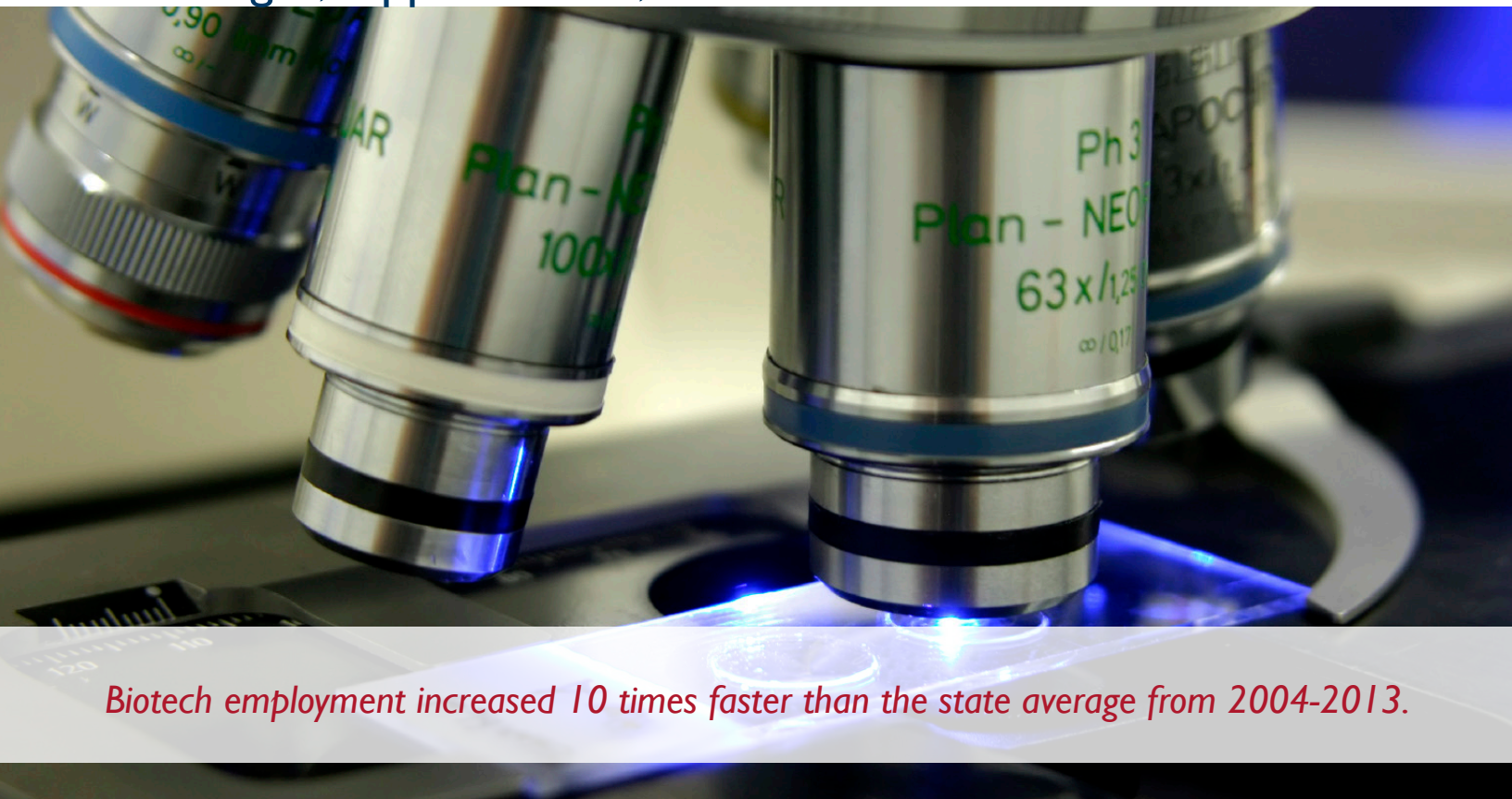


DISCUSSION DRAFT

Challenges, Opportunities, and Vision for **Life Sciences**



Biotech employment increased 10 times faster than the state average from 2004-2013.

Global Massachusetts 2024 is an initiative of Mass Insight Global Partnerships that convenes leaders from major business groups, industry, and higher education to build consensus for a comprehensive 10-year economic agenda that will position Massachusetts to win the competition for talent and innovation – the key to securing prosperity for all citizens.

Building on the success of the 2006-2008 Global Massachusetts initiative, this new effort will outline how the Commonwealth can grow in the next 10 years, where the

opportunities lie, and how government can target limited resources to realize the opportunities.

