

Between **two** coasts

Hoping to transform the rust belt into the biotech belt, Michael Rosen, is spearheading an initiative to make the Midwest a mecca for biotech activity.

IN AN EXCLUSIVE INTERVIEW WITH PHARMAVOICE, MICHAEL ROSEN, PRESIDENT AND CEO OF ENDOREX CORP. AND CO-CHAIRMAN OF THE BOARD OF THE CHICAGO BIOTECH NETWORK ASSOCIATION, DISCUSSES INITIATIVES TO BUILD A BIOTECH BASE IN THE MIDWEST AS WELL AS OVERALL GROWTH, LEADERSHIP, AND FINANCING OPTIONS IN THE BIOTECH INDUSTRY.

The Midwest has been virtually overlooked by the biotech industry as a regional option. Of the 1,500 or so biotechnology companies in the United States, only about 200 are located in the Midwest. The West Coast boasts the

majority of biotech activity in the United States, with about 700 companies in California and Washington, followed by the Northeast where about 20% of the public and privately held biotech companies are based.

According to Mr. Rosen, there are five key

ingredients for successfully building a biotech center of excellence: university research/medical institutions, entrepreneurs/pharmaceutical talent, venture capital/investment banking, state and municipal support, and big pharma and medical device presence.

Like its coastal counterparts, the Midwest boasts exemplary universities and medical institutions which, in Mr. Rosen's view, produce good science.

Where the Midwest is lacking, however, is in the areas of entrepreneurial ingenuity and financial backing.

"The Midwest has been historically looked at as the rust belt, with such industries as traditional steel, automotive, and other heavy industries that are not the cutting-edge, entrepreneurial types of activities that grew up on the West Coast," Mr. Rosen says. "I don't think there has been a sense of entrepreneurship here until relatively recently."

Mr. Rosen says one reason that the region lacks entrepreneurial activity is that it has been a "brain drain" to the coasts.

"People have been siphoned off to the West coast," he says. "Anybody who even thinks of being an entrepreneur gets drained out of Chicago. Look at the number of people who are running big biotech companies who have come out of big pharma from the Midwest. Abbott Laboratories, Baxter, and Searle have provided more than their share of biotech executives compared with East coast-based companies, such as Pfizer, Warner-Lambert, or Schering-Plough.

"The beauty of most biotech companies, and I classify biotech as really a culture and not by its classic scientific definition, is that they create new and faster ways to get drugs to the marketplace," Mr. Rosen says. "The biotech culture is one that cuts through the bureaucracy, it has a very open communication philosophy, and creativity is stimulated just by the fact that it is a fairly intimate atmosphere. There isn't the same kind of rigid bureaucracy found in a large pharmaceutical company."

Another reason the Midwest lags behind the coastal areas in terms of biotech activity, according to Mr. Rosen is that regional venture capital is not focused on biotech initiatives.



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In terms of IPO activity (from July 1998 to June 2000), the Midwest lags far behind its coastal counterparts. Northern California registered almost \$1.2 billion in initial public offering financing, New England about \$600 million, and Southern California about \$500 million. In this time period, the Midwest accounted for less than \$200 million in IPO activity.

Mr. Rosen argues that there are tremendous opportunities for developing biotech centers of excellence in the Midwest, a region that encompasses Chicago, Champaign/Urbana, Ill., Minneapolis, Madison, Wisc., Ann Arbor, Mich., Indianapolis, and St. Louis.

Within the region there are outstanding universities and a large potential of R&D talent. For example, Northwestern University's Kellogg Graduate School of Management is introducing a new department — the Kellogg Center for Biotechnology. The Kellogg Center's mission is to create a community that understands and maps biotechnology, its economic impact, and its relationships with other industries. The Kellogg Center will address the need for new business models, strategies, and management in innovation and biotechnology.

In addition, state and municipal support, which until recently has been low, is now gearing up to support start-up and seed-stage ventures and advanced-stage (revenue producing) companies.

There are a number of people who are running biotech companies who have come out of big pharma from the Midwest.

In 1999, the state of Illinois granted \$30 million for a genomic institute at Northwestern University and \$35 million for the Chicago Biotechnology Park, a biotech incubator.

Recently, Illinois' Governor Ryan proposed spending \$1.9 billion over five years to promote cutting edge R&D in information technology, biotechnology, and health sciences.

