MASSACHUSETTS TECHNOLOGY COLLABORATIVE

FY 2017 IMPACT REPORT – **GOAL REVIEW & GRANTS**

INNOVATION INSTITUTE AT MASSTECH

GOAL REVIEW

FY 17 Goal	FY 17 Action	Measurement	Update
Innovation Institute **Increase the growth of key industry clusters in MA in order to promote new business formation and job growth.**	Strategic Support: Organize and support industry-led Working Groups focused on economic growth strategies for industry clusters. Industry Partnership: Facilitate direct industry partnerships in a wide range of economic development projects focused on cluster growth (e.g. industry partnerships in Open Cloud computing; flexible electronics; underwater robotics, etc.). Cluster Support: Organize MA Robotics Industry Cluster in partnership with industry, academia and relevant technology trade councils.	Engage thought leaders in 15 projects focused on Industry Cluster Development in Massachusetts. Support strategic growth dialogues through 25 steering committee or working group sessions with key industry representatives. Promote 100 key industry partnerships in cluster-based economic development projects. Manage a designated cluster development organization for robotics in the state that assists in the development of policy recommendations used to guide Robotics Cluster Development activities within the Commonwealth. Implement 25 cluster development events across the portfolio of Innovation Institute projects in Robotics, Big Data, Flexible electronics, Advanced Sensors, Cybersecurity, etc.	MassTech engaged in dozens of industry Cluster Development Projects & Events related to Robotics, Digital Health, Marine Science, Cybersecurity, Big Data, Advanced Manufacturing, Flexible Electronics, Advanced Sensors, Internet of Things, etc. The majority of MassTech's engagements involve guidance received form Steering Committees or Working Groups. For instance all of the R&D Fund investments made by the Innovation Institute require a Steering Committee vote and our Long Range Planning is guided by Working Groups.

FY 17 Goal	FY 17 Action	Measurement	Update
Innovation Institute **Improve Ecosystem conditions for growth in the Commonwealth.**	Strategic Support: Organize and support industry-led Working Groups focused upon improving ecosystem conditions in Massachusetts. Mass Scale: Support CEO peer roundtables that examine opportunities for growing companies to scale. Education: Work with industry groups (i.e. MassCAN) to improve computer science education in MA by promoting new standards and teacher certification, and undertaking teacher development. Events: Support communities of innovation through conference gatherings, networking receptions; award ceremonies, summit activities, general hackathon events, etc. Talent: Support professional development programs or other curriculum-based learning for new or incumbent workers.	Engage thought leaders in 25 projects with a focus to Improve Ecosystem Conditions in Massachusetts. Convene and provide networking and knowledge-sharing support for the Mass Scale Working Group – 2 sessions. Continue support of the next phase of MassCAN. Support the delivery of 50 training workshops for educators to teach computer science education, subject to final Legislative approval. Execute 5 sub projects of the Holyoke Innovation District. Execute through grantees 30 networking and community building events in the tech sector.	Strategic Support: Held 5 meetings and 6 conference calls with 25 executive leaders from industry, academia and government to discuss actionable strategies to advance the Commonwealth's innovation economy. The group helped define business support and talent/workforce as areas the state should focus on to improve conditions for the tech sector. Internet of Things was also identified as a broad sector with large potential to promote and grow the innovation economy. Mass Scale: Updated list of 185 scaling companies in Massachusetts to reflect recent business announcements and identify additional scaling companies in MA. MassCAN: Continued support of MassCAN in FY'17 attending monthly Advisory Board Meetings and providing $1,000,000 in support of their mandate. MassCAN has delivered Computer Science training to ~700 teachers from ~50% of the Massachusetts school districts and a number of charter schools. Holyoke Innovation District: Partnered with MassDevelopment to support the engagement of a Transformative Development Initiative Fellow who will manage the Holyoke Innovation District, which is currently engaged on more than a dozen sub-projects.

