely credited as the "but for" ingredient achievement of this three-year pilot effort in the Pioneer Valley. The Innovation Institute catalyzed this effort through a \$100,000 FY15 award and expects to do so as well in FY16 and FY17. This award is credited with leveraging \$2.6 million in additional funds from private sources in the region. Additionally, MassMutual is operating a \$5 million dollar venture fund which is being specifically used to attract and support start-ups in the Greater Springfield-region. All of this was predicated on the view by serial entrepreneurs and private investors that the future economic health of the Pioneer Valley would largely be dependent upon the ability to increase the number of start-up investment opportunities and to improve the quality of those opportunities.

Massachusetts Computing Attainment Network (MassCAN)

The fiscal year 2015 pilot work on the MassCAN project led to teacher professional development training for 606 teachers and to 2,431 Massachusetts public school students taking an "Exploring Computer Science" course during the school year. The Innovation Institute began work with MassCAN to pursue plans to move new K-12 computer science and digital literacy education standards to completion; to collaborate with MA DESE to recruit and support a Task Force to

INNOVATION INSTITUTE GOVERNING BOARD

Chairperson: Donald R. Dubendorf, Esq., *Attorney-at-Law,* Dubendorf Law; Board Vice-Chairperson, Massachusetts Technology Collaborative

Ex Officio Members:

The Honorable Jay Ash, *Secretary,* Executive Office of Housing & Economic Development, Commonwealth of Massachusetts; Board Chairperson, Massachusetts Technology Collaborative

Pamela W. Goldberg, *CEO,* Massachusetts Technology Collaborative

Marty Jones, *President and CEO,* MassDevelopment

Governing Board Members:

Julie Chen, PhD, *Vice Provost for Research,* University of Massachusetts Lowell

C. Jeffrey Cook, *Partner,* Cohen Kinne Valicenti & Cook LLP

Thomas G. Davis, *Former Executive Director,* The Greater New Bedford Industrial Foundation

Priscilla H. Douglas, PhD, *Principal,* P.H. Douglas & Associates

Patricia M. Flynn, PhD, *Trustee, Professor of Economics & Management,* Bentley University

Amy K. Glasmeier, PhD, *Department Head - Urban Studies & Planning,* Massachusetts Institute of Technology

Michael A. Greeley, *General Partner,* Flare Capital Partners

Emily Green, *President and CEO,* Smart Lunches

C. Jeffrey Grogan, *Former - Partner,* Monitor Group LP

Richard K. Lester, PhD, *Japan Steel Industry Professor and Department Head,* Nuclear Science and Engineering; *Faculty Chair and Founding Director,* The Industrial Performance Center, Massachusetts Institute of Technology

Teresa M. Lynch, *Former - Senior Vice President & Director of Research,* Initiative for a Competitive Inner City

Daniel O'Connell, *President,* Massachusetts Competitive Partnership

Timothy Rowe, *Founder & CEO,* Cambridge Innovation Center

Pieter J. Schiller, *Partner Emeritus,* Advanced Technology Ventures

Stephen C. Smith, *Executive Director,* Southeastern Regional Planning & Economic Development District

Mitchell G. Tyson, *Principal,* Tyson & Associates

Karl Weiss, PhD, *Professor Emeritus,* Northeastern University

Jack M. Wilson, PhD, *President Emeritus, & University Distinguished Professor of Higher Education,* Emerging Technologies, & Innovation, University of Massachusetts Lowell

Phyllis R. Yale, *Advisory Partner,* Bain & Company

Patrick Larkin, *Director,* Innovation Institute at the Massachusetts Technology Collaborative; *Deputy Director,* Massachusetts Technology Collaborative



develop new licensure standards; and undertake teacher professional development; and is working to assemble a blue ribbon panel of education and workforce leaders to help define how computer science education connects and fulfills workforce needs.

INTERNSHIP PARTNERSHIP ACHIEVEMENTS

New England Venture Capital Association (NEVCA)

The Innovation Institute began a pilot program to better excite and support an entire community of college students, tech startups, and established firms around tech internships through a statewide internship matching platform called The Tech Generation, or TechGen. Launched in February 2015, the Tech Gen web platform generated a following among its target audience, having received interest from 117 startups, representing 440 summer internship positions, and 782 prospective interns. To encourage students to apply for tech sector internships, TechGen recruited and engaged 25 student “ambassadors” at 11 Boston area college campuses, and organized 4 cross-campus events during Feb-Jun 2015 to connect students and companies. An additional 7 events took place during the latter summer months. A survey conducted of summer 2015 TechGen participants found that nearly all the responding students would recommend future tech sector internships to their friends and, on average, would be likely to seek a job in Massachusetts after graduation.

MassTech Intern Partnership

From July 2014 thru February 2015, the MassTech Intern Partnership received applications from 22 students and 60 companies. Up through February 2015, the program had enough available resources to sponsor stipend awards for 30 student interns at 23 companies. Participating companies self-reported that 9 of those students were hired post-internship. The MassTech Intern Partnership Program was suspended in February 2015 due to 9C budget cuts.

Cumulatively, since launching in spring 2013, the MassTech Intern Partnership received interest from 1,552 college students looking for internships from more than 500 firms formally seeking internship support. The available resources allowed the Innovation Institute to make 234 student internship stipend awards (average amount: \$2,900) to 141 participating companies.

THE MASSACHUSETTS BIG DATA INITIATIVE ACHIEVEMENTS

Mass Big Data Tech Treks

In fall 2014, MassTech piloted the Mass Big Data ‘Tech Trek’ event series, launched to connect top university talent with founders, CEOs, and technologists at the area’s leading data-driven companies. The pilot included an extensive group of students and speakers: 301 students engaged, 9 universities, 35 speakers, 23 companies, and 6 days of Treks at 13 separate venues. The inaugural Trek, launched as part of the Mass Big Data Initiative, was designed to build community to affect an

increase in graduates that choose to stay in the Commonwealth to start firms or take jobs in the big data sector upon graduation. In April 2015, this successful effort continued with a Tech Trek to Central Massachusetts, hosted by Worcester Polytechnic Institute (WPI) and co-sponsored with the Worcester Regional Chamber of Commerce. That event drew 50-plus students from universities in the region, as well as 8 speakers, and representatives from 7 data-driven companies. Upcoming planned Tech Treks include an event in the Five College area of Western Massachusetts, focused around the new Data Science Center at UMass-Amherst.

THE INNOVATION INDEX ACHIEVEMENTS

2014 Annual Index

The 2014 edition of the Index was released on December 29, 2014. This year’s special analysis focused on the Paper Industry and was developed in-house. This analysis was prompted by a desire to highlight a legacy manufacturing industry, its evolution in the face of the technology revolution, and to show an exemplar of regional strengths beyond the traditional centers of the Innovation Economy.

COLLABORATIVE RESEARCH AND DEVELOPMENT MATCHING GRANT PROGRAM ACHIEVEMENTS

Massachusetts Open Cloud

The Innovation Institute worked closely with university partners on the critical startup phase of the Massachusetts Open Cloud (MOC) – a public, transparent cloud computing resource that will serve as a shared infrastructure in the Commonwealth for running computationally intensive and big data applications. In its first year, MOC has developed a substantial infrastructure and made it available to an initial user community as a production service for early adopters. As a member of the Executive Committee the Innovation Institute is working with top industry partners to advise MOC on business and operational models. The academic partners are heavily engaged in the project, supporting it with both technical and support services. Additionally, the \$3 million state award in the MOC has helped attract to the Commonwealth over \$11 million in federal research funding, along with a pool of top industry partners that are committed to the long-term model and to helping the MOC create a sustainable business plan for the future.

