



**Continued Leadership through Collaboration:
Massachusetts Biotechnology Council's
2015 Strategic Plan**

MBC
Massachusetts Biotechnology Council

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Continued Leadership through Collaboration: The Massachusetts Biotechnology Council's 2015 Strategic Plan



Executive Summary

In the short 30 years since biotechnology emerged as an independent science, Massachusetts has risen as the world leader in the industry. We have attained this stature without a great deal of planning or strategy. For the most part, we have benefitted from the confluence of world-class teaching hospitals and academic institutions, the talented people those institutions produce, and a robust venture capital community. This position can not be maintained, however, without new approaches in public policy, regulations and the educational system. We need an overall strategic plan that mirrors the innovation occurring in our laboratories.

Our position of leadership is tenuous. Other regions of the world are investing heavily in laboratory and manufacturing facilities while also developing scientific and technical talent to support biotechnology, thus presenting a real and constant threat to the competitive advantages of our life sciences super cluster. Our industry needs enlightened public policy, municipalities that welcome biotech facilities, collaborative relationships across the local life sciences community, and the best and the brightest candidates to fill jobs ranging from manufacturing technicians to scientists.

The new Life Sciences Initiative, signed into law last year, was certainly a step in the right direction. The Life Sciences Initiative will significantly enhance the state's position as the preeminent destination for the most meaningful research in the biotech field. It will directly foster research with a first-in-the-nation centralized repository of new stem cell lines available to public and private research enterprises. Other programs derived from the LSI will streamline technology transfer, reduce development time and increase funding opportunities. Just as importantly, the initiative will support life science companies through an improved tax structure, along with grants and loans that will leverage even more federal and private sector investment. In the midst of this progress, however, ill-informed special interests continue to seek legislation and regulations that would place Massachusetts at a profound disadvantage in the competition to retain and attract companies that are committed to solving unmet medical needs.



To be more cost competitive, the industry must continue to expand beyond the Cambridge-centered core. The state has already helped improve the ability of cities and towns to host biotechnology facilities through expedited permitting via Chapter 43D. In addition, the Massachusetts Biotechnology Council has launched a BioReady Communities Campaign to help municipalities better prepare for biotech facilities. Statewide initiatives improving the development process are crucial to our industry's growth.

Any strategic plan must include doing more to enhance and grow a native pipeline of students who embrace life sciences as a career path. That is being done in part by the MassBioEd Foundation which, through its BioTeach program, has brought bioscience curricula, teacher training and specialized equipment to over 160 public high schools to date. The basis for a blue print to do even more is contained in the Life Science Talent Initiative Study sponsored by the Massachusetts Biotechnology Council with the Massachusetts Life Sciences Center. We must and will work closely with the Massachusetts Life Sciences Center to ensure that we are educating our future workforce and bridging the informational gaps that exist among industry, all levels of education and the state and federal government.

We must act now to prepare for a future in which cities, states and countries around the world will be competing for our spot as a leader in the life sciences. We must work collaboratively to bring the energy and resources that will be necessary to maintain our preeminence. We invite you to join us in evaluating and implementing the recommendations made here, and in working together to utilize this report and its recommendations as a road map to keep Massachusetts on track and remain as the preeminent force providing benefits on a local, regional and global level.

MBC: THE VOICE OF BIOTECHNOLOGY IN MASSACHUSETTS AND AROUND THE WORLD

MBC continues to be the champion for the Massachusetts biotechnology industry at the local, state and federal level. We offer support to the industry, and play a key role for our member companies, in the following ways:

- By advocating for state and federal policy issues that may help the biotechnology industry in Massachusetts, and by educating policy makers on potential adverse consequences of legislation.
- By providing operational assistance to companies of all sizes through our Purchasing Consortium, professional development forums and other various member services.
- By assisting cities and towns across Massachusetts in realizing the positive economic impact that the biotechnology industry has and can continue to have in Massachusetts.
- By facilitating connections between member companies and potential funding sources through events like the Investors Forum.
- By providing funding and support for the Massachusetts Biotechnology Education Foundation which enables development of science training in the community and educates our existing talent pool.
- By promoting the biotechnology industry and its importance for patients worldwide and the Massachusetts economy to thought-leaders, government officials and the general public.

MBC'S 2015 VISION ANCHORED IN COLLABORATION

MBC embarked on an effort to develop a 2015 strategic plan that would enhance and maintain Massachusetts' competitive position as a leading biotechnology cluster in the world. With a fast-changing economic climate, the environment was primed for MBC to take a fresh look at the trends and forces shaping the biotechnology cluster in Massachusetts and to examine how changes in the industry might affect our members' short and long-term needs.

