A Reprint from *Tierra Grande*

Biotechnicalities

Challenges of Developing Life Science Space

By Harold D. Hunt

The biotechnology industry, like most U.S. industries, is feeling the pinch of hard economic times. Biotech investment capital remains tight. Venture funding in 2003 is down compared to the boom times of three to four years ago. Institutional investors have been hesitant to invest in the life sciences as well, although the sector is perceived more positively this year.

Most new biotech investment has focused on opposite ends of the drug discovery process: promising new ideas and drugs with a proven record of clinical trial successes in the late stages of development.

An Ernst & Young study reported that the market capitalization of all U.S. biotech companies fell from $353 million at year-end 2000 to $226 million by year-end 2002 as a result of restricted capital flows. Only 24 biotech drugs made it through the regulatory approval process in 2002.

Both biotech landlords and tenants are increasingly looking to cities to help facilitate the development process. For example, cities can streamline their building code process and revamp building codes to recognize the unique characteristics of biotech space. Some cities have been offering extraordinary financial incentives to biotech companies to attract more tenants.

The low end of the range for tenant improvement (TI) allowances in biotech space is currently about $100 per square foot. This is high compared with other commercial real estate sectors such as office property. To retain existing biotech tenants and attract creditworthy new ones, some landlords have begun to offer even larger TI allowances.

Understanding what biotech companies actually do is extremely difficult for many property owners. Malcolm O'Donnell, CarrAmerica Realty's managing director for Southern California, believes landlords should focus on the quality of a company's management and "burn rate" — how fast the company spends its venture capital — rather than concentrating too much on understanding the science.

"Balance sheet strength continues to be an extremely important factor in evaluating biotech firms," says O'Donnell.

More than 40 biotech industry specialists addressed the 2003 annual meeting of the Building Owners' and Tenants' Summit on Biotech, Medical & Pharmaceutical Lab Facilities in San Francisco. Sponsored by New York-based Information Management Network, the program covered a wide range of biotech facility issues. Those of interest to real estate professionals are summarized here.

Developing Start-Up, Incubation Space

Landlords of start-up biotech properties must be ready to assume significant risk. The biggest challenge in developing start-up or incubation space is providing the most flexible space at the lowest cost. Increasing a property's flexibility for future expansion or retrofit usually increases development costs.

Landlords typically front most start-up space costs. If a life science start-up firm succeeds, landlords can recoup the initial outlay as the tenant requires more and better space in the future.

Purchasing existing labs that require a minimum amount of retrofitting is one way to develop affordable incubator space. Another promising initiative is development of "condo" incubator spaces within a building, each of which can be purchased by investors.

Other options being considered by landlords include public-private partnerships designed to share the financial risk. Assessing a flat fee for each scientist occupying incubator space ($3,000 per person per month, for example) is another possibility.

Managing tenant relationships requires a great deal of skill on the part of landlords, according to Geoffrey Sears, a partner with California-based Wareham Development. Developing small incubator spaces for short-term lessees that often have little or no credit can require a host of complex tenant agreements.

Activity Outside Major Markets

The bulk of biotech activity remains clustered around the metro areas of San Francisco, San Diego, Boston and Raleigh-Durham. The cream of the scientific crop often chooses to locate in these high-cost areas because they can afford to do so and are willing to pay for a high quality of life. If external factors

RESEARCH SPACE configured and finished out for one client may require extensive, costly retrofitting for the next life science tenant.

such as increased traffic congestion or a rapidly rising cost of living begin to erode quality of life, lower-tier markets may become the beneficiaries, assuming the technical workforce is available.

Doug Kornich, managing director of Bioscience Capital Consulting, believes that about one million square feet of life science space will be built in secondary and tertiary U.S. markets during the next two years. Kornich notes that three states — North Carolina, Maryland and Texas — have become especially aggressive in creating technical training programs in the life science field.

Acquisitions, Dispositions

Parties considering the purchase of life science properties often encounter serious barriers. Biotech property buyers tend to be either local professionals who know the market well or national investors that have the time and resources to seek out choice properties.

Capital investment in biotech space has begun to focus on either well-located, quality properties or bargains. Few investors are willing to move up the risk scale just to attract higher yields, according to Gary Willard, managing partner for the West Coast brokerage firm BT Commercial.

Only the highest quality biotech properties are trading at capitalization rates similar to the rest of the commercial real estate market. Historically, biotech cap rates have been averaging 10 to 15 percent to offset the attendant risks of biotech investment. John Bergschneider of Slough Estates USA, Inc., believes that biotech properties with high-credit tenants and long leases could trade at cap rates as low as 8.5 to 9 percent.

Bergschneider stresses that biotech deals are often much more complicated than typical commercial property transactions, requiring more than just a cap rate calculation. Life science property buyers often make investment decisions more on internal rates of return than capitalization rates.

Richard Robbins, president of Wareham Development, sums up the general consensus from the biotech summit. "Although life sciences won't be an economic savior," he says, "it will become an important sector for many cities."

Dr. Hunt (hhunt@recenter.tamu.edu) is an associate research scientist with the Real Estate Center at Texas A&M University.

Accommodating Research

CARRAMERICA'S LA JOLLA SPECTRUM TECHNOLOGY PARK *(left) is home to high-profile tenants including Scripps Research Institute. Scripps projects include cancer research conducted in the largest electron microscope lab in the United States (below).*

The Torrey Pines section of San Diego is the country's fourth largest region for biomedical research and technology. The presence of institutions like the Scripps Clinic and Research Foundation, the Salk Institute and the University of California–San Diego makes the area an ideal location for office and research space users.