WHOI’s Center for Marine Robotics

MassTech approved a \$4 million award to the Woods Hole Oceanographic Institution to support the advancement of the Center for Marine Robotics (CMR), a new, permanent facility for research, development, and commercialization in marine robotics, housed at WHOI’s onshore and offshore facilities on Cape Cod. This project will create facilities that will accelerate the marine robotics product development process from prototyping through in-ocean testing.



The work of the center will create conditions leading to accelerated development of new and existing marine robotic technologies, and facilitate the testing and deployment of new robotic systems.

OTHER REGIONAL AWARD ACHIEVEMENTS

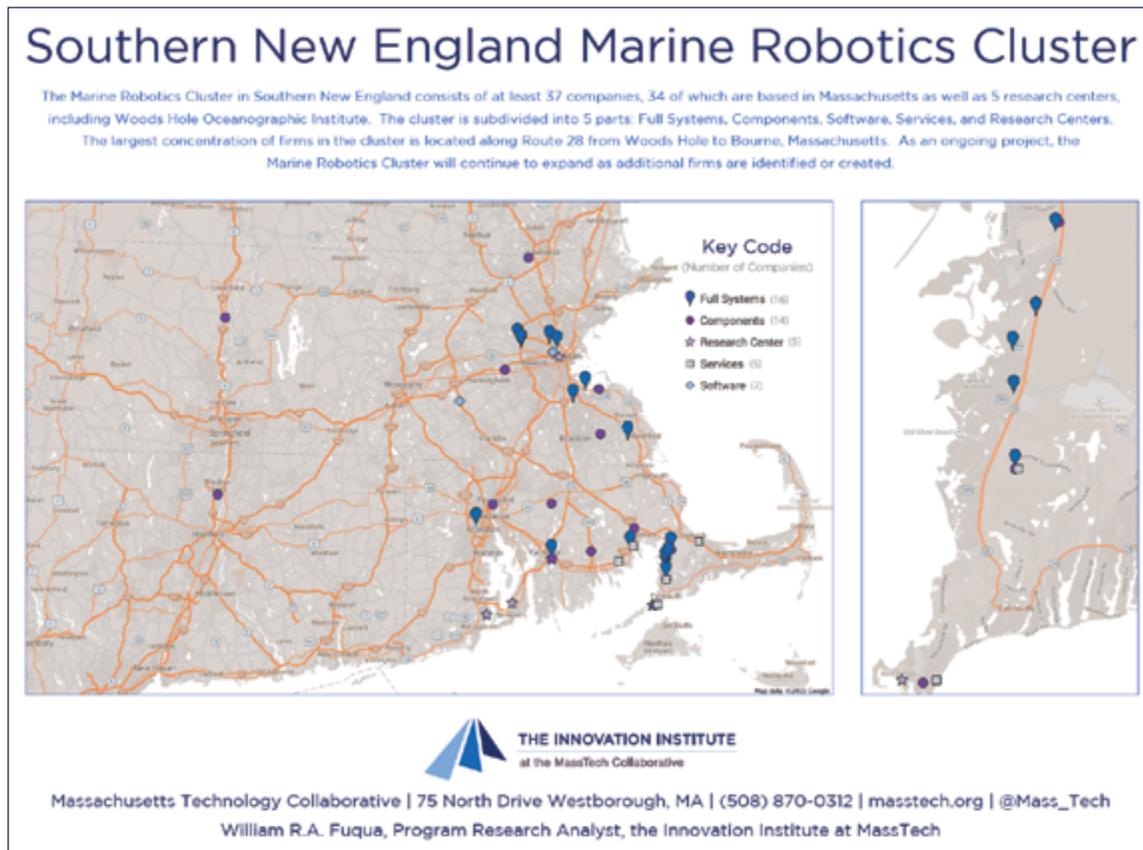
Holyoke Innovation District

The Innovation Institute continued its support of the Holyoke Innovation District (HID), a local-regional-state collaboration dedicated to creating and improving the conditions for economic growth in this Gateway City and the surrounding area. Efforts focused primarily on the HID Kitchen Cabinet, admired across the Commonwealth as a model for local-regional-state cooperation in support of creating and improving the conditions for economic growth in a Gateway City. It is widely considered by economic development professionals as having created new and unique leadership mechanisms which operate in an

opportunistic, collaborative, and voluntary manner.

Haverhill Partnership Initiative

A state and local partnership focused on identifying new initiatives and projects to stimulate growth in local innovation economies. This 18-month pilot effort commenced in the fourth quarter of FY15. Haverhill was selected because local leaders have consistently demonstrated to Institute staff a desire and commitment to create and improve the conditions for economic growth, with a special focus on modeling the leadership approaches and collaborative practices associated with HID. This new effort happens in concert with UMass-Lowell's plans to locate a satellite campus at Harbor Place, a redevelopment project which has commenced with the demolition of vacant properties at the geographic heart of Haverhill.





At the Annual Meeting of the Holyoke Innovation District (HID) on March 4, 2015, Secretary Jay Ash of the Executive Office of Housing and Economic Development (EOHED) and Chair of MassTech's Board of Directors, met with Katie Stebbins, project manager for the HID. Later in 2015, the Commonwealth appointed Stebbins to be Assistant Secretary of Innovation, Technology, and Entrepreneurship at EOHED.

OUR YEAR

In FY2015, the Massachusetts Broadband Institute at MassTech (MBI) passed several major milestones as the state's lead agency for broadband deployment and adoption. The MassBroadband 123 network is fully operational and providing services to nearly 500 community institutions throughout the region. MBI closed out three major federal grants during FY2015: the Mass VetsAdvisor web portal; the State Broadband Availability Mapping project; and the Small Business Technical Assistance program. FY2015 also marked the launch of the Commonwealth's efforts to partner with municipalities and the private sector to extend broadband service over the 'last mile,' reaching residences and businesses in rural sections of Western and North Central Massachusetts. In February 2015, Massachusetts Governor Charlie Baker announced that the Baker-Polito Administration would commit to Last Mile initiatives and fully fund the \$50 million bond authorization for the MBI. As part of the MBI's efforts, staff held numerous meetings with regional stakeholders, public officials, and local residents from areas unserved by high-speed broadband Internet. These outreach efforts will continue in earnest through FY2016.



A sign outside of the Leverett (Mass.) Village Co-Op highlights the newly launched broadband connections to homes and businesses in that town.

BY THE NUMBERS

491
COMMUNITY
ANCHOR
INSTITUTIONS

MassBroadband123 is providing service to **491** community anchor institutions (**44%**) out of the **1,108** that have been physically connected;

83%
INCREASE

During FY15, the number of subscribers on the network increased **83%** with noteworthy adoption by **119** Law Enforcement sites, **90** libraries, and **87** schools. **Thirty-three** additional customers are served by new network extensions, including many businesses in the region;

\$50
MILLION

\$50 million committed by the state for the expansion of Last Mile broadband solutions to unserved and underserved municipalities in the Commonwealth;

127,000
PAGE VIEWS

MassVetsAdvisor.org, a web portal that provides a one-stop location to access Veterans benefits and increase online engagement by Veterans, received over **45,000** visits and **127,000** page views during FY15;

7
COMMUNITY
OUTREACH
MEETINGS

Seven (7) regional community outreach meetings held with **40-plus** municipalities in attendance to discuss strategic planning and approaches to the rollout of the Last Mile program.

In the FY2015 operating plan, MBI set goals in three major areas: 1) Expand utilization of the *MassBroadband 123* network and establishing standard network management reporting and procedures with Axia NGNetworks USA (Axia) for the middle-mile network; 2) Partner with towns to establish an approach for expanding broadband service to the “last mile” in unserved communities and partially-served communities; and, 3) Execute existing programs to expand adoption of broadband services, particularly through MassVetsAdvisor, small business services, and broadband mapping efforts. In each priority area, MBI made substantial progress toward its goals. The FY2016 Last Mile program builds upon the substantial progress made in FY2015 and is a natural continuation of those efforts.