This was not an exercise we could undertake on our own. Through our partnership with Deloitte Consulting LLP and L.E.K. Consulting we were able to bring together different stakeholders in the biotech community to collaboratively develop this plan to guide the industry in the coming years.

We engaged representatives from member organizations and other industry stakeholders in candid discussions that included one-on-one interviews, focus groups, workshops, and a visioning session. These discussions helped crystallize a 2015 vision that lays the foundation for MBC's future direction, that being:

MBC will help Massachusetts enhance its premier biotech position by strengthening its focus on novel research and development, facilitating scientific and business collaboration, and advocating for supportive public policies, ultimately transforming patient treatment globally while driving the growth of the Massachusetts economy.

In order to execute this vision, MBC has developed a strategic plan, which will guide our activities over the next seven years as we continue to support the success of the Massachusetts biotechnology cluster.

We thank all of the individuals from Deloitte and L.E.K., along with MBC Board Members and the many other industry stakeholders, who provided us with their insight and knowledge of the important issues that we all face.

AREAS OF FOCUS

Six areas of focus were identified as key components which will play a role in the success of the biotechnology industry:

1. **Scientific Collaboration and Innovation:** Promote continued innovation and collaboration in research and development so that Massachusetts can retain and enhance its world class position in this area
2. **Capital Formation:** Improve access to capital in the short and long-term by promoting and enabling access to various funding sources through meaningful events and advocacy
3. **Business Services:** Provide services that help companies increase their operational efficiencies and reduce their burn rate
4. **Talent:** Enhance and accelerate efforts to attract, develop and retain biotech thought leaders and talent at all levels
5. **Company Recruitment and Retention:** Improve company recruitment and retention efforts through proactive strategies and marketing efforts aligned with initiatives undertaken by the Commonwealth and other economic development partners
6. **Industry Representation:** Improve the industry's representation and raise MBC's level of influence through collaborations with other associations and clusters and by raising public awareness of biotech through continued marketing campaigns and advocacy

Stakeholders clearly identified these areas as the most crucial to contribute to the continued success of the Massachusetts cluster.

A SHARED VISION—AND RESPONSIBILITY

The Massachusetts Biotechnology Council represents more than 600 companies with unique perspectives on the direction that the biotechnology industry is headed on a local, national and global level.

We are proud that MBC's diverse membership includes biopharmaceutical companies of different focus areas and size, academic medical centers, venture capital firms, private investors, law firms, vendors to the industry and other organizations supporting the sector. As a result of this diverse mix of stakeholders, we are in a position to represent, influence and facilitate collaboration amongst multiple stakeholder groups for the collective success of the Bay State's biotech cluster.

The vision and strategic plan outlined in this report will lead to concrete action items that are aimed at keeping the Massachusetts biotech cluster at the forefront of the industry. Implementing these action items will require that we engage and connect with all members of the biotech community. Our member companies, industry stakeholders, opinion leaders and the general public should all take part in fostering the growth of biotechnology. Not only is the industry a source of growth for our economy in Massachusetts, it is also an industry in which the United States still maintains a decided advantage in an increasingly competitive global marketplace. Furthermore, and not to be forgotten, our industry's main goal is to help improve the quality of life for those who are sick.

State of the Massachusetts Cluster

THE MASSACHUSETTS BIOTECH CLUSTER: CONTINUING TO LEAD THROUGH TUMULTUOUS TIMES

The key components of the MA Biotech cluster

The Massachusetts biotech cluster is preeminent in novel research and development. The cluster is favored with a great mix of academia, industry, and investors that form the foundation for its success, especially in innovative R&D. Massachusetts has:

- 400+ biopharma companies
- The country's top 5 NIH-funded research hospitals and the highest NIH funding per capita
- Multiple world-renowned universities
- 30 major venture capital firms
- Over 40,000 employees

However, to continue to be successful, the cluster will need to be cognizant of external trends and increasing cluster competition, not only in the U.S. but globally, while also responding to the evolving needs of its stakeholder community. We will need to take these two perspectives into account as they affect the future success of the Massachusetts cluster.

Understanding the global landscape

Competition for market share, weak pipelines and increasing cost structures have driven life sciences companies to look beyond borders to access quality resources and capabilities. To gain a comprehensive picture of the trends impacting biotechnology, it is relevant to not only look at the U.S. clusters but also the international clusters that are investing heavily in this industry.