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Innovation Institute **Increase opportunities for entrepreneurs & students and key skills of employees through mentorship, internship and business accelerator programs.**	Mentorship Program: Provide investment and program support for new and existing mentorship efforts and accelerator programs. Entrepreneurship Support: Improve entrepreneurial skills of individuals leading to new business development and job growth. Internship Support: Make Intern Stipend Awards to college students through the MassTech Intern Partnership. Student Retention: Engage with MA-based students through Tech Trek's, Office Hours with Executives, intern parties/gatherings; meetups, hackathons, guest lectures and workshops. Coordinate big data training programs for big data firms.	Launch Mentorship RFP and make 2-4 awards. Through grantees, increase number of entrepreneurs and employees with key skills by 250. Through grantees, increase the number of business startups or expansions by 100. Award 50 stipend awards for student interns from area colleges. Connect 500 top students in computer science, mathematics and statistics with 40 executives in data-driven companies through Big Data Tech Trek's and other initiatives. Support for 8 successful accelerator programs across the state. 500 Students take exploring computer science course.	Business Support (NEW): MassTech now provides business support to help guide tech companies around the incentives, programs, and resources available in MA. The agency operationalized agency protocols to manage business support intake and has dedicated a FT employee to manage relationships with business support customers. Mentorship: Launched Mentorship RFP which resulted in numerous responses, however budgetary constrains led to a decision to not make any awards related to this RFP. Entrepreneurship Support: Grantees working in entrepreneurship such as Valley Venture Mentors and EforAll instilled skills in over 250 entrepreneurs and employees. Supported 10+ accelerator programs, (such as SPARK, Valley Venture Mentors & EforAll) across the state directly or indirectly supporting well over 100 startups or expansions. Internship Support: Awarded more than 100 stipends for students from Massachusetts and from the Commonwealth's colleges.

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Innovation Institute **Support large-scale, long term Collaborative Research Projects to strengthen competitiveness of industry in Massachusetts.**	R & D Match Fund: Promote project pipeline, make awards and manage projects. Promote economic development activities from a legacy portfolio of 7 research center awards. Support industry engagement with research centers through Center Industry Advisory Committees or individual Technology or Sponsored Research Partnerships. Events: promote conferences, workshops or other events to promote idea generation and strategic partnerships around research agendas.	Make two new large scale Collaborative Research Matching Grant Program awards from the states R&D Bond Fund. Center Directors from Innovation Institute's 5 key research centers engage in strategic partnerships with representatives from 60 key small, medium to large sized firms in the state. Center Directors from Innovation Institute's 5 key research centers execute 20 agreements in technology projects or sponsored. These 5 key research centers sponsor 15 business or technology development events.	R&D Match Fund: Budgetary restrictions limited the number of R&D Program awards to one (1), the $5 million award to WPI's PracticePoint project, made in April 2017. R&D Fund Center Directors engaged with representatives of more than 100 firms in the state. Center Directors engaged in more than 20 agreements at just two of the Centers alone. The Research Centers engaged in more than 20 business/tech development events.

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Innovation Institute **Improve understandings of the dynamics taking place within the Commonwealth's Innovation Economy.**	Innovation Index: Benchmark and compare Massachusetts innovation economy with the economies of other Leader Technology States through the analysis of performance on 22 key innovation indicators. Robotics Sector: Evaluate the unmet needs and growth opportunities in the Massachusetts Robotics Industry Sector. Scaling Companies: Analyze trends associated with growing companies to scale in Massachusetts. Big Data: Update the cluster analysis of the Big Data sector in Massachusetts.	Release the 2016 edition of the Index of the Massachusetts Innovation Economy and increase web traffic by 25%. Promote industry analysis in big data and robotics. Continue to promote analysis on trends with growing innovation-driven companies to scale in Massachusetts.	Innovation Index: The 2016 edition of the Index was released on March 2, 2017. Robotics Sector: The Massachusetts Robotics Sector Report was released on October 18, 2016, highlighting over 122 companies in the sector, a rise of 57 percent from five years earlier. The report also identified over 4,700 employees, $1.6 billion in revenue, and roughly $1.5 billion invested in the Massachusetts sector in 2015. Scaling Companies: MassTech maintained a list of 185 scaling companies in Massachusetts to reflect recent business announcements and identify additional scaling companies in MA. IoT report: MassTech conducted research on the strengths and opportunities of the Internet of Things sector.

