Five Considerations for Life Sciences Adaptive Reuse

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The creative opportunity—and the challenge—in life sciences adaptive reuse

For life sciences companies, finding laboratory and production facilities has become a growing challenge. Now, record-high investment in new life sciences ventures is spurring even more demand for already-scarce laboratory space. Adapting an office or industrial building for life sciences use is a possible solution—but a successful project will require creative approaches to meet life sciences requirements.

Increasingly, investors are recognizing the opportunity to convert underutilized properties into life sciences spaces. Adaptive reuse offers the advantage of faster speed-to-market at lower cost than new construction, with the environmental sustainability benefit of retaining carbon-intensive concrete and steel structural systems.

However, when you are considering an adaptive reuse project, bear in mind the distinct challenges of creating facilities that meet the unique demands of life sciences organizations. The following are five key questions to drive your decisionmaking.

1 IS THE PROPERTY IN AN ESTABLISHED LIFE SCIENCES SUBMARKET OR ARE YOU PIONEERING A NEW LIFE SCIENCES CLUSTER?

Location is always important when making a real estate investment, and especially for life sciences properties. As evident in the major life sciences markets such as Boston, the Research Triangle and greater Washington D.C., life sciences companies often cluster together near academic research centers, venture capital firms, intellectual property attorneys, and other resources for fostering innovation and bringing new treatments to market.

On the other hand, some life sciences companies have been willing to look beyond the prime locations to suburban markets where more land and facilities are available. An R&D organization might consider a suburban location under the right circumstances, such as proximity to the workforce or an academic research center. A biopharmaceutical manufacturer producing at scale, for example, may seek a close-in suburban site offering more land at lower cost.

However, pioneering a new life sciences submarket is not without risks. Boston is a leading life sciences cluster market, but only some of its individual submarkets are hotbeds for life sciences organizations.

If yours would be the first or second project in a submarket, you will need to overcome concerns about being isolated from the larger life sciences community. It's essential to understand workforce demographics and commuting patterns that would affect your property, as well as housing options, access to public transit and other factors.

Five Considerations for Life Science Adaptive Reuse

- Is the property in an established life sciences submarket or are you pioneering a new life sciences cluster?
- What type of tenant do you envision for the property?
- Does the building have the right physical characteristics for life sciences operations?
- Does the building have the right infrastructure to support life sciences R&D or production?
- Does the building have the flexibility to support multi-tenant use?

Also important is a community engagement strategy. It's not unusual for nearby residents and local planning councils to express concerns about potential noise, exhaust, 24/7 operations and hazardous waste. For that reason, your project team should bring expertise in engaging community stakeholders to overcome possible objections to your project. Your project team should bring expertise in engaging community stakeholders.

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2 WHAT TYPE OF TENANT DO YOU ENVISION FOR THE PROPERTY?

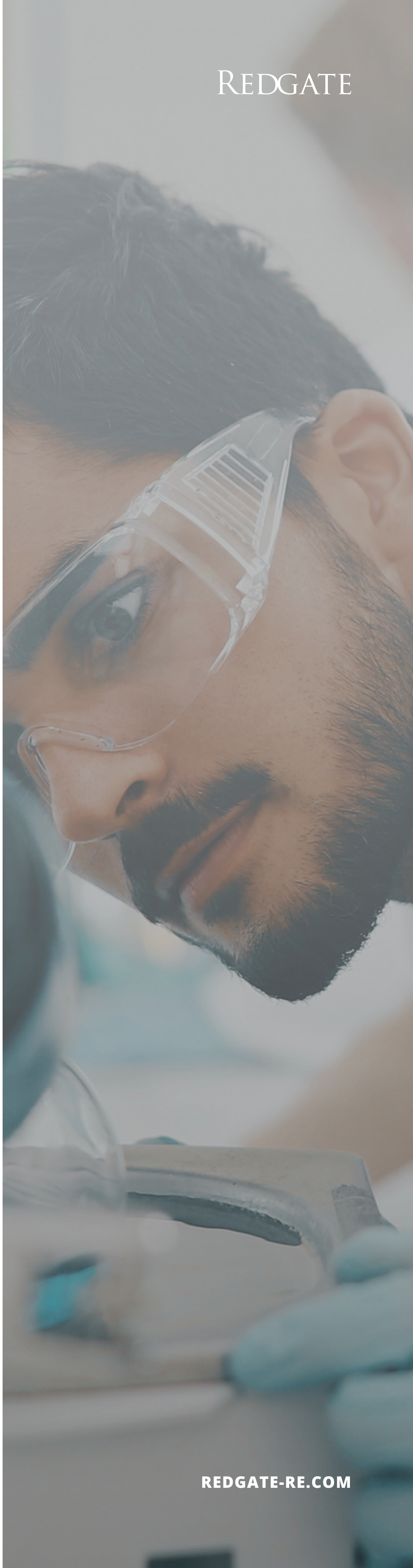
Location is intrinsically related to the question of tenancy. What kinds of life sciences organizations are on the move in your area and what type of space do they need? The key is to match a property and its location with a strong understanding of demand trends and location preferences in the marketplace.