A high-level quantitative and qualitative assessment of U.S. and worldwide biotech clusters resulted in identifying Massachusetts, San Diego and San Francisco as the leading and more "integrated" clusters, primarily due to their diverse mix of biotech companies and capabilities. These clusters also enjoy the benefits of housing world-class research universities and robust venture capital communities. In addition, these clusters have multiple fully-integrated biotech companies with commercialized products. Within the "integrated" cluster category, another sub-group was identified but determined to be lagging behind the top three. These include Philadelphia, Switzerland, and the United Kingdom. These clusters are also considered integrated but exhibit one or more weaknesses in areas such as availability of VC funding, environment for clinical trials and maturity of the companies when compared to the three leading clusters.

We must act now to prepare for a future in which cities, states and countries around the world will be competing for our spot as a leader in the life sciences.

Clusters such as North Carolina (specifically Research Triangle Park), Ireland, Washington D.C. and Canada are mostly focused on specific areas such as manufacturing or clinical trials due to favorable tax and land incentives, and inclusive and welcoming business and policy environment. These clusters have evolved as “specialty” clusters in their defined areas of focus, for which they become known. Such specialty focus can attract companies with corresponding specific needs to open facilities in those locations or to enter into agreements with local companies or service providers.

Some of the international clusters such as China, India and Singapore are considered “emerging” due to their recent prominence in the industry. India and China boast lower costs of operations, access to high numbers of scientists, and favorable policy and economic environments that are conducive to the growth of the biotech industry. In addition, these clusters are increasingly becoming a key contributor in identifying and enabling innovative business models, both in terms of servicing their own internal markets, as well as in continuing to provide new types of opportunities for partnerships and outsourcing agreements with foreign companies.

While many clusters express the intention to evolve into a leading cluster, there are significant barriers they will have to overcome first. Depending on the cluster in question, these barriers include some or all of the following:

- Limited availability of venture funding
- Reliance on importing innovation to compensate for a lack of innovative research infrastructure
- Heavy focus on one or a few functions of the value chain
- Limitations around clinical trials
- Limited scientific and commercial talent

The vision and strategic plan outlined in this report will lead to concrete action items that are aimed at keeping the Massachusetts biotech cluster at the forefront of the industry.

The biotech industry is facing unprecedented challenges as a result of the current economic, policy and regulatory environments

Understanding trends that will shape the Massachusetts biotech cluster

The biotech industry is facing unprecedented challenges as a result of the current economic, policy and regulatory environments. Biotech companies in Massachusetts need to anticipate these challenges and develop strategies to enhance their chances for survival. Companies must create opportunities that enable them to succeed.

Near-term challenges for the Massachusetts biotech community are:

- **Availability of Funding:** Due to the tenuous economic environment, many small Massachusetts biotech companies may be forced to discontinue operations, sell assets or be acquired by larger biotech or pharmaceutical companies. Reduced levels of NIH funding in recent years have further curbed investments in innovation at academic medical centers and research universities.
- **Strategic Partnerships:** Driven by weak pipelines and high cost structures, big pharmaceutical organizations are actively looking for ways to improve their operational flexibility and effectiveness. As they look to fill their pipelines, acquisitions, alliances, joint ventures and partnership opportunities are consummated. Smaller Massachusetts biotech companies can become attractive targets for acquisition and partnerships.
- **Reimbursement and Regulatory Concerns:** In an effort to control costs, payers are scrutinizing biologics with an increasing emphasis on comparative and cost effectiveness. Biotech companies are not immune to these reimbursement and regulatory pressures and will need to invest more effort and resources to meet these higher standards.

To prepare for the future, MBC will also need to evaluate trends which have the potential to impact the cluster in the medium and long-term timeframe. Some of the longer term trends include:

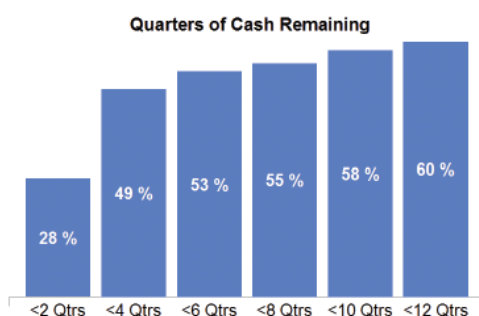
- **Innovative Technologies:** Targeted therapies, combination technologies, stem cells, RNAi and other new technology areas pose both opportunities and challenges in Massachusetts. Because other biotechnology clusters operate in policy environments more favorable to investment in innovative technologies, Massachusetts will need to reexamine its position towards these technologies to continue to maintain its competitive edge.
- **Shifting Markets:** With efforts to reduce costs across the value chain, outsourcing or partnering for certain commoditized services (CRO/CMOs) to other countries like India, China or Ireland will be the norm. This trend could pose a threat to Massachusetts if companies continue to invest heavily outside the state and talented international scientists and technologists trained in the U.S. return to their home countries for work opportunities.
- **Government Policy Changes:** With a new administration in Washington, policy changes such as healthcare reform are expected and could potentially impact all clusters within the U.S. MBC would need to continue to advocate strongly for the Massachusetts biotech industry at both the federal and state level and help prepare the cluster for any impending changes.