MASSACHUSETTS BROADBAND INSTITUTE AT MASSTECH

GOAL REVIEW

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts Broadband Institute **Broadband Extension Program: Finalize agreement with Comcast for the extension of broadband access in the nine partial cable towns.** **Manage the grant award to Comcast.**	Execute grant agreement with Comcast by August 2016. Develop detailed project schedule informed by Comcast field surveys and design and engineering work that will include buildout timeframes for each town. Comcast to commence make ready process and complete buildout of at least one partial cable town.	The MBI's ability to successfully monitor milestones established in the grant and provide value in helping towns understand and draw value from the contract.	Broadband Extension Program: MBI has worked successfully with Comcast to ensure compliance and progress on the contract, which was finalized and announced in August 2016. Additionally, MBI has worked with Comcast to successfully hold 9 reconciliation meetings with each town to ensure that Comcast has met and explained its required plant extension. After review, Comcast has actually designed a plant extension that covers an additional 168 premises across the nine (9) towns, at no additional cost to the Commonwealth's taxpayers. Comcast has expressed optimism that it will be able to complete the project well ahead of its two year commitment required in the grant agreement.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts Broadband Institute **Improve relationship with network operator and monitor compliance.** **Support Axia in increasing revenue via the following:** • **Increased Dark Fiber sales** • **New product sales** • **Extensions/AAPs** • **Sale of services to State Partners** **Support Axia on new product initiatives.**	Continue to hold regularly scheduled meetings that focus on finance, sales and operations. Ensure timely delivery of plans and reports from network operator. Ensure compliance with Operator Agreement. Network operated and maintained according to SLAs/KPIs. Required payments made by Axia as stipulated in the agreement. Develop sales reporting and lead tracking procedures with Axia. Work with Axia on qualifying dark fiber leads. Analyze market to determine competitive pricing of services. Analyze market demand for new services (e.g. Layer 2 Ethernet, IP Transit) and establish pricing. Utilize Axia's Salesforce application, which will provide greater business intelligence around new sales, sales trending, sales cycles, and churn. Review fiber to the tower initiatives.	• Increased Dark Fiber sales • New product sales • Extensions/AAPs • Sale of services to State Partners	The surprise bankruptcy filing in U.S. Bankruptcy Court by the operator of the MassBroadband 123 network, KCST, Inc. (formerly Axia NGNetworks, USA, Inc.) on March 22, 2017, coupled with Axia NetMedia Corporation's filing of a petition for a declaratory judgment regarding its parental guarantee, have severely, if not entirely, undercut and undermined MBI's ability to make progress on benchmarks related to the *MassBroadband 123* operation. The MBI, MassTech, and the Commonwealth have worked diligently with our legal representation to ensure that these filings have no effect on the delivery of service to customers using *MassBroadband 123*.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts Broadband Institute **Complete transfer of ownership of the Mass VetsAdvisor website to the Department of Veterans Services (DVS) by the end of September 2016.** **Provide DVS with training on website content management to ensure a successful transition.** **Continue website hosting and support contracts on behalf of DVS through this period, as needed.**	Execute transfer agreement between MassTech and DVS by the end of August 2016. Begin close out of related hosting and support contracts by the end of October 2016.	Seamless transfer of the website without an interruption in service.	MBI successfully completed the transfer of the MassVetsAdvisor website to DVS seamlessly with no interruption in service. This effort involved collaboration across MassTech, with direct assistance from government affairs, legal, communications, and IT teams. This group worked collaboratively with DVS staff to provide the necessary support and assistance to successfully complete the transfer.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts Broadband Institute **Complete Readiness Assessment process across 34 Towns.** **Complete Pole Survey work across 20 towns.** **Complete Design and Engineering work across 20 towns.** **Submit applications and Start Make Ready work across 10-15 towns.** **Develop an Operator RFQ.** **Develop construction management firm RFP.** **Consortium options developed for towns.** **Financing options develop for towns (CAFII and USDA).** **Finalize agreement with Charter and manage grant award.**	Letter of Recommendation completed for 34 towns, execute Last Mile Program Grant Agreement for towns selecting MBI Professional Services. Execute grant only contracts with 4-7 towns. Contract with pole survey contractor(s). Survey work completed in 20 towns by end of June 2017. Contract with Design Engineering firm October 2016 and complete Preliminary and final design work for 20 towns. Introductions and workshops delivered to explain consortium model to the communities. Execute grant agreement with Charter, complete network upgrade by August 2016 and complete buildout of upgraded infrastructure in at least one town by June 2017.	Manner and extent to which MBI is adding value to each town's work to establish broadband service in the community.	Because of the programmatic shift away from MBI-led construction to the direct grant program to towns through HED, many of these goals have been completed and achieved indirectly, or are now no longer operational. The grant program led by the Executive Office of Housing and Economic Development (EOHED)-built off of the Readiness work that towns completed with MBI engineers during FY 16 and FY 17. Additionally, MBI completed pole surveys on behalf of 10 communities and make ready desktop support for five (5) towns at a cost of $409,889.94. These communities are relying on these pole survey results as they design networks and prepare pole license applications for their networks, an essential, initial step in the construction of a fiber-to-the-home (FTTH) broadband network. Lastly, MBI has taken the role of supporting towns through the private provider agreeement process. Most recently, this support has manifested as assistance to towns through the cable franchising process, holding a franchising workshop with the Massachusetts Department of Telecommunications and Cable (DTC), drafting waiver requests for the towns to use, and providing input on how the grant agreement will interact with the franchise agreement. *(Continued on next page)*