MASSBROADBAND 123 NETWORK

Sales and Marketing

The *MassBroadband 123* network is fully operational and is providing service to 491 community anchor institutions (44%) out of the 1,108 that have been physically connected. During FY15, the number of subscribers on the network increased 83% with noteworthy adoption by 119 Law Enforcement sites, 90 libraries, and 87 schools across Western and Central Massachusetts. MBI continues to analyze subscriber adoption patterns to better coordinate with MassIT (formerly the Massachusetts Information Technology Division, or ITD), Axia, and other agencies to expand network utilization.

The MBI monitors the Sales and Marketing of services offered over the *MassBroadband 123* network to track network utilization and identify opportunities to expand adoption. In FY2015, the MBI used monthly sales reports received from Axia, thoroughly analyzed subscriber adoption patterns at a granular level by end user type, compared network adoption patterns in competitive circumstances (such as the presence of an incumbent cable provider), and identified potential obstacles to adoption by non-connected Community Anchor Institutions (“CAI”). The MBI has performed CAI outreach surveys to gather relevant data about usage, which inform our efforts to improve subscription.

Network Operations

The MBI provides ongoing oversight of all network operations (“Net/Ops”) on its *MassBroadband 123* network, which is being maintained and operated by Axia. The MBI works closely with Axia to ensure accurate and timely reporting on performance indicators to ensure the network is meeting Service Level Agreements and contract requirements.

EXPANSION OF BROADBAND INFRASTRUCTURE

Last Mile in Unserved Communities

FY2015 marked the launch of the Commonwealth’s efforts to partner

MBI BOARD OF DIRECTORS

Jay Ash, *Secretary*, Executive Office of Housing and Economic Development, *Board Chairperson*, Massachusetts Technology Collaborative

Brian Burke, *Sr. Director*, State Government Affairs, Microsoft Corporation

David Clark, *Sr. Research Scientist*, Advanced Network Architecture, MIT CSAIL

Donald Dubendorf, *General Counsel*, Dubendorf Law Office

Linda Dunlavy, *Executive Director*, The Franklin Regional Council of Governments (FRCOG)

Pamela W. Goldberg, *CEO*, Massachusetts Technology Collaborative

Kristen Lepore, *Secretary*, Executive Office for Administration and Finance

Rick Oliveri, *Former Director of IT Services*, Baystate Health Services (Retired)

Karen Charles Peterson, *Commissioner*, Massachusetts Department of Telecommunications and Cable

Eric Nakajima, *Director (January 2015 - June 2015)*, Massachusetts Broadband Institute

Philip Holahan, *Interim Director (July 2014 - January 2015)*, Massachusetts Broadband Institute; *Deputy Executive Director* and *General Counsel*, Massachusetts Technology Collaborative

with municipalities and the private sector to extend broadband service to hard-to-reach residences and businesses in rural areas in Western and North Central Massachusetts. In 2014, the Legislature appropriated state capital funds to help the MBI focus on the development of broadband ‘Last Mile’ solutions, including a \$40 Million investment to expand broadband service in 45 communities which lack any residential cable or broadband access, and up to \$5 million for broadband extensions in towns with cable franchises that cover part, but not all, of the municipality.

The Last Mile Program partners with interested municipalities on innovative, sustainable, locally-led strategies to extend broadband access to unserved residents and businesses. In early 2015, Governor Baker announced his Administration’s commitment to supporting the Last Mile Program and partnering with the MBI and participating towns. The primary project of the Last Mile effort involves development and construction of a fiber-to-the-home network for interested towns, though towns can be eligible for assistance and financial support for additional qualifying projects and solutions. The Commonwealth’s Last Mile broadband program cannot be executed without a robust partnership between the MBI and the state, municipalities, and the private sector. Throughout FY2015, MBI has focused on executing project planning, including the development of preliminary project cost

estimates and operating models, and engaging communities (including regional leaders) in preparation for their significant role in the process.

In FY2016, MBI will focus its efforts on achieving the goals of expanding the adoption of the *MassBroadband 123* network, and launching project management and implementation of last mile efforts with the towns of central and western Massachusetts.

Last Mile Broadband Extensions

In FY2015, MBI engaged in extensive planning and preparation to support communities that demonstrated significant gaps in broadband availability despite existing cable franchise operators. MBI has partnered with the Franklin Regional Council of Governments (FRCOG), municipalities, and cable operators (Charter, Comcast and Time Warner) to assess the extent of broadband coverage in the 78 communities in the *MassBroadband123* footprint with existing cable operators. MBI determined that there are 10 communities in this region in which the availability of broadband falls below the regional average of 96 percent coverage.

The MBI issued a Request for Qualifications in June 2015 seeking proposals from private providers to substantially increase the level of broadband availability in these communities to at or near the average level of coverage in the region.

BROADBAND ADOPTION AND USAGE

In January 2015, the MBI completed three major federal grants: MassVetsAdvisor, the State Broadband Availability Mapping project, and the Small Business Technical Assistance program. Final grant closeout reporting was completed in May 2015. The three projects, funded through the National Telecommunications and Information Administration’s (NTIA) State Broadband Initiative (SBI) program, contributed substantially to MBI’s mission of understanding broadband availability and expanding adoption and utilization. The MassVetsAdvisor portal is fully operational and MBI is working with the Massachusetts Department of Veterans Services to secure a permanent operator for the site and ensure its sustainability for the local Veterans and military families it supports. The mapping capabilities of MBI have been critical to project planning and municipal engagement during the planning and rollout of the Last Mile effort. The MBI’s mapping capacity will be integral to Last Mile project implementation.



Eric Nakajima officially joined the MBI as director in January 2015.

SUMMARY

The *MassBroadband123* network is changing the landscape of telecommunications in Central and Western Massachusetts. Four-hundred-ninety-one (491) community anchor institutions, including public safety agencies, town halls, libraries, and schools are using the network and reporting better service, faster speeds, and satisfaction with their experience. Of CAIs that have taken service on the network, 94% report being satisfied with their service and 96% report increased speeds compared to their previous service.

OUR YEAR

FY2015 was a year of new starts for MeHI, with a new Strategic Plan approved in June 2014, a reorganization of the eHealth Institute's operating structure, and the launch of four major Initiatives- Connected Communities, eHealth eQuality, eHealth Services, and eHealth Cluster Development. In each initiative area, MeHI made major progress:

In the Connected Communities Initiative, we conducted more than 100 interviews and 19 community roundtables to develop a comprehensive health IT needs assessment and to form the foundation for the Statewide eHealth Plan. We also launched Connected Communities Implementation Grants and will be managing the grant awards during FY2016, helping healthcare partners in communities across the Commonwealth meet their goals as laid out in the Statewide eHealth Plan.

In the eHealth eQuality Initiative, MeHI created the EHR Adoption Toolkit and opened the eQIP grant program to help Behavioral Health and Long-Term/Post-Acute Care providers adopt health information technology. At the end of FY15, the Institute had contracted with 18 grantees and were in the process of finalizing contracts with 22 additional organizations, covering 200-plus clinical sites of care in total. In the eHealth Services Initiative, the Institute successfully managed the Medicaid Meaningful Use Incentive Application program throughout the fiscal year and will continue to do so during FY16. In the Regional Extension Center effort, MeHI received an extension from the federal Office of the National Coordinator for Health Information Technology (ONC) to extend our original grant for an additional 16 months. As part of this extension, MeHI will shift toward more direct interaction with providers which will help the Institute to better understand their needs.

For the eHealth Cluster Initiative, MeHI hired a Director, confirmed the initiative's core mission, and engaged with key business community stakeholders and the Baker/Polito administration, confirming that eHealth Cluster development will be part of the Commonwealth's economic development agenda in the coming years.