UNDERSTANDING THE NEEDS OF MASSACHUSETTS STAKEHOLDERS

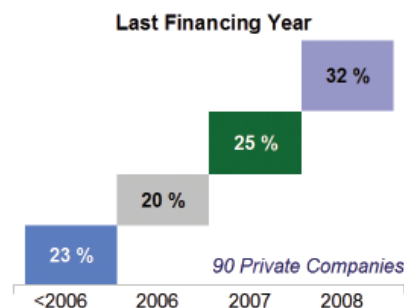
Economic Challenges Underscore the Need for Collaborative Efforts

A quantitative assessment of Massachusetts biotech companies revealed that a significant number of Massachusetts-based companies may run out of funding over the next two years. Almost 50% of public companies face the risk of running out of cash by the end of 2009, while one-half to one-third of private companies will be looking to raise funds in 2009 (assuming that private companies typically raise funds every 2-3 years).

Cash reserves for 83 public MA companies



Year of last financing by 90 private MA companies



(Source and Analysis by Deloitte Recap LLP; data as of Q2 2008)

This analysis highlights the need for a collective effort by the industry, state and federal policy makers, research universities, and academic medical centers to resolve the capital issues and reduce the impact of the current economic crisis. MBC, with representation from these key stakeholders, can help foster an environment of broader thinking regarding the future success of the state's biotechnology community.

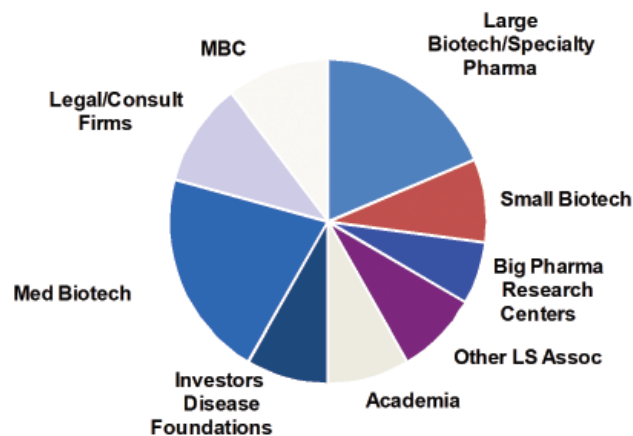
We intend to continue focusing on the needs expressed by our stakeholders and to contribute to their continued success through our many services and activities.

UNDERSTANDING THE NEEDS OF MASSACHUSETTS STAKEHOLDERS

One Community, Diverse Needs

MBC seeks to serve all our stakeholders, according to the unique needs of each. In order to measure the impact of the external industry trends and the competitiveness of other biotech clusters on Massachusetts biotech stakeholders, more than 40 one-on-one interviews as well as a government affairs focus group were conducted.

Interview and Focus Group Participants by Stakeholder Type




Individual stakeholder needs vary considerably by stakeholder type and generate “asks” that differ based on financial situation, focus or competitive positioning. The interviews revealed needs across four major categories. The priority of these needs vary by stakeholder, highlighting the diversity of MBC’s members and the need to focus on activities relevant to each stakeholder group. The interviews also identified opportunities that can be optimized and shared across all stakeholder groups for mutual benefit and the challenges in trying to develop a more collaborative environment that focuses on collective success within Massachusetts.

The following table highlights the common and the differing needs of cluster stakeholders. For the larger biotech and pharmaceutical companies, the major needs center around creating a supportive political and regulatory environment as well as fostering more collaboration. For the small biotech firms, access to capital is the one burning issue, followed by access to the operational services which reduce their burn rate. Academic medical centers are mostly in need of increased NIH funding to continue innovative research. Investors are focused on regulatory issues such as patent reform and are looking for additional avenues to find innovative technologies.

