

NYBA Position Paper:

*A Plan for Creating a World-Class Biotechnology Industry in New York*

## ***INTRODUCTION***

The New York Biotechnology Association (NYBA) is a membership organization representing New York's biotechnology industry. Our 260+ members represent the biotechnology companies, academic and research institutions, and professional service providers and consultants with a stake in growing biotechnology in New York State. Our mission dedicates us to the development and growth of New York State based biotechnology related industries and institutions, and to strengthening the competitiveness of New York State as a premier global location for biotechnology/biomedical research, education and industry.

New York's leaders have made considerable progress over the past few years in recognizing the value and potential of our industry, and making investments to foster its development. Yet despite increasing investments each year, we have not seen significant industry growth in the State. NYBA believes that while any investment in biotechnology in New York is valuable, it is not going to spur real industry growth unless these investments are made where they will do the most good. In other words, to try to create a biotechnology industry where there is none, or where key success factors to biotechnology clusters are not present, is making an investment that may bear little or no fruit.

NYBA speaks as the collective voice of the biotechnology industry in New York State. And it is in this role that we have prepared this position paper. We believe that the biotechnology companies themselves have the best perspective on what the industry needs, and how to produce the greatest return on New York State's biotechnology investment.

## ***THE "BIOTECH CENTURY"***

On January 11, 1999, Time magazine's cover called the 21<sup>st</sup> century the "Biotech Century" fueling an already escalating race to grow the biggest and brightest biotechnology industry in an ever growing group of states across the US. And while California and Massachusetts still had the lion's share of biotech companies, other regions, such as Maryland and North Carolina were passing New York by with their ability to recruit biotech companies, becoming real biotech power states. What is it that made these regions so successful?

In California the answer seems somewhat obvious – the existence of Silicon Valley, and a "silicon-valley mindset" made it easier to grow a high risk, high reward, high technology industry like biotech. With an active venture capital community already in place in the bay area, a new community of high worth investors, those who had made

their money in high technology, already understood the game and were ready to play. In addition, there was also an entrepreneurial focus within the research institutions in the region. Creating industry out of science was a goal, not just a novel or even radical idea. This was also the case in Massachusetts, Maryland and North Carolina.

Creating companies is good, but building a sustainable biotech industry is better. In order for this to happen, two other factors must be in place; a mature and informed business environment and governmental support network; and a critical mass of biotechnology organizations led by ‘success stories’. The first nurtures small companies and creates an environment for them to grow. The second provides greater opportunities for collaboration and growth, attracting more companies to the region.

### ***HAS NEW YORK MISSED THE BOAT?***

A lot has been printed from various sources in the past year about New York ‘missing the boat’ when it comes to building a world class biotechnology industry within its borders. NYBA doesn’t believe we have. While it is true that some major opportunities have passed and we are playing catch-up when compared to other states, there is still reason for optimism.

To varying degrees, New York has each of the “**biotech success factors**” found in CA, MA, MD and NC:

- Strong, competitive academic research centers of excellence (Columbia, Rockefeller, MSKCC, NYU, Einstein, Mt. Sinai, CSHL, BNL, SUNY SB, U of R, U of B, Roswell Park CC, Cornell)
- Robust system of technology transfer initiatives (including incubator programs and technology liaison initiatives)
- Current or soon to be industry success stories (Antigenics, Emisphere, Enzo, Genencor, ImClone, OSIP, Progenics, Regeneron)
- Mature and sophisticated business environment and increasingly informed governmental support/funding network.

Yet even with all this, we are still struggling to be leader in biotechnology industry growth. Why?

### ***WHAT NEEDS TO CHANGE?***

It stands to reason that if we have all of the factors common to those regions with vibrant and growing biotech industries, we should be up there with them. Yet we are not. So there must be something we are not doing that they are. Upon closer examination, another common factor comes to light. While it is true that these states lead the biotech industry race, the industry is not all over their states. It is clustered in specific regions. In California, there are two clusters, South San Francisco, and San Diego. In Massachusetts, biotech thrives in the Cambridge/Route 128 corridor. In Maryland, the cluster is in the area around the NIH. And in North Carolina, biotech is centered in

Research Triangle Park. So perhaps it is not just what you put into biotechnology, but where you put it.

In New York, state investments have not always been made to regions with the highest concentration of “biotech success factors”. And while we are hesitant to speak against any investment by the state in biotech, investments need to be made where they will bring the greatest returns. Even Johnny Appleseed had the most success when he scattered his seeds on fertile ground. We believe that there are three regions in NY where the ground is most fertile - the Westchester/NYC/LI region, what we will call the “downstate cluster” the western NY region around Buffalo/Rochester, or “western cluster”, and the “capital cluster”, centered around Albany. If investments were focused into these three clusters, we believe New York would be able to take advantage of the escalating interest in biotech, and be better able to compete in the biotech race.

