

ABSTRACT

"A Critical Analysis of the Biotechnology Industry Cluster In Alameda, Contra Costa, & Solano Counties"

I. INTRODUCTION

The San Francisco Bay Area is considered to be the birthplace of the biotechnology industry. As the industry developed it expanded to other states and countries. Today, biotechnology is increasingly becoming an important economic development strategy around the world as regions and communities try to capture the economic benefits of this promising industry. With competition to incubate, retain, and attract biotech firms heating up, local economic development and workforce development officials need to understand the issues facing the industry and the factors affecting its continued growth.

This Study examines the biotechnology industry cluster in Alameda, Contra Costa, and Solano Counties (the "Study Area"). The Study analyzes the structure of the biotechnology industry, its employment base, prospects for future growth, impediments to growth, and opportunities and challenges for sustaining the industry in the three-county region. The Study also identifies job opportunities for local residents, the types of jobs available, workforce qualifications, and the availability of training and education programs. Industry data along with survey results and company interviews have been used to identify economic development and workforce development strategies that will help grow this vital industry in the coming years.

There are a total of 164 biotechnology firms located in Alameda, Contra Costa, and Solano Counties, employing nearly 15,000 workers. Biotech employment trend data for the region indicates the industry has grown rapidly during the past decade. The reasons include proximity to corporate and institutional research centers, relatively affordable space in the three-county area, and available workforce.

Whether the Study Area can fully capitalize on the biotechnology industry's future growth will depend on the region's ability to meet the industry's need for affordable space, trained workforce, competitive costs, adequate infrastructure, and quality living that is affordable to its workforce.

The Study has two key objectives:

1. Develop public policy strategies to retain and expand the biotechnology industry in the three-county Study Area.
2. Develop workforce development strategies that create job opportunities for local residents in meeting the needs of the biotech industry.

II. RECOMMENDATIONS

Economic Development

As biotechnology companies in the region transition from R&D through the testing and approval stages and move into production, distribution and marketing, the high costs of operating in the Bay Area compared to other states or countries will become a significant disadvantage.

Recommendations to address the economic development needs of the biotech industry include the following:

- Establish a Biotechnology Center (business assistance/promotional center) for the Study Area that could take an active role in providing centralized direction and support to implement improvements that foster the continued growth of this industry cluster.
- Improve business and industry networks by strengthening links between researchers, local industry, academia, professional service providers, economic development, and workforce training officials via the Biotechnology Center.
- Inform local building and planning officials about the special needs of the biotechnology industry via the Biotechnology Center, and facilitate permitting for biotech projects.
- Develop a Bioscience Incubator(s) in the Study Area to support start-up companies. The availability of affordable wet laboratory space and specialized equipment are very important to startup companies.
- Attract and develop sources of investment capital (public and private) for start-up companies.
- Develop a Science and Technology Research Park to house and support biotechnology companies emerging from incubators as well as later stage companies.
- Promote the development of pilot manufacturing plants and contract manufacturing facilities (bioprocessing, fermentation, and cell culture). The lack of investment capital makes it very difficult for many small companies to build their own manufacturing facilities.
- Develop a region-wide marketing program and materials to provide information about the Study Area and its resources to biotechnology companies interested in expanding or relocating.

Workforce Education & Training

In order for the local biotechnology industry to grow and prosper, local workforce and economic development officials will need to ensure that a qualified workforce is available to meet the industry's needs. As more products are brought to market there will be an increase in the demand for workers to fill jobs in manufacturing. This will require greater development of specific skills at the high school and community college level to meet the particular needs of biotech manufacturing. Good basic skills - reading, writing, speaking, and mathematics – will continue to be absolutely essential.

Recommendations to address the workforce development needs of the biotech industry include the following:

- Develop a program that formalizes and enhances communication between high school and community college faculties and the human resources departments of biotechnology companies regarding job opportunities within the local biotech industry. Such a program should help develop curriculum to meet the educational need of the industry in a collaborative fashion.
- Improve and expand workforce-training programs in ways such as the following: a) Expanding the Berkeley Biotechnology Education Inc. program into other high schools in the Study Area; b) Setting up company sponsored programs that include job shadowing, mentoring, work-study programs, and job fairs; c) Creating biotechnology company internships for local high school and community colleges; d) Establishing a biotechnology workforce-training center similar to that proposed for the Pasadena Bioscience Innovation and Training Center offering applied, industry-oriented workforce training.
- Develop training programs at local community colleges and four-year colleges for scientists that need managerial training, and for business managers that need to enhance their understanding of biotechnology and the R&D process.

Implementing the above recommendations will require substantial commitments to public / private partnerships. The sponsors of this Study stand ready to lead in creation of these partnerships.

III. SPONSORING ORGANIZATIONS

- Economic Development Alliance for Business (EDAB)
- Contra Costa Economic Partnership (CCEP)
- Solano Economic Development Corporation (SEDCORP)
- Alameda County Social Services Agency
- Contra Costa County Employment & Human Services Department
- Solano County Health & Social Services Department
- EASTBAY *Works*
- Bay Area Bioscience Center

IV. CONTACT INFORMATION

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