UNDERSTANDING THE NEEDS OF MASSACHUSETTS STAKEHOLDERS

Needs Category	Med-Large Biotech / Pharma	Small Biotech	Academic Medical Centers	Investors
Policy / Regulatory	<ul style="list-style-type: none"> More favorable policies/regulations re: IP protection, biosimilars, importation, reimbursement, sales and marketing, and green technology 	<ul style="list-style-type: none"> Secure benefits from LSI funds Improve access to SBIR funding R&D tax credits New suite of tax incentives for non-commercial biotech 		<ul style="list-style-type: none"> Regulatory policies to clear the pathway for profitable investments
Access to Capital / Funding		<ul style="list-style-type: none"> Immediate access to capital to support survival Connections to new sources of funding 	<ul style="list-style-type: none"> Increased NIH funding to promote innovation 	<ul style="list-style-type: none"> Current company survival and / or exit / sell opportunities
Operational	<ul style="list-style-type: none"> New business models to improve cost structures Effective processes for expanding infrastructure in MA Retention of top talent Efficiencies in transferring innovation from academia 	<ul style="list-style-type: none"> Gain better cost efficiencies through purchasing consortium / outsourcing / shared services Retention of top talent Reduce start-up costs, burn rate, and need for capital 	<ul style="list-style-type: none"> Accelerated discovery and translational capabilities Expediting novel compounds to clinical trials Retention of scientific talent when grants are constrained 	<ul style="list-style-type: none"> Transparency into operational efficiencies of invested companies
Collaboration / Partnering	<ul style="list-style-type: none"> Collaboration / partnership opportunities across Life Science industry sectors Virtual R&D opportunities 	<ul style="list-style-type: none"> Collaborations / partnerships for new innovation and commercialization Shared operations partnerships 	<ul style="list-style-type: none"> Innovation and disruptive technology collaborations for future commercialization Better connections with industry 	<ul style="list-style-type: none"> Connect with innovations with good potential in academia and other sectors

Overall Priority  abc
 N/A Low Medium Critical

As in the past, we intend to continue focusing on the needs expressed by our stakeholders and to contribute to their continued success through our many services and activities. The vision and strategy outlined in the following section will further address how we work to strengthen the cluster in the next several years.

UNDERSTANDING THE NEEDS OF MASSACHUSETTS STAKEHOLDERS

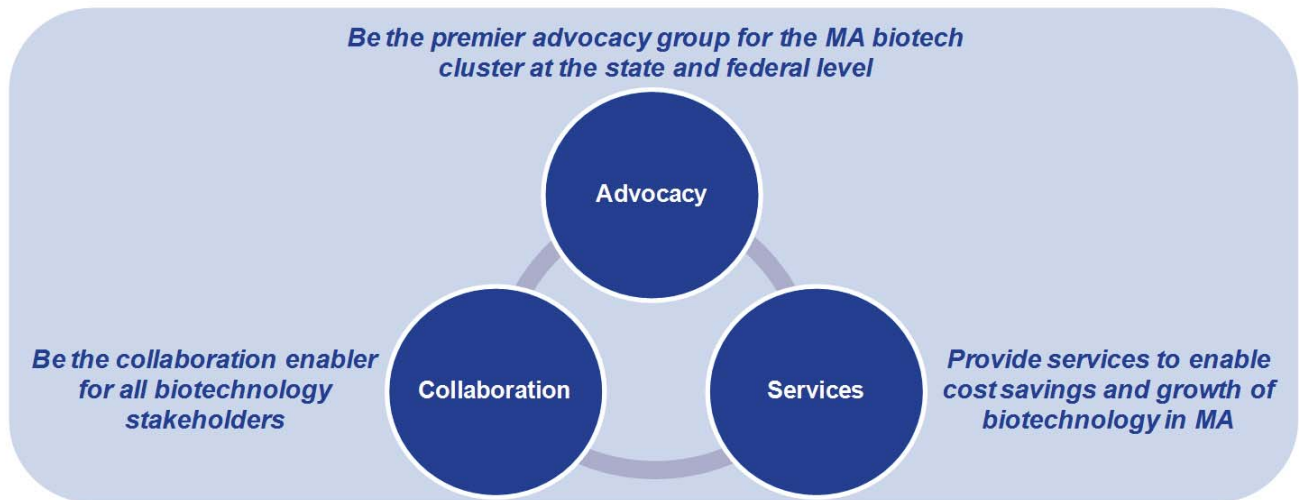
One Community, Diverse Needs

A Vision for 2015

Considering industry trends, interviews with stakeholders and the competitive analysis of biotech clusters, MBC's new 2015 Vision Statement was created.