"About ten million square feet in metropolitan San Diego is classified as biotech space," says Malcolm O'Donnell, CarrAmerica Realty's managing director for Southern California. CarrAmerica is a real estate investment trust with 24 million square feet of net rentable space in 12 U.S. markets.

Biotech space makes up only about 3 percent of CarrAmerica's portfolio, but the returns are generally superior to other commercial property types. The expected unleveraged internal rate of return for biotech developments is about 2 percent higher than ordinary office projects, according to O'Donnell.

Among its 500,000 square feet of research space holdings in the San Diego area is the La Jolla Spectrum Technology Park in La Jolla, Calif. The property consists of nearly 157,000 square feet of office and lab space in two buildings.

Tenants include Novartis Agricultural Discovery Institute, with 45,000 square feet of biology-chemistry lab space, specialized growth chamber facilities and 5,000 square feet of research greenhouse. Scripps Research Institute occupies 77,000 square feet, including biology-chemistry and microscopy lab facilities. The largest electron microscope lab in the United States, currently being used to conduct advanced cancer research, is housed here.

Although these are extremely specialized properties, they were created with future flexibility in mind. If Novartis or Scripps should choose to leave after their leases expire, a new tenant's scientific needs would probably require some modification of the space configuration and finish-out.

"What are the odds that the next tenant will need a research greenhouse or an electron microscope lab?" asks Patrick Russell, vice-president of CarrAmerica Development, Inc., in San Diego. "Even in more generic biotech space, when landlords invest $100 per square foot in tenant improvements in a building, they are really gambling on the company staying in business," states Russell.

Specialized finish-out required by the La Jolla development's tenants include rooms that must be kept below 18 percent humidity, static-dissipating flooring and "duct-socks" used to diffuse airflow. The building had to be tested for electromagnetic currents that could be detrimental to operation of electron microscopes.

Scripps also requested that exposed ceilings be included in all research lab areas. Constructing the ceiling above the utilities was a big up-front cost; however, it makes maintenance or utilities changes easier.

The same desire for flexibility carried through to the lab furniture. C-frame lab casework attached to rails rather than mounted permanently is initially more expensive but easier to reconfigure than fixed casework.

Heating, ventilation and air conditioning (HVAC) is a major concern. Most biotech labs require 100 percent outside-air HVAC systems that allow no recirculation of conditioned air. Positive HVAC pressure is used in office spaces to ensure that potentially dangerous gases from lab space are controlled.

If tenant space will not be fully occupied at completion, the phasing of improvement construction must be well thought out. "You need to think about exactly what should be phased," Russell states. "Coordination with the tenant's planned configuration is extremely important to save both time and cost. If you install the sprinkler system during initial construction without regard for tenant space needs, it has to be removed and reconfigured when the tenant comes in."

Ken Kristofek, vice-president and director of development of CarrAmerica Development, Inc., in Dallas, offers another recommendation. "Planning a generous service yard is extremely important," he says. "The amount of mechanical equipment needed in a biotech building can be overwhelming."

Utility capacity must be considered during initial development. "Unusual utility requirements — sufficient steam capacity to sterilize glassware, for example — must be carefully considered. Adding this type of capacity later can be very costly," says Kevin Thompson, project manager for DPR Construction. Electrical power is another important consideration.

"The rule-of-thumb for electrical capacity in biotech space is roughly twice what standard office space requires," Kristofek says.

Development costs for biotech space are typically two to three times higher than for standard office space. According to Kristofek, "Typical development costs for an 80,000-square-foot life science chemistry-biology lab would include $120 per gross square foot cold shell cost, $100 per square foot tenant improvement allowance and an additional tenant contribution of $120 per square foot. Rent term is typically ten years with two five-year options."

Dr. Hunt (hhunt@recenter.tamu.edu) is an associate research scientist with the Real Estate Center at Texas A&M University.

MAYS BUSINESS SCHOOL

Texas A&M University
2115 TAMU
College Station, TX 77843-2115

http://recenter.tamu.edu
979-845-2031
800-244-2144 orders only

Director, Dr. R. Malcolm Richards; **Associate Director,** Gary Maler; **Chief Economist,** Dr. Mark G. Dotzour; **Communications Director,** David S. Jones; **Associate Editor,** Nancy McQuistion; **Assistant Editor,** Kammy Baumann; **Assistant Editor,** Ellissa Brewster; **Art Director,** Robert P. Beals II; **Graphic Designer,** J.P. Beato; **Circulation Manager,** Mark W. Baumann; **Typography,** Real Estate Center; **Lithography,** Sprint Press, Fort Worth.

Advisory Committee

Celia Goode-Haddock, College Station, chairman; Nick Nicholas, Dallas, vice chairman; Joseph A. Adame, Corpus Christi; David E. Dalzell, Abilene; Tom H. Gann, Lufkin; Joe Bob McCartt, Amarillo; Catherine Miller, Fort Worth; Jerry L. Schaffner, Dallas; Douglas A. Schwartz, El Paso; and Larry Jokl, Brownsville, ex-officio representing the Texas Real Estate Commission.

Tierra Grande (ISSN 1070-0234), formerly *Real Estate Center Journal*, is published quarterly by the Real Estate Center at Texas A&M University, College Station, Texas 77843-2115. Subscriptions are free to Texas real estate licensees. Other subscribers, $20 per year.

Views expressed are those of the authors and do not imply endorsement by the Real Estate Center, Mays Business School or Texas A&M University.