FY 17 Goal	FY 17 Action	Measurement	Update
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			In August 2016, the MBI announced a $1.6 million grant to Charter Communications to upgrade and extend broadband access in the three (3) unserved communities of Hinsdale, Lanesborough, and West Stockbridge. By the end of FY'17, Charter had completed the upgrade to existing legacy systems in the three towns, a fact bolstered by a May 2017 visit by the Baker-Polito Administration several business in the town of West Stockbridge to highlight the impact of the increased connectivity. The extension of broadband to unserved areas is ongoing and on-track for successful completion within 18 months from the start of the agreement.

MASSACHUSETTS eHEALTH INSTITUTE AT MASSTECH

GOAL REVIEW

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts eHealth Institute **Grow Adoption of Interoperable EHRs.**	Build community-based approaches to health information technology and interoperability adoption. Support lagging healthcare communities in adopting technology. Support providers in getting to Meaningful Use and continuing to progress.	Support 100 percent of Connected Communities grantees in getting through Milestones 1 and 2 in FY17. Support 10 Communities in developing voluntary projects to work together across organizational lines. Develop new MeHI website content to support eligible professionals and specialty-based providers in their EHR, HIE, and Meaningful Use efforts. Get 100 percent of the eQIP grantees through at least three (3) of the four (4) milestones. Continue collaborative, outward reaching stakeholder convening to identify barriers and prioritize solutions to sharing behavioral health data. Design and launch a program that addresses those challenges and best addresses needs of the BH sector. Bring more robust content to the grantee and BH and LTPAC specialty website pages. Engage non-post-acute LTPAC orgs in eHealth efforts to improve transitions and coordination of care. *(Continued on next page)*	Six of eight (6/8) Connected Communities grantees achieved Milestone 1; three (3) achieved Milestone 2. Nine (9) Communities represented in 2016 Learning Collaborative and 1 additional Community is working to expand their use cases to additional community partners. Webpage and toolkit content updated and improved to support the Medicaid EHR Incentive Program and MeHI grant program participants. 71.05 percent of eQIP grantees achieved all four (4) milestones; 92-plus percent+ achieved at least three. Facilitated a Learning Collaborative among 19 organizations representing 10 Communities across the Commonwealth to develop tools to support providers in communicating the benefits of sharing patient information in behavioral health settings. Issued a grant solicitation for the Massachusetts Children's Behavioral Health Initiative (CBHI) interface development for Child and Adolescent Needs and Strength (CANS) reporting to support BH providers. *(Continued on next page)*