### ***PLANTING WHERE THE GROUND IS FERTILE***

Building biotech is a multi-phase process. In this paper we concentrate specifically on creation and support of facilities, or ‘bricks and mortar’ needs. We have chosen this phase mainly because it is a step in the process that requires the most support from the state in the early stages. Companies are more likely to move out of the state when they are small start-ups, with smaller staffs and lower relocation costs. While other initiatives, such as seed and venture funding, and recruitment of scientific and management talent is equally important for the survival of a biotech industry, if there is no place to put the companies, there will be no real biotechnology growth in New York State.

**Incubators:** Technology that spins out of the research institutions as start-up companies needs a place to go – namely the incubator. And incubator facilities have the greatest success if they are located in close proximity and partnership with research institutions. So the most fertile ground incubators are regions with the greatest concentration of research institutions. In New York, this is New York City.

The world-class research institutions in New York City such as Columbia, NYU, Rockefeller University, Sloan-Kettering and others, are already well known to biotechnology companies throughout the world. Of the NIH funded biotech blockbuster drugs, the top 3 (Epogen – Columbia-AMGEN, Procrit-Columbia-J&J, Neupogen-MSKCC-AMGEN) came out of NYC research institutions. NYC academic research institutions are fertile ground for new start-ups formation. Yet within NYC there is only one incubator (Columbia’s Audubon) to house these fledgling companies. NYBA suggests that funds designated for incubator development, along with additional state support, be put into building biotech incubators in New York City. This, along with the two current incubators on Long Island, would create the foundation of the downstate cluster.

The western NY region of Rochester/Buffalo is another area with a strong cluster of research institutions, comprised of the University at Buffalo, Roswell Park Cancer Center, University of Rochester, and RIT. Since the distances between this region and

NYC are great, it makes sense to build incubators in this region to support the western cluster. In the capital region, an incubator facility exists at SUNY Albany, and is the foundation of the capital cluster.

**Science/Tech Parks:** Incubators by definition function to support companies at their earliest stages of development. When the company is better able to stand on its own, they move out. To keep companies in the state, science/tech parks need to be placed in regions close to the incubators and in community with other larger, more mature biotech companies. In the downstate cluster, Westchester and Long Island are the best sites for this due to their proximity to NYC, land availability, and existing ‘success story’ biotech companies in the region. In the capital region, two larger biotech companies, Albany Molecular, and Regeneron have relatively large facilities, creating a sizable local biotech community with respect to number of jobs and square feet of biotech space. This, along with the SUNY Albany incubator, give strength to the capital cluster, and make it fertile ground for additional biotech growth. In western NY, “success story” Genencor, in Rochester, anchors a growing group of small companies coming out of Buffalo and Rochester, including Vaccinex and Zeptometrics, who are at the stage where a science/tech park is their next step. Without one, they are prime for being recruited elsewhere, outside of the state.

### **Manufacturing:**

Two key factors necessary for manufacturing biotech products are access to land to build facilities, and access to a large pool of labor. It is not as important that these facilities be located in close to incubators and science parks. In the western cluster, product manufacturing should be located in the Buffalo region, where land and labor is plentiful, and where manufacturing was a leading industry in the past. Because of their relative proximity, and the existence of some manufacturing already in the region, the capital region could serve the manufacturing needs of both the downstate and capital clusters.

### ***SUMMARY***

In order for any biotechnology industry to thrive, it needs the following:

- Access to excellent technology to create companies
- Incubator programs to provide affordable wet lab space
- Access to seed stage and venture capital for new companies to grow
- Tech parks to expand and grow companies once they have spun out of incubators
- Access to qualified personnel, both scientific research staff and experienced senior management

For any state to lead in the biotech industry race, strong commitment and support of programs that drive cluster development must occur. New York State has already recognized the potential of the biotechnology industry, and has started to make investments in its future. Yet the competition from other states has put New York at a

critical juncture, and how the state invests its resources needs to be thought out with great care and focus.

NYBA wants to help focus that effort, and believes if those investments are made as suggested below, New York can realize the goal of a world –class biotechnology industry within its borders.

- Target investments to areas with the greatest concentration of “biotech success factors”, creating 3 clusters in New York State: downstate (Westchester/NYC/LI) western NY (Buffalo/Rochester) and capital (Albany region).
- Site new incubators in areas of high concentration of research institutions. (downstate: NYC)
- Site science/tech parks near to incubators, and in regions where current industry strength already present. (downstate: Westchester & LI, western: Rochester, capital: Albany)
- Site manufacturing in areas of land and labor availability, and where there is a history of manufacturing. (Buffalo, Capital Region)