Emerging New Business Models

As the biotech industry continues to mature, there is a pressing need for new business models, no matter where companies are located, Mr. Rosen says.

According to industry sources, the biomedical pipeline has more than 280 products in the pivotal stage of clinical trials and

32 new biotech drugs and vaccines were approved in 2000, 10 more than in 1999.

"Some of these products may be marketed by big pharma but they were developed by smaller biotech companies," Mr. Rosen says. "The royalty revenue or income that is generated from these products is significant. In the past three years, about 75 new products and/or indications have rolled through for the biotech industry. That's a phenomenal record."

As more and more biotech products exit the pipeline, their developers are increasingly retaining marketing rights.

"In the past, a small biotech company was not thought to be able to market its own products," he says. "That paradigm has shifted significantly. More and more small companies are dialing into their business plans to market their own products."

For Mr. Rosen this is a sound business strategy because for the most part biotech products are niche products, products that don't require a company to field a large sales force to target key subphysician specialties.

"For example, within oncology there are a lot of subspecialties," he says. "If a company has a prostate cancer drug, it wouldn't go out and market to all oncologists; the company would go to urologists and oncologists who deal specifically with prostate cancer."

Even with substantial growth overall, the biotech industry lost \$5.6 billion in 2000, prompting biotech executives to examine new ways to raise money and fund research.

"At the end of the day most biotech companies do not generate revenue, or generate very little revenue, or don't generate sufficient revenue to cover their costs so they have to turn to either the financial markets or pharmaceutical partners that are willing to pay for the technology," Mr. Rosen says. "There will continue to be new creative forms of financing. The latest round of financing that's becoming popular is establishing an equity line."

Rather than receiving a private placement from a venture capital company for a chunk of money, biotech companies are establishing