MBC will help Massachusetts enhance its premier biotechnology position by strengthening its focus on innovative research and development, facilitating scientific and business collaboration, and advocating for supportive public policies to ultimately achieve better patient outcomes.

As an organization, MBC will make the vision operational and continue to provide value to the MA cluster by pulling the organization's three key levers: advocacy, services and collaboration.



The following sections provide further details on the specific initiatives we will spearhead within the six key areas of focus of the 2015 Strategic Plan.



PROMOTE INNOVATION BY FACILITATING CONNECTIONS AMONG KEY STAKEHOLDERS

Description

We hold a strategic position as an organization with representation from multiple stakeholder groups. We need to leverage this unique position and continue to facilitate events that foster collaboration between stakeholders and thus help support innovation. These events should be made very relevant to MBC stakeholders, and aim to engage key leaders from the cluster.

Rationale

- Massachusetts is a leader in biotechnology; however, its value proposition may decline if it loses its eminence in innovation.
- Interviews revealed the need to better align the academic community with industry to further improve collaboration between them, as well as to address the technology transfer processes and the clinical trial environment.
- Opportunities exist to take advantage of the cluster's strong life sciences industry presence (e.g., biotech, pharmaceutical, medical device, diagnostics) and concentration of other key stakeholders (e.g., research universities, academic medical centers) through collaboration to position the cluster as a leader in several areas, including convergent drug-device solutions, personalized medicine and translational research.

Current Activities and Gaps

We host committee meetings, professional development forums and networking events promoting collaboration between different stakeholder groups. Our special events, including the Annual Meeting, trade expos and the Policy Leadership Luncheon, also present opportunities for creating connections between the varied participants. Although the activities of the MBC committees have included discussion on innovative technologies, a more formal forum to include academia and industry would support debate on common issues such as clinical trials or technology transfers.

Recommended Enhancement and New Initiatives

- Organize more frequent, high-quality, science-related events to provide a forum for Massachusetts' key life science stakeholders to collaborate, network, and promote best practices and knowledge sharing on high value topics and scientific issues. Establish a feedback mechanism, through formal or informal channels, to drive event topics and content.
- Develop partnerships with Massachusetts-based hospital associations representing both academic and community hospitals to better understand the limitations and challenges, as well as opportunities for clinical trials in the state. Develop actionable recommendations for each stakeholder group (biotech companies as well as medical centers) to improve the clinical trial environment.



IMPROVE ACCESS TO CAPITAL FOR COMPANIES IN NEAR AND LONG-TERM

Description

Given the significant impact of the current economic crisis on the biotech industry, access to capital and tapping into new funding sources is at the forefront of stakeholder concerns. Discussions with stakeholders have identified the need for MBC to get out in front of this crisis in the near-term, as well as assist in addressing the longer term capital needs of the Massachusetts cluster.

Rationale

- Nearly 50% of public biotech companies in Massachusetts are operating with less than a year's worth of cash and about 40 private Massachusetts companies have not received financing since 2006.
- Diminished availability of funding is hampering the biotech industry's ability to invest in R&D. Due to the challenging financial health of the biotech industry, many MA-based companies will be forced to find a buyer, sell assets or discontinue operations if they are not able to secure necessary funding.
- Federal funds are likely to be made available through an economic stimulus package earmarked for additional early-stage research. For years prior to recent stimulus efforts, NIH funding increases had slowed dramatically, putting even more pressure on academic medical centers and research universities trying to fund innovative research.

Current Activities and Gaps

We advocate actively at the federal level for increases in NIH funding and expansion of SBIR programs. We will continue to dedicate effort towards advocacy at the federal and state level for all capital-related issues. We currently host an annual Investor Forum and organize events like the new Pharma Days with the objective of bringing potential investors and opportunities together. These events have been well received, with stakeholders recommending additional and more targeted, smaller events.

Recommended Enhancement and New Initiatives

- Improve interaction between industry and investors through smaller, more targeted and focused events (e.g. therapeutic area events, speed networking for VC's and biotech companies).
- Identify and facilitate access to alternative funding sources such as angel investors, disease foundations and foreign investors.
- Work with Governor Deval Patrick, state legislators, and the Massachusetts Life Sciences Center to support funds becoming available to the life science industry and assist in developing recommendations and guidelines on how to best disseminate the funds.



PROVIDE SERVICES TO REDUCE BURN RATE AND ENABLE GROWTH

Description

For MBC to become even more relevant and create value for our members, we need to continue to offer and expand on services that improve members' operational effectiveness and provide opportunities for enhanced cost savings to reduce organizational burn rates.