During FY15, MeHI also established an Advisory Group of eHealth leaders, including representatives from the state Health Information Technology (HIT) Council, the Baker/Polito administration, and the MassTech Board of Directors, among others. MeHI works with these experts to preview programs and initiatives in order to increase the scope of input to our activities. In order to best coordinate the investment of state resources, MeHI has worked closely with the Executive Office of Health and Human Services (EOHHS) to integrate the eQuality Incentive Program (eQIP) grants with the EOHHS State Innovation Model (SIM) program, and worked closely with the Health Policy Commission (HPC) to integrate MeHI's Connected Communities activities with the Community Hospital Acceleration and Reinvestment Trust (CHART) program.

BY THE NUMBERS

441
PROVIDER
ORGANIZATIONS

441 provider organizations connected to the Hlway;

18 eQuality Incentive Program grantees accepted into the program and **22** additional organizations in the contracting process;

\$2.27 million in milestone-based grants will be awarded under eQIP to behavioral health and long-term post-acute care organizations;

\$2.27
MILLION IN
MILESTONE-BASED
GRANTS

25 practices comprising **429** providers using MeHI's Meaningful Use services;

9 practices and **49** providers using the HealthCAWS patient engagement assessment tools;

43 practices and **413** providers using the Blue Print Security Risk Analysis Tools to meet Privacy and Security Meaningful Use requirements;

347 eHealth Cluster participants identified, including **238** eHealth companies, through a survey of the eHealth landscape in Massachusetts;

347
eHEALTH CLUSTER
PARTICIPANTS

50+ interviews conducted with Massachusetts eHealth Cluster participants to help shape the Cluster Development Plan;

326 REC participants achieved Meaningful Use;

2,543 Medicaid EHR Incentive pre-audits conducted and **1,348** Medicaid EHR Incentive applications processed for payment;

\$28,490,617
IN MEDICAID
MEANINGFUL USE
INCENTIVES

\$7,389,191.16 in Medicaid Meaningful Use Incentives distributed to hospitals;

\$28,490,617 in Medicaid Meaningful Use Incentives distributed to Eligible Professionals;

32 in-person or virtual events held and MeHI leaders spoke at **8** events;

10 newsletters published, **6** Education & Events bulletins sent, and eclipsed **1,400** followers on Twitter;

1400
TWITTER
FOLLOWERS

270 views of EHR Toolkit;

107 stakeholder organizations interviewed for community needs assessment.



MeHI ADVISORY GROUP

- Dr. Karen Bell**, *Director*, Center for Sustainable Health and Care, JBS International
- Terry Dougherty**, *Executive Director*, Health Systems Transformation UMass Medical School's Commonwealth Medicine Division
- Len Fishman**, *Director*, Gerontology Institute in the McCormack Graduate School of Policy and Global Studies, UMass Boston
- Steve Fox**, *Vice President*, Zaffre Investments at Blue Cross Blue Shield of Massachusetts
- Alain Hanover**, *Co-founder*, CommonAngels; *Active Mentor*, MIT Venture Mentoring Service
- Mary Anne North**, *Innovator and Entrepreneur*
- Katie Stebbins**, *Assistant Secretary*, Innovation, Technology, and Entrepreneurship for the Executive Office of Housing and Economic Development
- Laurance Stuntz**, *Director*, Massachusetts eHealth Institute at the Massachusetts Technology Collaborative

eHEALTH CLUSTER DEVELOPMENT

- Carried out primary and secondary research, analysis, strategic planning and program development in Q3 of FY2015, including 50+ cluster participant interviews;
- Presented eHealth Cluster Development strategy and initiatives to the MassTech Board of Directors and to Katie Stebbins, Assistant Secretary of Innovation, Technology, and Entrepreneurship at the Executive Office of Housing and Economic Development (EOHED) in March 2015.
- Initiated exploration of partnership model and proposal for the Market Access Program;
- Conducted meetings with several state agencies, universities, and hospital systems toward the execution of the Healthcare Data Initiative, an effort designed to leverage existing open healthcare data sets in order to support transparency into the price and quality of healthcare delivery and the development of innovative eHealth technologies;
- Identified 350+ eHealth cluster participants and 200+ Massachusetts-based eHealth companies;

eHEALTH eQUALITY PROGRAM

The eHealth eQuality Program conducted two major initiatives:

- 1) A project to help facilitate EHR adoption planning and procurement efforts for behavioral health and long-term and post-acute care sector providers:
 - Researched national and state approaches supporting EHR adoption and identified relevant resources supporting the EHR

- planning and procurement process; &
 - Developed and launched a comprehensive EHR Planning and Procurement Toolkit, which included resources such as a roadmap, checklists, and document templates to support organizations that are preparing for EHR procurement.
- 2) A program to support the adoption and effective use of interoperable EHRs in the behavioral health and long-term and post-acute care sectors:
- Developed a milestone-based incentive payment program with escalating steps for reaching advanced health IT integration – including integration onto the Massachusetts Hlway;
 - Created and launched the eQuality Incentive Program to support EHR adoption and promote interoperability by eligible provider organizations, with emphasis on providers that serve a high proportion of public payer care clients; &
 - Conducted three rounds of solicitations culminating in the selection of 40 grantee organizations (25 behavioral health and 15 long-term and post-acute care) with over 225 facilities across the Commonwealth.

CONNECTED COMMUNITIES PROGRAM

During FY2015, the Connected Communities program focused on the development of a statewide, community-based approach to driving the use of health IT to support healthcare cost and quality improvements. The initiative aims to build broad-based expertise and grassroots stakeholder engagement with health IT.

The Connected Communities program completed a detailed needs assessment to better understand the health information technology needs of organizations across Massachusetts. The needs assessment involved semi-structured interviews as well as community roundtable discussions focused on gathering community feedback on health information technology (HIT) needs, issues/barriers, and ideas for improvement. The community interview process was led by eHealth Community Managers and conducted from October 2014 through March 2015, with the interviewing team completing 86 interviews with patient treatment organizations throughout 15 geographic communities. Additionally, 21 interviews were completed with Massachusetts government agencies, health insurance organizations, associations, and other statewide organizations. The MeHI Connected Communities team held 19 roundtable discussions across the 15 communities to present and discuss the aggregated interview findings, gather additional feedback, and identify community priority areas.

Following the interviews and roundtables, the MeHI team compiled the responses and identified priority areas to form unique Community eHealth Plans for each of the 15 communities. The needs assessment findings, interview and meeting feedback, and Community eHealth

Plans have informed and are integrated into a larger statewide eHealth Plan. The “eHealth Plan” combines the statutory responsibilities of MeHI to create an “EHR plan” and EOHHS to create an “HIE plan” for the Commonwealth. By working with all stakeholders to create a common plan, we expect to eliminate redundancy and make more efficient use of the Commonwealth’s resources.

Finally, the Connected Communities program launched the Connected Community Implementation Grant Program. The program is designed to support organizations in demonstrating community collaboration to use health information technology to address a real-world, practical, measurable healthcare need. The program team completed the first phase of a 2-tier review process for the solicitation. MeHI has selected 8-9 pre-applicants and invited them to submit a full proposal. Program staff have initiated engagement with applicants to respond to questions and provide input to improve the overall quality of the applications.



MEDICAID EHR INCENTIVE PROGRAM

As of June 30, 2015, 64 Eligible Hospitals and 5,873 Eligible Professionals are participating in the Medicaid EHR Incentive Program.

Over the past year, the Medicaid EHR Incentive Payment Program focused on four main objectives: 1) Educate health care administrators and providers on CMS 2014 CERHT Flexibility Rule; 2) Perform 100 percent pre-audits on all applications to reduce the risk of fraud and/or improper payments; 3) Develop the denial business activities; and 4) Authorize EHR incentive payments to Eligible Hospitals and Eligible Professionals.