By consulting leaders in key growth sectors, the broader infrastructure community, and international business and government representatives, Global Massachusetts 2024 is establishing a 10-year vision for the Commonwealth on how government and industry leaders can partner and structure talent and technology resources to grow. This report is a *discussion draft* focused on the **life sciences** sector.

Global Massachusetts 2024
Winning the Competition for Talent and Innovation

A partnership
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The vision for 2024: Massachusetts

expands its position as the life sciences and health care center of the world – and its decision to get out in front of the emergence of bioinformatics and electronic medical records has a lot to do with maintaining its lead. Also, biomanufacturing has grown as a top manufacturing subsector, as more biotech and pharmaceutical companies keep drug production near home. Massachusetts' leading health care providers, and its renowned teaching hospitals, continue to produce some of the world's best-trained doctors, more of whom opt to stay in-state because of policy changes that lower insurance and liability.

The state of the sector today:

The Massachusetts life sciences industry is the envy of the world, a magnet for almost every global biotech and pharma company. More out-of-state companies are arriving, most recently Baxter International and GE Healthcare. The capital markets are soaring, as 16 Boston area biotechs went public last year. Employment is up sharply, increasing over 40 percent in the past 10 years (2004-2013), almost 10 times faster than the state job-growth average.

Yet one key challenge for life sciences is to keep its lead as an innovator as science and health care become more data-driven and tech-focused. The need to expand the talent pool for bioinformatics and health care IT will become more pressing as technical innovation in drug discovery and health care accelerates. Health care will continue to gravitate away from hospital settings, creating a transition to more remote care and the need for health care providers with new technical skill sets. There's also potential for a new wave of life sciences manufacturing jobs, particularly from medical device and biotech firms, who may increasingly decide to keep manufacturing closer to R&D.

The sector faces fierce competition from other regions, and the need to build a collaborative framework between industry, government and universities is stronger than ever. State government needs to continue to be a strong partner with the life sciences sector by supporting early stage companies.

Global Massachusetts **2024**

Winning the Competition for Talent and Innovation

Challenges:

Expanding available early-stage financing.

NIH funding is flattening, putting pressure on research hospitals to find new sources of funding and potentially drying up innovation at the seed level. Small companies are critical to the Massachusetts life sciences ecosystem, and yet risk aversion at the early stages threatens to stymie new company formation.

Retaining IT talent. Rapid technological advances, both in health care and drug discovery, have placed a premium on people with sophisticated data analytical skills. Some IT personnel gravitate away from life sciences, in part because of the slower product cycle, giving startups and legacy technology a recruitment advantage.

Keeping more biomanufacturing in-state.

Massachusetts is losing opportunities to capture more drug manufacturing in-state. Although it already has some 6,000 drug manufacturing jobs, it has capacity for much more production.

Building stronger connections between area universities and the life sciences industry.

Companies would like to harness more talent from area colleges and universities, a process that is more sporadic and uneven than it should be.

Recommendations/Potential Initiatives:

Fund an updated version the Massachusetts Life Sciences Initiative. The center has proven to be a valuable investment, helping incubate companies and generating jobs. Looking forward, the state should ensure it is aligned with the needs of the life sciences industry, especially new company formation and the growth of manufacturing jobs.

Create a Massachusetts Life Sciences Job Forecasting Study. There's a need for a reliable source on future job demand in the life sciences industry. MassBio plans to take the lead in convening industry and education leaders to develop an action plan.

Promote the Massachusetts Life Sciences Cluster externally. Industry, state and local agencies should

come together to ensure that companies and investors are aware of what Massachusetts has to offer.

Enhance the visibility of Massachusetts biomanufacturing opportunities. Massachusetts biotech leaders need to reinforce the message that the technology and the workforce exist to expand in-state drug manufacturing. The potential for growth of contract manufacturing in-state also is strong.

Launch a Life Sciences IT program in collaboration with MassBio and MassTLC. In this growing field, the two organizations can combine resources to create an integrated and focused program.

Expand MassCONNECT. This industry-sponsored program helps emerging entrepreneurs access important resources to help them sustain an early-stage business model.

Expand university-industry collaboration through the Massachusetts Life Sciences Education Consortium (MLSEC). There's greater potential for MLSEC, which focuses on STEM initiatives and training at the university level.

Expand state- and city-sponsored "connecting activities." By providing opportunities for more summer jobs, internships, and community college training, the state and cities could expose a broader swath of the potential workforce to the opportunities in health care,

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2024

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