Rationale

- Enabling the success of start-up and early stage biotech companies is critical in supporting a sustainable and innovative biotech industry presence.
- Start-ups and small companies greatly benefit from services and support which provide assistance establishing a company and reducing operating costs.
- With the \$1B Life Science Initiative, opportunities exist for Massachusetts companies to apply for and receive grants and tax credits. However, many small biotech companies are unaware of these opportunities, or lack the expertise and knowhow to navigate the application processes for tax credits, grants and other government related programs.

Current Activities and Gaps

We currently provide operational support to members via the Purchasing Consortium, which helps provide significant cost savings to its members through a network of vendors with negotiated discounts. We are moving forward with plans to include additional services such as health benefits, liability insurance, energy and accounting/legal services.

We also provide a wide range of advisory services to our members on an ad hoc basis and are expanding services to include video conferencing services. Based on stakeholder discussions, formalizing and better articulating these services will create true value to member organizations. In addition, we have the opportunity to offer access to the Purchasing Consortium to a larger audience by tapping into other Massachusetts-based organizations.

Recommended Enhancement and New Initiatives

- Provide formal advisory services (e.g., "office hours" for advice on legal and IP matters, PR support) and information services (e.g., access to industry databases and reports) to biotech companies. Identify clearly a scope of services and point of contact for these services.
- Electronically connect buyers and providers of "bio-services" to take advantage of the industry presence and scale and provide additional sources of revenue for companies (e.g., excess lab capacity).
- Enhance the support provided companies with the navigation of application processes related to government grants and tax credits.
- Evaluate opportunities for establishing a public-private biotech center to promote new startup companies and transfer of academic innovations to industry.



ENHANCE AND ACCELERATE EFFORTS TO ATTRACT, DEVELOP AND RETAIN TALENT

Description

We plan to continue to invest in activities that support development, retention and attraction of talent at all levels to fill the growing and varied needs of the Commonwealth's cluster.

Rationale

- Talent is the main driver of Massachusetts' success as a cluster but the availability of qualified scientists, research associates and technicians is becoming an increasing challenge.
- Demand for highly qualified biotech talent is growing, both in traditional R&D and in expanding downstream business sectors, such as clinical trials, bio-manufacturing and commercialization.
- The quality of the skilled workforce in Massachusetts, typically those with advanced graduate degrees and doctorates, is among the finest in the US. However, Massachusetts' high cost of living makes this a less attractive location for retaining talent and attracting associate-degreed biotech workers.
- Although the state has many excellent higher education and training programs in life sciences, these programs are not always well coordinated and could be more responsive to the changing needs of the industry.

Current Activities and Gaps

We support the MassBioEd Foundation's objective to bolster science education in schools through programs such as BioTeach, which provides training and lab equipment to high school teachers, and the new Massachusetts Life Sciences Education Consortium. We plan to continue to support the implementation of the recommendations of the Life Sciences Talent Initiative report, "Growing Talent," which are aimed at bringing industry and academia together, expanding interdisciplinary curriculum in undergraduate programs and developing the biotech technical education curriculum. Career opportunities available in the cluster are publicized through MBC's website and through the Career Fair. This continued focus on talent can be further enhanced with more coordinated events and programs that are flexible and timely given the economic conditions.

Recommended Enhancement and New Initiatives

- Advocate at the state level for new incentives (e.g. loan forgiveness, training grants, payroll tax credits) to help companies with hiring and retaining highly skilled talent.
- Expand availability of professional development efforts through MassBioEd to increase the depth and breadth of the talent pool in Massachusetts, and further develop technical, managerial and entrepreneurial biotech talent. Ultimately, these course offerings could be provided through a dedicated institute.



IMPROVE COMPANY RECRUITMENT AND RETENTION EFFORTS

Description

The Massachusetts biotech cluster's strength is closely linked to the presence of a large number of diverse biotech and pharmaceutical organizations. To keep pace with the efforts and incentives aimed at making companies relocate and invest in competing clusters, we need to support efforts to recruit and retain more biotech organizations. This can be achieved by focusing on the execution of proactive and coordinated marketing efforts that are well integrated with efforts initiated by the Commonwealth of Massachusetts and other business organizations.