From July 1, 2014, through June 30, 2015, the Medicaid EHR Incentive Program conducted pre-audits on 2,543 EHR incentive applications and processed 1,357 Eligible Hospitals and Eligible Professionals EHR incentive applications, resulting in \$28 million in payments. In addition, the program responded to 10,890 Meaningful Use telephone calls and email inquiries.

As the program enters its fourth year of operation the focus will shift to supporting providers to move beyond Stage 1 Meaningful Use.

MeHI REGIONAL EXTENSION CENTER (REC) PROGRAM

The Regional Extension Center (REC) program continued to offer technical assistance, guidance, and information to support Massachusetts providers with becoming meaningful users of certified Electronic Health Records. Since the start of the program in 2010, the REC has supported 3,051 primary care providers with consulting services through federal Direct Assistance grant funds in their efforts to achieve Meaningful Use of EHR systems. During FY 2014, 326 Priority Primary Care Providers completed the third and final milestone of the REC program by achieving Stage 1 Meaningful Use, for a total of 2,118 that have now completed all of the REC program milestones.

In February 2015, MeHI received a second approval from ONC to extend its grant award for another year. The program is set to end in April 2016. While no additional funds were provided with the extension, MeHI has been afforded the opportunity to continue to assist the remaining REC Priority Primary Care Providers achieve Stage 1 Meaningful Use. In addition, the additional time allows MeHI to fully transition the REC to the eHealth Services Program to help a wide spectrum of providers progress beyond Stage 1 Meaningful Use.

eHEALTH SERVICES

In FY2015, MeHI collaborated with the New Jersey REC, NJ-HITEC, to adapt their Provider Portal for MeHI's use. Combined with the knowledge and expertise of MeHI staff, the Member Portal serves as a tool for providers to obtain both general and specific Health IT guidance, as well as access to specific tools to improve their use of Health IT. This includes meeting the providers' compliance goals as well

as advancing their use of Health IT for other improvements. Features of the Member Portal include access to Meaningful Use guidance and tools; a Qualified Registry for PQRS reporting; a state-of-the-art online tool for assessing and remediating Privacy and Security practices; an online tool for assessing Patient Engagement practices; an online tool for secure storage of provider documentation; and secure messaging.

MeHI's eHealth Services Team focused its efforts on supporting providers with their Meaningful Use efforts through use of the Portal, while providing both remote and in-person services. In addition, over the last year the eHealth Services Team conducted several training and educational programs through in-person training, demonstrations, workshops, webinars, and remote trainings for providers and healthcare professionals. As a result, the eHealth Services Team was able to build solid relationships with provider practices throughout Massachusetts.

From July 1, 2014 thru June 30, 2015, the eHealth Services Team supported:

- 25 practices composed of 429 providers using Meaningful Use services;
- 9 practices comprising 49 providers using the HealthCAWS patient engagement assessment tools; and
- 43 practices and 413 providers using Blue Print Security Risk Analysis Tool.

OUTREACH & OPERATIONS

MeHI's Outreach team provides integrated outreach services for MeHI's program teams. During FY15, the Outreach team improved client access to MeHI's Health IT adoption and Meaningful Use support activities by combining the principles of marketing, outreach, communication, engagement, and education. To raise interest in MeHI's support for healthcare providers, we overhauled our website. The new design highlights our eHealth support programs, services, funding, education, and collaboration opportunities. We also completed four health IT promotional videos, which are posted on the website. These initiatives significantly increased site traffic: page visits increased by 28% while page exits decreased by 18%.

The Operations team supports MeHI's program initiatives through process and systems development. In FY15, we successfully rolled out a single Salesforce.com instance, providing a comprehensive view on the Massachusetts healthcare provider and health IT landscape. The new instance proved its value for the launch of the new eQIP, Connected Communities, and eHealth Services programs. The outreach and program teams mined the database for potential clients and partners. The new instance also facilitated the implementation of both changing and new rules for the Medicaid EHR incentive program. In spring 2015, we expanded the platform to track the eHealth Services engagement process. Overall, the instance has proven to be crucial for MeHI's initiatives.



EXIT

Laurance Stuntz, Director of MeHI, speaks during the launch of the 2014 MeHI Provider and Consumer Health IT Research Study at the Massachusetts State House, July 2014.



FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Convening Early-Stage Collaborative Initiatives: Identify and organize key stakeholders to address opportunities or unmet needs for improving conditions for growth in the innovation economy</p>	<p>Organize a mix of industry, academic, public and non-profit stakeholder leaders through roundtables, organizing committees, town hall gatherings or other methods, in focused policy/strategy sessions</p>	<p>4 new Convening sessions</p>

UPDATE

Big Data: Established and convened university-industry advisory committee to inform on all aspects of the Mass Big Data Initiative including talent and workforce development, stakeholder engagement, and open data.

Mass Scale Roundtables: (2) – September 2014 at Communispace & May 2015 at Demandware.

Haverhill: Collaborated with MassDevelopment to convene MassIT, UMass-Lowell, and the Greater Haverhill Foundation to discuss ambitions to create a robust fiber/broadband infrastructure in downtown Haverhill as a means to attract tech businesses.

EforAll/South Coast: Working with State Senator Rodrigues and a banking leader, convened the majority of the region's bankers to learn about EforAll's resounding success.

Holyoke Innovation District (manufacturing): Assembled a collaborative discussion about improving connections between start-ups and the small/medium sized manufacturing firms in western Massachusetts.

ISO/NE: Organized and facilitated detailed discussions between Independent Service Operator of New England (ISO-NE), the electricity grid manager, and the Mass. Green High-Performance Computing Center (MGHPCC) in Holyoke for the purposes of using MGHPCC to accomplish computing/analytical tasks which improve grid reliability; this has resulted in a pilot experiment for ISO-NE being run at MGHPCC which may lead to a sustaining engagement.

Organized, hosted and facilitated the monthly meeting of the manufacturing Community of Practice, which brings 30 workforce development professionals from all over the state together for best practices with regard to the labor supply for manufacturing.

Organized and hosted a monthly cross-agency meeting to level-set/coordinate various manufacturing related initiatives.



FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Research & Cluster Analytics: Improve the Commonwealth's understanding of conditions for economic growth through data and analysis</p>	<p>Produce a fact based benchmark for measuring the performance of the innovation economy.</p> <p>Strengthen regional economic and cluster competitiveness through research and analysis leading to greater economic impacts.</p> <p>Support and inform the evolution of policy strategies improving cluster development programs and services</p>	<p>Release annual Index of the Massachusetts Innovation Economy</p> <p>Produce three published materials that advance understandings around discrete policy and cluster dynamics</p> <p>Provide cluster analysis research materials to Big Data, Flexible Electronics and Advanced Manufacturing programs</p>

UPDATE

2014 Index released at the end of December 2014.

2014 Index Special Analysis covering the Paper Industry was developed in-house.

Marine Robotics Cluster Map created for the 1st Annual Marine Robotics forum held at Woods Hole.

Internal briefings generated about National Network for Manufacturing Innovation opportunities and existing programs.



FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Support Ecosystems for Innovation by Executing Industry-Driven Initiatives: Support industry-led initiatives focused upon increasing innovation capacity in the Commonwealth, including those designed to support the tech sector, the innovation economy's talent pipeline, and increase the competitiveness of the Commonwealth's big data and advanced manufacturing clusters</p>	<p>Manage initiatives out of the Tech Hub Collaborative, including those focused on computer science education, innovation economy brand identity, growing companies to scale, and engagement with policymakers</p> <p>Drive and enhance the Mass Big Data initiative, enhancing the competitiveness of the big data cluster</p> <p>Provide strategic services and support to the Administration and stakeholder organizations (e.g. AMC, Creative Economy Council, NSSC, SPARK, PAX East)</p>	<p>Ongoing support for 20 projects</p> <p>Engagement of 250 key stakeholders</p> <p>Support for a collective of 40-50 meetings across projects leading to policy recommendations or economic development services or events (e.g. business plan competitions, app. challenges, training services, etc.)</p> <p>Startup of 6 new projects or initiatives</p> <p>200 consultant engagements</p>

UPDATE

The Innovation Institute exceeded projections to support 20 projects and has been instrumental in the development of more than 40 key policy/economic development events. It is responsible for the startup of more than 6 new projects and has provided consultant engagement support on more than 200 occasions.

Big Data: Piloted the Mass Big Data 'Tech Trek' talent program in Boston, Cambridge, and Worcester to connect top university talent with founders and technologists at the area's leading data-driven companies. The pilot included 380 students engaged from 15 universities and 40 speakers from 30 companies.

Big Data: Piloted the Mass Data Lab at the MGHPCC to aggregate, organize and prepare Commonwealth data sets to enable opportunities to engage agency and external partners around driving both public data releases and follow-on data-driven events.

Tech Hub Legislative Caucus: The Tech Hub Legislative Caucus, supported by the Tech Hub Collaborative's Policy Working Group, organized several events at PayPal, the MassTLC 'unConference', and at the State House.

The State House Day 2015 event was attended by 300 people and included 33 organizations and more than 40 speakers to discuss the opportunity of the Internet of Things in the Commonwealth.

MassInno ID: Agreement between MassTech and MassTLC signed to provide funds for video to highlight region's tech workers.

Mass Scale Roundtables (2): September 2014 at Communispace & May 2015 at Demandware.

Organized a regional meeting of the Southeastern Massachusetts Advanced Manufacturing Collaborative (SMAMC) and Secretary Bialecki (October 2014).

(continued on next page)



UPDATE (continued from previous page)

Supported a regional meeting, based upon the October design, for the SMAMC to host the Massachusetts Advanced Manufacturing Consortium and Secretary Jay Ash (May 2015).

Holyoke Innovation District collaborated in the launch of SPARK, an entrepreneurship accelerator focused on the Latino community. The first cohort of one dozen entrepreneurs formed in June 2015 with successive groups launching throughout 2015 and 2016. This was funded through the Working Cities Challenge from the Boston Federal Reserve Bank.

Valley Venture Mentors graduated its 1st cohort for its three-year pilot entrepreneurship accelerator in May 2015, with over 450 people attending the graduation celebration at the MassMutual Center in Springfield. Over 125 teams competed for the 30 slots in the 1st group.

EforAll accomplished extensive outreach throughout the South Coast region between January and July 2015 as it prepared to launch a regional entrepreneurship accelerator. Outreach included dozens of 1:1 meetings, more than ½ dozen major presentation with groups ranging from 20 to 50 people.



Pat Larkin, Director of the Innovation Institute, speaks at a roundtable with entrepreneurs at the Quincy Center for Innovation on March 31, 2015. Also in attendance was Speaker Robert DeLeo of the Massachusetts House of Representatives (R) and numerous other elected officials from the region.



FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Support Regional Innovation-Based Growth Strategies and the Expansion of Entrepreneurship and Startup Culture in all Regions of the Commonwealth: Manage programs and initiatives which support locally-driven regional innovation strategies or improve the competitiveness for local start-up entrepreneurs</p>	<p>Provide investment and management support to the Holyoke Innovation District (HID) initiative.</p> <p>Administer the Regional Priority Grant program, making strategic investments and development partnerships which strengthen clusters or regions</p> <p>Sponsor and support MassDiGI at Becker College</p> <p>Administer the Innovation Mentoring Initiative, expanding regional entrepreneurship capacities</p> <p>Sponsor and support startup competitions including MassChallenge</p> <p>Increase the tech talent pool through administration of the MassTech Intern Partnership</p>	<p>25 regional priority awards</p> <p>4 mentorship feasibility awards</p> <p># of Internship stipends – TBD [contingent upon legislative appropriation]</p> <p>2 Innovation Institute led conference events, strategic planning/outreach support for 12 additional key stakeholder events, and sponsorship of 12 additional events</p>

UPDATE

Despite numerous reductions in state budget appropriations, the Innovation Institute was still able to make 14 regional priority awards in FY'15.

Despite the cutting of the Mentoring Initiative budget, the Innovation Institute continued to further the Initiative's goals by funding six (6) new awards through other sources.

Over 600 students and 300 companies engaged (benchmark of 400 students and 200 companies from FY13 & 600 students & 300 companies in FY'14).

MassTech Intern Partnership: 30 students placed with 24 companies via the Intern Partnership program, which received interest from 192 prospective interns and 58 prospective companies in FY'15.

Since the start of this program, formal agreements have been established between MassTech and 132 companies. Through these matches we have successfully placed 231 students in internships at these companies.

Internship Program: 1,555 potential interns and 500 companies have applied and completed registration for the program.

Completed post-experience participant satisfaction analysis.

The Innovation Institute led 2 conference events in advanced manufacturing and supported more than 12 regional stakeholder driven events. It provided sponsorship support for close to 6 additional events.

(continued on next page)



UPDATE (continued from previous page)

MassTech provided the New England Venture Capital Association (NEVCA) with a \$70K grant to develop and manage a platform, called Tech Generation, to drive startup and student interest in technology internships. The platform received interested from 117 startups, representing 440 summer internship positions, and 782 prospective interns. Overall, 251 interns participated in Tech Generation’s programming in 2015. Tech Gen was able to sponsor a number of programmatic activities including fireside chats at Communispace and Microsoft, as well as treks to The Gromment, EverTrue, and Blade among others.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Strengthen Collaborations Among Industry and Academia in Emerging Technology Areas: Manage research and development investments in emerging, high-growth technology areas</p>	<p>Administer \$50 Million MassTech Collaborative Research Matching Grant Program. Continue management support for existing portfolio grantees</p>	<p>3 Matching Grant Awards Ongoing interactions and strategic support for 45 portfolio grantees</p>

UPDATE

Matching Grant Awards totaling \$9M to UMass-Lowell for the Printed Electronics Research Collaborative (\$4M), Center for Marine Robotics at Woods Hole Oceanographic Institution (\$5M).

Evaluation of four (4) additional proposals that have not yet been awarded funding (Advanced Cyber Security Center, Fraunhofer Innovation Center, MassRobotics, Advanced Nanomanufacturing Cluster for Smart Sensors and Materials at Northeastern University).

Ongoing support work for 45 existing awards and the addition of support of 16 new grantees.



FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Leverage Investment: Increase innovation capacity in Commonwealth through increased private and public investment</p>	<p>Encourage and evaluate additional investments intended to support the project based and related activities of the Innovation Institute</p>	<p>Amount of leveraged direct and indirect investments in projects and investments. Amounts: TBD</p> <p>Amount of investment invested in companies affiliated with our work (e.g. 12x12, Mass Challenge, etc.) Amounts: TBD</p>

UPDATE

The Innovation Institute leveraged \$15,200,359 in direct investment in FY'15.

MassChallenge: \$211 million in alumni revenue generated in the period from October 2013-2014. Total current valuation of MassChallenge Alumni is more than \$2.5 billion.

Valley Venture Mentors: In the first VVM accelerator, 13 startups received \$282,500 in equity-free prize money. In the first quarter of calendar year 2015, startups at VVM raised \$590,000 in private funding.

12x12 has wound down per 2014 report.