FY 17 Goal	FY 17 Action	Measurement	Update
		(Continued from previous page) Work with MassHealth to expand the Medicaid Meaningful Use program to include technical assistance to increase hands on support for eligible professionals. Design and launch the Learning Collaboratives.	*(Continued from previous page)* Continued to post updated resources and information on BH and LTPAC specialty webpages. Sponsored a digital health survey of Home Health agencies in collaboration with the Home Care Alliance of Massachusetts. Worked closely with the Mass. Executive Office of Elder Affairs (EOEA) to develop momentum for the development of digital health solutions for Aging & Caregiving. Added a Technical Assistance program to our contract with MassHealth. The TAs were integral in supporting Eligible Providers (EPs) in moving through the program to double our completion rate of EHR application validations. The Learning Collaborative program launched, completed the first Learning Collaborative, and planning began for a second.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts eHealth Institute **Support Massachusetts Health Reform Efforts.**	Identify and support promising innovations in the application of technology in healthcare. Share Knowledge / Best Practices on Health IT Adoption. Develop a consensus roadmap for technology to support health reform.	Develop program criteria for the Innovation Opportunity Fund and open it to new applicants. Work with the Massachusetts Coalition for Serious Illness to design and pilot a service to make citizens' end-of-life wishes widely available at the point of care. Convene all MeHI grantees in the fall at the eHealth Grantee Forum. Build out interoperability and practice transformation information on the MeHI website. Develop two Learning Collaboratives, one in Behavioral Health, and one supporting the Connected Communities Grantees. Keep the MA Health IT index up to date and expand the index through 3rd party research and surveys.	Resources for this program were redirected to support digital health economic development with funding for two digital health accelerators. Worked with the Coalition and other stakeholders to organize a workgroup on these issues, initiated a landscape analysis, and issued an RFI to identify available technology solutions to address this goal. Held a Grantee Forum for eQIP and Connected Communities grantees from 58 organizations. Submitted a response to the HIway Adoption and Utilization RFR to get funding to support this work; response expected in early FY'18. Held a BH information sharing focused Learning Collaborative with 19 participants; began planning for second Collaborative for fall 2017 focused on interoperability and workflow improvement. Updated EHR adoption information for all Skilled Nursing Facilities (SNFs) and began research and surveys to update information for other provider segments.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts eHealth Institute **Engage Consumers using eHealth.**	Launch Patient Engagement Program.	[To be determined based on research from Consumer Engagement survey].	Conducted research and published a report on the opportunities for digital health companies to support caregivers and caregiving.

FY 17 Goal	FY 17 Action	Measurement	Update
Massachusetts eHealth Institute **Grow and Promote Innovation and the eHealth Cluster.**	Convene and engage the eHealth Cluster. Help eHealth companies find customers and markets in Massachusetts. Improve health data transparency and availability in the Commonwealth.	Expand the Digital Health Cluster website. Develop a monthly programming schedule and drive membership and participation. Launch the Marketplace program to match new health IT products with potential customers. Launch the Early Validation program to provide expert feedback to companies at the idea generation stage. Host at least 2 data challenges.	Improved the resources available on the website; developed key elements of a revamped website with more resources, an assessment tool, improved directory of digital health sector companies, and a Digital Health Marketplace. Financially and logistically supported monthly programming at PULSE@MassChallenge and TechSpring; sent regular newsletters and communications to increase membership in the directory. Held multiple stakeholder meetings to build community and connectivity around a shared strategy. Leveraged our investments at PULSE@MassChallenge and TechSpring to support early stage companies and validate their products. Sponsored the digital health "Hawkathon" in collaboration with UMass Lowell and MIT Hacking Medicine, and leveraged our investments in PULSE and TechSpring to deliver on these commitments.