Rationale

- Massachusetts is a strong cluster that can attract a diverse set of biotech companies (e.g., start-up, early stage, late development, mature commercial, as well as providers of enabling services).
- However, Massachusetts' economic development efforts toward biotechnology are complex and fragmented, requiring coordination among a large variety of state and local organizations.
- Massachusetts municipalities often pose challenges for companies trying to establish a R&D or manufacturing presence.
- Massachusetts' higher costs deter companies from establishing operations in the state.
- The fragmentation of the value chain, coupled with the emergence of new biotech clusters around the world, present both challenges and opportunities for Massachusetts, as companies will be looking to increase flexibility and reduce costs, often through partnerships with companies in other clusters.

Current Activities and Gaps

We currently provide counsel to companies on finding the right locations, opportunities and relevant state programs for relocation and expansion. We also coordinate the BioLeads program where key development agency representatives collaborate to advance relocation and expansion projects in Massachusetts. However many of these activities are more reactive in nature with limited focus on a coordinated recruitment strategy. We need to invest in efforts that improve coordination amongst stakeholders and improve marketability of Massachusetts. To that end, we should work with key stakeholders to aggressively publicize the results of the BioReady Communities Campaign through proactive marketing efforts aimed at targeted companies. Finally, we should also continue to advocate for improved business policies, to work to limit harmful legislation, and to work with state agencies to improve the effectiveness of current recruitment processes.

Recommended Enhancement and New Initiatives

- Coordinate the development of a clear recruitment and retention strategy for the state, including the articulation of a value proposition and, using state-of-the-art databases, the identification of the types of companies Massachusetts should target.
- Continue to coordinate with appropriate agencies and develop new policies to streamline all public and private economic development activities, making it easier for companies to navigate the process.
- Identify, evaluate and facilitate opportunities to create a higher level of collaboration and "open door" agreements with select international biotech clusters and companies.



IMPROVE INDUSTRY REPRESENTATION THROUGH COLLABORATION WITH OTHER ORGANIZATIONS

Description

We plan to continue to invest in advocating on behalf of the Massachusetts biotechnology industry at the state and the federal level. We have an opportunity to increase the effectiveness of our efforts through better coordination with other state, regional and national industry organizations.

Rationale

- Massachusetts is home to numerous industry organizations, government agencies and “think-tanks” devoted to the life sciences and / or health care industries, many of which support and work towards similar goals while providing the same services to companies.
- Increased awareness of the benefits of biotechnology will help further the establishment of a biotechnology friendly environment in Massachusetts and contribute to further development of the cluster.
- As the lines between pharma and biotech blur, biotechnology may need to put more emphasis on distinguishing itself, its research, its products, and its impact on patients’ lives.

Current Activities and Gaps

We have been working with regional life sciences organizations such as the Massachusetts Life Sciences Center and MassMEDIC in state and BIO at the national level. There are several other regional organizations that can be effectively leveraged to further our influence in representing the Massachusetts cluster on Beacon Hill or Capitol Hill. Members have emphasized the need for optimizing efforts across all life science organizations and creating a unique MBC brand. Stakeholders have requested continued emphasis on public awareness for the industry through a focused public awareness campaign. Interviews with MBC members also suggested we can improve our level of influence and relevance by better demonstrating the value we provide to our member companies.

Recommended Enhancement and New Initiatives

- Work with other Massachusetts organizations and industry associations to clearly define the scope of activities and identify opportunities for collaborative and coordinated efforts.
- Develop and implement a public awareness campaign, educating both the general public and state legislators on the full benefits of biotech and the industry’s economic impact to Massachusetts.
- Further increase CEO engagement through organization of CEO-only events (e.g., CEO Summits, topical roundtables) and by asking CEOs to drive implementation of specific 2015 strategic initiatives.

Concrete actions will produce tangible results

This report will lead to concrete action items aimed at keeping the Massachusetts biotech cluster at the forefront of the industry. The MBC will take the lead in implementing the recommendations contained in this report, but for a successful implementation to occur, it will be critical that all stakeholders collaborate on these initiatives.

WE NEED YOUR PARTICIPATION

To aid in the roll-out of these initiatives, we will look for support from cluster stakeholders. Specifically, we will engage a broad cross-section of cluster representatives as the implementation gets underway.

These recommendations can not be implemented unilaterally or overnight. The Massachusetts Biotechnology Council is committed to working with all of the industry's stakeholders over the next several years to harness our collective talents and efforts in moving the biotechnology industry forward. It's time to work together and ensure Massachusetts is the preeminent hub of life sciences for years to come.



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MBC

Massachusetts Biotechnology Council

Massachusetts Biotechnology Council

One Cambridge Center

Cambridge, MA 02142

P 617.674.5100

F 617.674.5101

www.massbio.org