VALLEY VENTURE
MENTORS

Pay to the Order of EDENIS Date April 30, 2015

TWENTY SEVEN THOUSAND FIVE HUNDRED Dollars

For Accelerator Awards! *Scott Foster*

The Innovation Institute has been a supporter of Valley Venture Mentors, a start-up accelerator and entrepreneur mentoring hub located in Springfield, Mass. Here, VVM Board Members Scott Foster and Jay Leonard (R) present an award to Edenis, LLC, at VVM's 2015 Accelerator Awards on April 30, 2015.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Network Operations and Management: Improve relationship with network operator and strengthen management</p>	<p>Establish regularly scheduled meetings to track contract deliverables and network operations</p> <p>Establish procedures to monitor network operations</p> <p>Ensure timely delivery of plans and reports from network operator</p>	<p>Bi-weekly deliverable meetings and Net Ops meetings have been established with Axia Management and Operational Teams</p> <p>Open contract deliverables from the Network Operator Agreement are tracked and resolved</p> <p>Annual Plan, Quarterly Extension reports, Outside Plant Maintenance Plans delivered, new products introduced. Progress made on Fiber Management Plan</p> <p>Network operator NOC has provided several reports related to measuring the health of the network</p> <p>Projects such as CAI/POI clean up, G4S Warranty claims and on-going operational efforts are closely monitored and tracked with Axia</p>

UPDATE

Meetings have been established and are continuing on a bi-weekly basis.

Ongoing items are being tracked on a bi-weekly basis and are routinely being resolved.

The Annual Plan has been received, as has the Quarterly Extension Report. The Outside Plant Plans have been delivered, and as new products are delivered to the market, MBI is notified. An additional product offering (AAP) has been created, allowing progress to be made on the outstanding issues in the fiber management plan. These outstanding issues are not impacting operations. For example, MBI/MassTech has recently authorized the sale of dark fiber to 186 Communications.

Monthly network statistics are being generated and monitored by Axia and MBI.

CAI and POI clean-up projects and G4S warranty claims continue to be closely monitored and tracked.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Network Sales and Marketing: Increase network utilization and move toward sustainability Increase adoption of <i>MassBroadband</i> 723-enabled broadband services by connected CAIs, resulting in improved service and/or lower cost</p>	<p>Monitor network and business performance based, in part, on reports submitted by Axia using agreed template Develop and Implement plan with ITD, EOPSS, and other state partners Conduct outreach in conjunction with commercial service providers and Axia Provide advisory services to towns</p>	<p>Increase number of total customers purchasing services on the network Increase number of MassIT/EOPSS sites purchasing services on the network Survey subscribing and non-subscribing CAI and gather relevant data about usage to inform additional outreach and subscription strategy 10 “pilot” towns to receive advisory services in FY15</p>

UPDATE

491 of the 1108 CAI have purchased services, and 33 additional customers served by extensions at close of FY15.
 207 EOPSS/MassIT CAIs have purchased services, an increase of 122 since the start of FY2015; coordination with MassIT and EOPSS to support subscription is under way.
 Meetings continue with Service providers, Axia, and end user CAI’s in an effort to provide stronger adoption and help remove obstacles.
 All 1,108 CAIs contacted with survey; responses received from 165 CAIs (52 via online survey, 107 via phone). 94% of respondents report being satisfied with service.
 Town advisory services program complete. Needs assessment reports finalized and were presented to towns.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Adoption/Availability: Increase adoption/usage of broadband by target populations</p>	<p>Complete work under the two federally funded SBI grants (CDC program, MassVetsAdvisor). Design and launch new broadband adoption/usage program</p>	<p>CDC program: Reach additional businesses in 2nd round of funds availability Meet all Federal requirements for closeout</p> <p>Mass VetsAdvisor: Increase registered users Increase website functionality Meet all Federal requirements for grant closeout</p> <p>Adoption: Complete adoption best practices report</p>

UPDATE

Final submissions for each program were completed as required in May 2015.

CDC: 77 businesses were awarded \$800,000 in technical assistance including hardware and software purchases, website development, purchase of broadband service, and technical training. Program evaluation drafted.

MassVetsAdvisor: Registered users – 5,958

MVA: Website redesigned and converted to be fully responsive on mobile devices to support increased use of smartphones and tablets; program evaluation drafted. Transition to DVS in process.

Adoption – preliminary report drafted but not published; Adoption work has focused on driving CAI adoption/*MassBroadband 123* network utilization.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Expanding Access: Expand access to broadband service in “partial” cable towns</p>	<p>Working in concert with towns and cable companies, develop plan for expanding access to broadband services in “partial” cable towns and allocating bond funds</p>	<p>Improve accuracy of service data across communities through direct outreach to towns</p> <p>Create detailed map updates from provider information and town feedback</p> <p>Utilize the improved data to create cost estimates and potential allocation strategies</p>

UPDATE

Three (3) meetings held with target communities - 12 towns attended.
 Received map or service level feedback from 19 communities.
 Received map or service level feedback from providers for 33 towns in footprint (46 statewide).
 Cost estimates created for extension of existing plant in 17 towns. Ten (10) target communities of need identified. Workshop with providers and towns held March 5th, 2015.
 RFQ issued June 19, 2015 to identify eligible high-speed Internet providers interested in public-private partner solutions to expand broadband in target communities.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Expanding Access: Expand access to broadband services in towns that do not have cable broadband service</p>	<p>Working in concert with towns and relevant organizations, develop plan for establishing broadband networks in non-cable towns</p> <p>Design and engineer network in non-cable towns (44), including potential use of wireless technologies</p> <p>Provide network construction grants</p>	<p>Host community outreach meetings to gain town feedback on strategic approach</p> <p>Host financial forum meetings to discuss financing and cost issues</p> <p>Increase coordination with regional partners, including FRCOG/ WiredWest</p> <p>Draft Owner's Project Manager RFP for regional network design</p> <p>Provide network grant(s) to at least one community</p>

UPDATE

Seven (7) community outreach meetings held; 45 towns invited, 41 attended. Average meeting attendance of 45 people.

Four (4) financial forum meetings held; 45 towns invited, 36 attended. Avg. meeting attendance of 37 people.

In addition, FRCOG and WiredWest co-hosted 11 "deep dive" meetings with towns and have additional meetings scheduled.

Additional meetings held with town select boards for additional Q&A and process presentation, which will continue in FY16.

OPM RFP re-scoped and requirements added to other planning and network design elements.

The MassTech Board approved a grant of up to \$762,903 to Leverett to defray a portion of the construction costs that were incurred in connection with the development of a ubiquitous Fiber to the Premises("FTTP") network in that municipality.

Launched Broadband Planning Assistance Grant program on June 8, 2015, with goal of providing up to \$5,000 per town to support unserved communities in Last Mile planning activities.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>100% Adoption of Interoperable Electronic Health Records by 2017</p>	<p>Launch eHealth eQuality Program Launch Connected Communities Program, conduct Community assessment and planning, and develop Community Grant proposals Continue Medicaid Meaningful Use Incentive Payment Program</p>	<p>85% Organization adoption of EHRs 10% of provider organizations enabled for exchange via the HIway 10 EHR vendors directly connected to the HIway Make up to 8 Connected Community awards</p>

UPDATE

EHR adoption survey was delayed until FY16.
 441 Provider Organizations connected to the HIway out of an estimated 5,000 organizations; approximately 9% of provider organizations.
 16 EHR vendors connected to the HIway; 1 more in testing.
 Connected Communities grant awards anticipated by end of calendar year 2015.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Support Massachusetts Health Reform Efforts</p>	<p>Adopt Health Policy Commission framework for community engagement</p> <p>Launch Meaningful Use Support Services</p> <p>Continue assessment of Massachusetts' Health IT Adoption</p>	<p>Publish a statewide EHR plan update for FY'15</p> <p>10% of individual providers enabled for exchange via the Hlway</p> <p>900 providers using Meaningful Use services</p> <p>Conduct 4 regional educational events on health IT</p> <p>Conduct 2015 Provider and Consumer Health IT Adoption Survey</p>

UPDATE

Launch of statewide eHealth plan scheduled by end of calendar year 2015.

