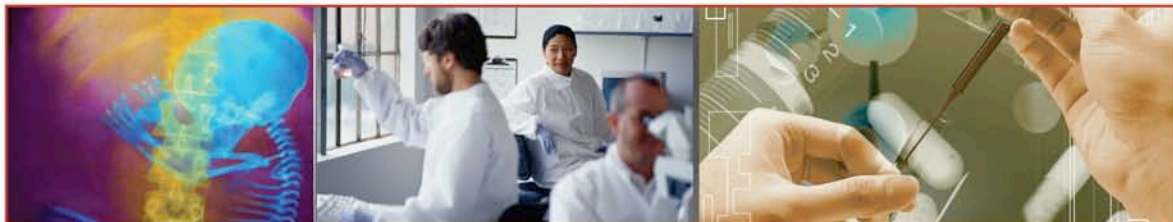


SWOT Analysis — Biotech

By Dr. Raili Kerppola

Vice President, Pharmaceuticals Evaluation and Licensing, Bausch & Lomb Inc.



STRENGTHS OF THE BIOTECH INDUSTRY:

The biotechnology industry is one of the fastest-growing and most exciting industry clusters in the world today. It is an industry that, first and foremost, offers great hope in finding cures for diseases. But it also provides the tools or devices that those in multiple fields can use to address societal needs for new products and services.

New biotechnology products and services based on new research and development provide economic growth opportunities that do not depend on exploiting natural resources. Therefore, its potential for growth is unlimited – there is, in essence, no limit to new ideas. Biotechnology is the ultimate knowledge-driven industry: its key success factors are an active research community combined with a highly skilled, educated workforce.

WEAKNESSES OF THE BIOTECH INDUSTRY:

Time and money. The length of time and amount of money that it takes to develop a new biomedical drug, device or treatment is simply staggering and therefore they are the greatest delimiters of industry growth potential. The heavy investment and long development timelines mean that the industry remains dependent on risk capital and the vagaries of the investment climate affect it disproportionately.

As a whole, the industry has yet to earn enough revenues to break even with the investment that has been made in its development. Only a handful of industry members have become profitable entities. The natural high failure rate due to technological risk is compounded by the ebb and flow of interest by the investment community.

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OPPORTUNITIES FOR THE BIOTECH INDUSTRY:

The convergence of technologies is a tremendous opportunity for the biotech industry. From micro-electro-mechanical systems, or MEMS technology, to nanotechnology, new technologies are emerging with applications that can be combined with biomedical breakthroughs to develop the next generation of biotechnology products and services.

This is especially true in the convergence of biotechnology with engineering, imaging and also with optics. Bio-engineering, bio-imaging or medical imaging, and bio-optics hold tremendous promise for the future.

THREATS TO THE INDUSTRY:

The impact of Sarbanes-Oxley cannot be underestimated. These new regulations are making the transition from private firm to public company much more complicated and therefore much less attractive. As a result, venture capitalists who invest in firms early on have to wait longer and face greater uncertainty before getting a return on their investments.

A number of biotech companies have already begun offshoring certain activities, one of the main ones being the sheer volume of medical chemistry contract work that's now being done in China.

Another major threat is the change in U.S. immigration policies since the September 11, 2001 terrorist attacks. Numerous restrictions have been enacted in recent years, discouraging highly skilled biologists, chemists, physicists, engineers and the like from studying and working in the U.S.

This is not just a threat to the companies and universities that depend on these scientists for their level of research, it's an across-the-board threat that could rattle the very foundation of our country's innovation-driven economy.





WHY ROCHESTER, N.Y.:

Rochester, N.Y., has strong credentials in biologicals development and manufacturing in a broad range of industries: vaccines, diagnostics, biotherapeutics, and industrial biologicals.

The region's historical strides in vaccine development and its ongoing breakthroughs in vaccine technology position the Greater Rochester area as a leader in the biotech field. Few regions in the U.S. have the vaccine-development capabilities that Rochester has, at both company-run R&D centers in the area and within the University of Rochester.

OrthoClinical Diagnostics has a significant facility in Rochester, as does UCB, which has its R&D facilities in Rochester. The Rochester Region is also very strong in the realm of industrial biologics, including ongoing work at Genencor Inc. involving the development of clinical trials materials.

With this strength, as well as the region's strength in vaccine development, comes a workforce equipped with skill sets that are not prevalent elsewhere. Employees in the region have the capacity to work with both biological organisms and recombinant proteins, predisposing the Rochester area for success and strength in numerous areas of biotechnology. ❖