GRANTS

Division	Organization	Grant Name	Award Amount	#Of Awardees
Innovation Institute	New England Venture Capital Associations (NEVCA)	Internship Program grant for portal infrastructure, company and intern enrollment services, and event programming	$60,000	1
Innovation Institute	Multiple	Intern Stipend Grants to technology start-up companies participating in the MassTech Intern Partnership Program	$711,792	96
Innovation Institute	Dudley Vision Skylab, Inc.	Support for a entrepreneur development program operated in the Roxbury Innovation Center	$50,000	1
Innovation Institute	UMass Boston	Support for the Global Entrepreneur in Residence (Global EIR) pilot program	$75,000	1
Innovation Institute	UMass Lowell	Support for the Global Entrepreneur in Residence (Global EIR) pilot program	$10,000	1
Innovation Institute	Valley Venture Mentors	Support for a start-up accelerator program	$100,000	1
Innovation Institute	Entrepreneurship for All (EforAll)	Sponsorship EforAll Entrepreneurship in Mid Sized Cities	$1,500	1
Innovation Institute	Massachusetts Development Finance Agency	Funding for joint Holyoke Innovation District-TDI Fellow position	$90,000	1
Innovation Institute	Mass Robotics	MassRobotics Manufacturing Startup and Workforce Development Award	$75,000	1
Innovation Institute	Massachusetts High Technology Council, Inc.	MATTERS Tech Sector Profile Support to MA High Tech Council	$50,000	1
Innovation Institute	Worcester Polytechnic Institute	Support for the development of Practice Point facility for Health Care Cyber-Physical Systems	$5,000,000	1

Division	Organization	Grant Name	Award Amount	#Of Awardees
Massachusetts Broadband Institute	Charter Communications	Last Mile Grant for Broadband Build-out in Princeton	$910,000	1
Massachusetts Broadband Institute	Charter Communications	Last Mile Grant for Broadband Build-out in Egremont	$1,185,000	1
Massachusetts Broadband Institute	Charter Communications	Last Mile Grant for Broadband Build-out in Peru	$1,115,000	1
Massachusetts Broadband Institute	Charter Communications	Last Mile Grant for Broadband Build-out in Tyringham	$680,000	1
Massachusetts Broadband Institute	Charter Communications	Last Mile Grant for Broadband Build-out in Hancock	$530,000	1
Massachusetts Broadband Institute	Comcast of Massachusetts/ Virginia, Inc. ("Comcast")	Last Mile Grant for Broadband Build-out in Montgomery	$805,800	1
Massachusetts Broadband Institute	Towns: Egremont, Heath & Leyden	Broadband Planning Assistance Grants	$15,000	3
Massachusetts Broadband Institute	Town of Warwick	Last Mile Wireless Project in Warwick	$450,000	1
Massachusetts Broadband Institute	Town of Heath, Osmose Utilities Services, Inc.	Utility Pole Survey services grants to towns for broadband development	$568,224	10
Massachusetts eHealth Institute	eHana LLC, Netsmart Technologies, Inc., PsyTech Solutions, Inc., Qualifacts Systems	Electronic Health Records Vendor Grant to develop, test and implement CANS HL7 interfaces	$193,000	4
Massachusetts eHealth Institute	MassChallenge, Inc.	Support for the Digital Health Hub	$170,000	1

Division	Organization	Grant Name	Award Amount	#Of Awardees
Massachusetts eHealth Institute	TechSpring	Support for the Digital Health Hub	$80,000	1
Massachusetts eHealth Institute	UMass Lowell	UMass Lowell Digital Health Hackathon Sponsorship	$5,000	1