At the end of FY15, there were 11,520 providers listed in the Hlway directory out of approximately 25,000 active licensed physicians in the state, approximately 46% of all providers.

842 providers using Meaningful Use services.

Opted to not do the Regional Meetings, instead focused efforts on website updates and webinars.

2015 Consumer survey is planned for the fall of 2015. Provider adoption is being tracked through updates to the MeHI Salesforce database.

FY 15 GOAL	FY 15 ACTION	MEASUREMENT
<p>Engage Consumers using eHealth</p>	<p>Continue connection between the HIway and patients Support provider Meaningful Use Stage 2 certification</p>	<p>2 patient “on-ramps” to the HIway 200 providers using the HealthCAWS patient engagement assessment tools Sponsor a patient engagement Innovation Award prize</p>

UPDATE

1 patient “on-ramp” in testing (NexJ).
 49 providers using the HealthCAWS tool.
 The patient engagement program was deferred to FY16.

<p>Grow and Promote Innovation and the eHealth Cluster</p>	<p>Enhance the initial baseline analysis of the Massachusetts eHealth Cluster</p> <p>Develop a committed group of industry leaders to advocate for this group of companies</p> <p>Continue support for the annual Massachusetts Connected Health Week</p> <p>Establish a pilot partnership with community colleges or vocational technology schools in the Commonwealth to support health information technology curriculum development and workforce development</p> <p>Establish a structure and process for awarding “prizes” to support innovation in eHealth technology development</p>	<p>5 CEOs committed to supporting eHealth Cluster growth</p> <p>Successful execution of MA Connected Health Week in October 2014</p> <p>Launch the Healthcare IT Workforce pilot in partnership with Community Colleges and/or Vocational Schools to train 150 students</p> <p>Conduct 3 eHealth Cluster Stakeholder events</p>
---	--	---

UPDATE

Working with the Baker administration, industry, and academic leaders to formalize the structure to guide eHealth Cluster growth. MeHI and then Senate President Therese Murray hosted a successful MA Connected Health Week and associated EU-US eHealth Conference at the State House in October 2014.

Health IT Workforce pilot launched with Springfield Technical Community College.

Deferred MeHI-organized eHealth Cluster events to FY16. Promoted 10 eHealth Cluster events to stakeholders through our existing communication channels.

On following page: Cover of the event program from the 5th EU-US eHealth Marketplace & Conference, which took place at the Massachusetts State House in October 2014. The event brought together hundreds of public officials, healthcare administrators, and private sector leaders from both Massachusetts and the European Union to discuss ways to drive innovation in electronic healthcare.



5th EU-US eHealth

MARKETPLACE & CONFERENCE

MASSACHUSETTS STATE HOUSE - BOSTON, MA

October 21 & 22, 2014



Massachusetts
It's all here.

DIVISION	ORGANIZATION	GRANT NAME	AWARD AMOUNT	# OF RECIPIENTS
Innovation Institute	Valley Venture Mentors	Support for creation of a start-up accelerator program	\$100,000	1
Innovation Institute	Pioneer Valley Planning Commission	Support for the Holyoke Innovation District	\$156,650	1
Innovation Institute	MassChallenge, Inc	Support for the MassChallenge start-up accelerator program	\$50,000	1
Innovation Institute	Education Development Center, Inc.	Expansion of the MassCAN computer science education program	\$145,434	1
Innovation Institute	UMass - Boston	Support for the Global Entrepreneur in Residence (Global EIR) pilot program	\$60,000	1
Innovation Institute	New England Venture Capital Associations (NEVCA)	Intern Enrollment Services	\$70,200	1
Innovation Institute	TechSandBox, Inc	Development of "Techubator" program	\$12,892	1
Innovation Institute	Entrepreneurship for All (EforAll)	Support to launch and run the EforAll SouthCoast Partnership supporting entrepreneurship in the South Coast region	\$1,000,000	1
Innovation Institute	Massachusetts Technology Leadership Council, Inc. (MassTLC)	Support for TechHUB Collaborative's innovation economy identity/branding initiative	\$75,000	1
Innovation Institute	Education Development Center, Inc.	Support for the MassCAN computer science education program	\$20,000	1
Innovation Institute	Greater Haverhill Foundation	Award to support regional economic development analysis and initiatives in Haverhill	\$141,640	1

DIVISION	ORGANIZATION	GRANT NAME	AWARD AMOUNT	# OF RECIPIENTS
Innovation Institute	Massachusetts Green High Performance Computing Center, Inc. (MGHPCC)	Award to support development of the Mass Data Lab Pilot	\$20,000	1
Innovation Institute	Woods Hole Oceanographic Institution (WHOI)	Collaborative Matching Grant Program Grant to the WHOI Center for Marine Robotics	\$5,084,754	1
Innovation Institute	Multiple Awardees	Grants to technology start-up companies participating in the MassTech Intern Partnership Program	\$230,400	41
Massachusetts Broadband Institute	Leverett Municipal Lighting Plant	Broadband Last Mile Program Grant Award to support new Leverett MLP broadband network	\$838,300	1
Massachusetts eHealth Institute	Springfield Technical Community College	Grant to support health information technology workforce development curriculum project	\$173,353	1
Massachusetts eHealth Institute	Multiple Awardees	Grants to Behavioral Health and Long-Term and Post-Acute Care providers through the eHealth eQuality Incentive Program	\$1,039,500	20
Massachusetts eHealth Institute	Multiple Awardees	Regional Extension Center - Direct Assistance	\$34,500	23

MASSACHUSETTS TECHNOLOGY COLLABORATIVE
FISCAL 2015 LEADERSHIP TEAM

Pamela Goldberg, *Chief Executive Officer*, Massachusetts Technology Collaborative

Jay Ash, *Secretary*, Executive Office of Housing and Economic Development; ***Chair***, Massachusetts Technology Collaborative Board of Directors

Philip F. Holahan, *Deputy Executive Director and General Counsel*, Massachusetts Technology Collaborative

Christopher Andrews, *Chief Financial and Administrative Officer*, Massachusetts Technology Collaborative

Maeghan Welford, *Chief of Staff*, Massachusetts Technology Collaborative

Patrick Larkin, *Director*, Innovation Institute at the Massachusetts Technology Collaborative; ***Deputy Director***, Massachusetts Technology Collaborative

Eric Nakajima, *Director*, the Massachusetts Broadband Institute at the Massachusetts Technology Collaborative

Laurance Stuntz, *Director*, the Massachusetts eHealth Institute at the Massachusetts Technology Collaborative

CONNECT:

MassTech: masstech.org - MBI: broadband.masstech.org - MeHI: mehi.masstech.org

MassBigData: massbigdata.org - Tech Hub Collaborative: masstechhub.org

MassVetsAdvisor: massvetsadvisor.org

SOCIAL MEDIA:



youtube.com/masstech



slideshare.net/MassTechCollaborative



linkedin.com/company/massachusetts-technology-collaborative



flickr.com/photos/masstechcollaborative



@Mass_Tech - @MassBroadband - @MassEHealth - @MassVetsAdvisor - @Mass_Tech_Hub

@MassBigData



Supporting a vibrant, growing innovation economy across Massachusetts

MASSACHUSETTS TECHNOLOGY COLLABORATIVE
75 North Drive · Westborough, MA 01581 · 508-870-0312
2 Center Plaza, Suite 200 · Boston, MA 02108 · 617-371-3999
masstech.org · @Mass_Tech

Annual Report published by MassTech. Copyright 2015