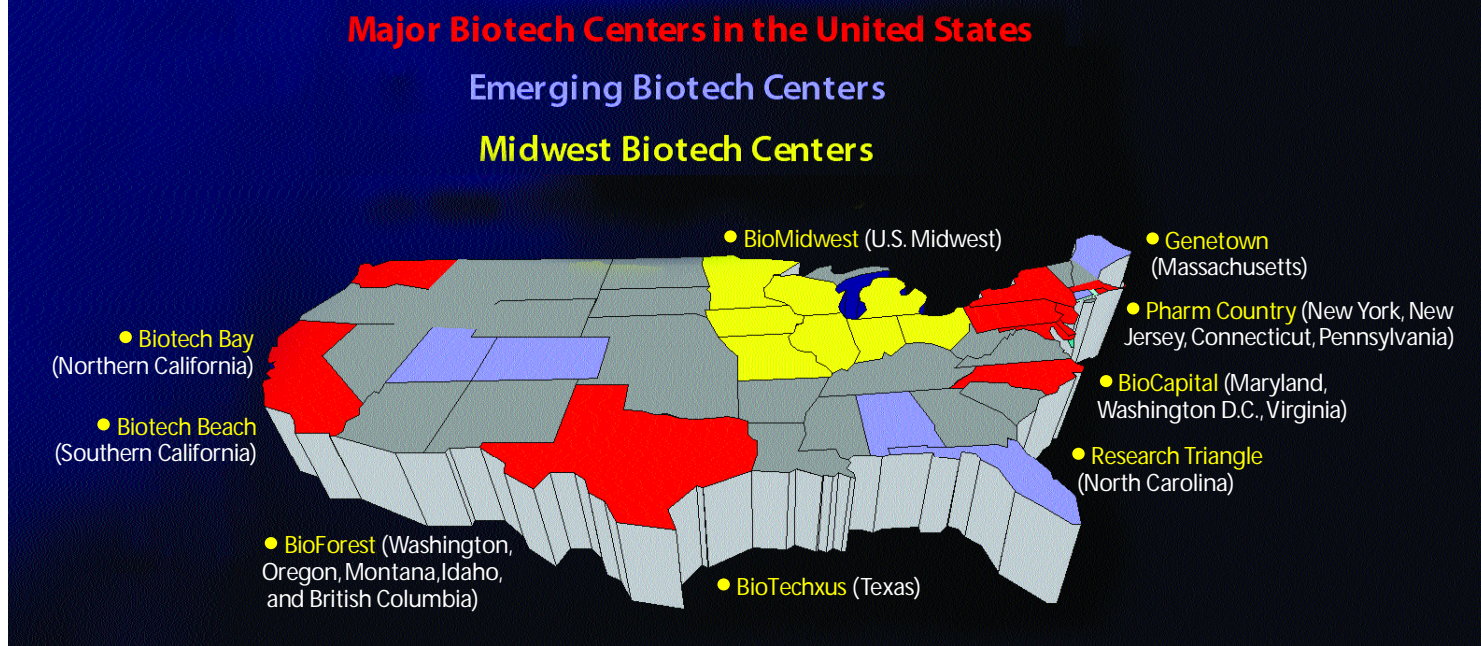
Biotech Basics

ACCORDING TO MICHAEL ROSEN, PRESIDENT AND CEO, ENDOREX CORP., CHICAGO

- There are 1,500 biotech companies in the United States; 350 are publicly traded
- The United States has far more biotech companies than any other country
- Market capitalization in the U.S. biotechnology industry has grown exponentially from \$97 billion in 1998 to \$353 billion in 2001
- About one-third of biotech companies nationally employ fewer than 50 employees; more than two-thirds employ fewer than 135 people
- The U.S. biotechnology industry currently employs more than 162,000 people in high-wage, high-value jobs
- After many difficult years, the biomedical pipeline is robust with 283 products in the pivotal stage of clinical trials
- Only one in every 5,000 to 10,000 products screened eventually becomes an approved drug
- Nationally, the top five biomedical companies spent an average of \$121,400 per employee on research and development compared with \$30,600 per employees for large pharmaceutical companies
- Even with substantial growth overall, the biotech industry lost \$5.6 billion in 2000

Biotechnology Centers of Excellence

ACCORDING TO BIOSPACE INC., SAN FRANCISCO



relationships with investment groups. A company agrees to sell x-amount of stock over a one-year to two-year period.

"If a company has a stock price of \$2 today and wants to raise \$20 million, its stock would be tremendously diluted if it took the whole chunk at once," Mr. Rosen explains.

With an equity line, a company can draw down money as needed, \$1 million this month, another million next month.

"Each month the company sells off stock, but the stock may be less diluted because the CEO knows events that are going to happen, which will hopefully drive up the stock price. So instead of selling all its shares at \$2, hopefully the company is selling some of its shares at \$2, some at \$3, some at \$5, and some at higher prices. This is a popular financing vehicle that has emerged in the past 18 months."

Three Stages of Development

The sophistication needed for developing marketing and financing business models is often beyond the scope of the entrepreneur who started the company. Biotech companies typically have three evolutionary stages, each of which requires a different type of CEO.

At the start-up stage, the company is usually led by the scientific founder, who has had a fantastic idea. "The founder may be the driving force or act with some businessman who is entrepreneurially focused and they start up the company," Mr. Rosen says. "At this early stage, they raise some initial seed money, get going, set up initial company opportunities, and may build a company of 10 to 20 people in size."

The second stage needs another type of

CEO, one who has probably come from the pharmaceutical industry, and who can take the 10 person to 20 person organization to a 100 person to 150 person organization.

"At this stage, the CEO will take the products into clinical development and take the company into partnering," Mr. Rosen says.

A CEO coming from big pharma has the discipline needed for drug development, a clear understanding of how clinical trials are done, what must be done to comply with the Food and Drug Administration, and how to ultimately market products.

"The second stage is when the initial public offering takes place," Mr. Rosen says. "The company needs someone who is sufficiently savvy in the financial markets, who understands what it means to raise money at a public level."

The third stage of evolution is a company that grows beyond 150 people to the 1,000-plus level and starts to have revenue of more than \$1 billion; at this point the biotech company becomes emerging big pharma.

"Amgen has transcended to this level," Mr. Rosen says. "I could argue that Amgen is no longer a biotech company and more of a pharmaceutical company. Amgen's market cap is probably comparable to Abbott's. Biogen and Genzyme also are beginning to become emerging pharmaceutical companies." ♦

The Midwest has historically been looked at as the rust belt, not as an area for cutting-edge entrepreneurial activity typical of the West Coast.

PharmaVoice welcomes comments about this article. E-mail us at feedback@pharmalinx.com.