For example, your market may be seeing new large-floorplate developments targeting users needing 150,000 square feet of space—while space for growing young companies continues to be almost unavailable. You may uncover a tenant niche that others have overlooked, such as an unmet need for a 10,000-square-foot floor plate for early-stage innovators.

In that case, you will probably find more success with a property near an academic research center, STEM talent and other ecosystem essentials. Specifics are important—the difference between one block and another in an area can make or break the success of your project.

You'll also need to understand what kinds of laboratory space are in demand. Today's laboratories may include multiple kinds of research, from basic biology and chemistry to bioinformatics and clinical research. Each type of research and development requires distinct infrastructure, layouts and floorplates. Also, as much as 50% of space should be allocated for office and administrative space.

An 18-story urban high-rise might appeal to growing companies that can house an entire lab on a lower floor and lease upper-floor office space for business administration. Biopharmaceutical manufacturers, in contrast, might be interested in a suburban two-story, flexible building with sizeable floor plates, even if the property is located outside a life sciences epicenter like Boston's Kendall Square or Seaport district.



3 DOES THE BUILDING HAVE THE RIGHT PHYSICAL CHARACTERISTICS FOR LIFE SCIENCES OPERATIONS?

Any building not purpose-built to house a life sciences operation will require capital improvements. With a highly creative approach, you may be able to adapt a facility for life sciences requirements while generating an acceptable return on investment. Key considerations include the loading docks, floor load capacity, floorplate size and floor-to-ceiling heights.

Laboratories—especially vivariums—need more loading docks than the typical office. Depending on the building's square footage and anticipated tenant uses, more docks may be needed. However, an urban property with a relatively small floor plate probably could not accommodate more docks and will not work for certain kinds of tenants.

For example, the Bedford Labs facility in Bedford, Massachusetts, originally was a three-story office building with large floorplates ideal for multi-tenant use, but only two loading docks. Through creative design, the development team was able to add two additional loading docks on the building's west side.

Above-average floor-to-ceiling heights are also important to accommodate the robust building systems that laboratories typically need. High ceilings allow ducts, plumbing lines and wiring to be placed above a dropped ceiling and reduce the risk of contamination or dust that could damage lab results.

However, close evaluation of a building's structure with your design team may reveal opportunities to accommodate laboratory

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infrastructure within the current ceiling height. A knowledgeable design and construction team will be able to propose creative approaches to solve infrastructure challenges, such as installing piping along the roof or even on a standard office ceiling if not obstructed by beams. A knowledgeable design and construction team will be able to propose creative approaches to solve infrastructure challenges.

For life sciences laboratories, low-rise buildings with generous floorplates tend to be the most adaptable. A larger floorplate can house a sizable team or multiple tenants, and accommodate today's open, flexible labs with movable benches, ceiling-mounted electrical outlets and other "plug-and-play" features that allow for fast reconfiguration. Also, it is less costly to add infrastructure, such as piping for chemistry research, into a low-rise building.

Urban high-rise facilities that are 10 to 20 stories high also can be converted to life sciences use—but with caveats. In particular, feasibility will depend upon market demand and rent potential versus the cost of renovations. For instance, incorporating piping for chemicals to be used in research on the upper floors would require very costly modifications to meet code requirements. For that reason, successful high-rise conversions typically design the lower six floors for laboratories and allocate the upper floors for office space.

4 DOES THE BUILDING HAVE THE RIGHT INFRASTRUCTURE TO SUPPORT LIFE SCIENCES R&D OR PRODUCTION?

Infrastructure is one of the most challenging aspects of converting a building for life sciences tenants. You'll need to anticipate tenants' potential utility requirements and the logistics of improving the available infrastructure. Thorough engineering due diligence will help determine whether you could retain any mechanical, electrical or plumbing components.

Office buildings, in particular, are unlikely to have the complex, high-capacity mechanical, electrical and plumbing systems that laboratory and production operations require. For example, a typical office building provides five to eight watts of electrical power per square foot, whereas a laboratory will need 12-15 watts per square foot—or more for manufacturing.

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For example, a large Watertown property being converted to laboratory space had power infrastructure appropriate for an office—but not for laboratories. The project team coordinated with the local power utility, National Grid, to design and install new electrical infrastructure to increase the power capacity to 13 watts per square foot.

How tenant mechanical space could be made available in a given building is a critical consideration. Depending on the type of science involved, a lab tenant may need space for air or vacuum systems, water polishing skids, liquid nitrogen lines, multiple exhaust openings, fume hoods and sinks, negative air pressure chambers and changing rooms, or specialized temperature and humidity controls to preserve samples and inventory. The facility will also need to house additional backup generators, storage tanks and other components that may limit the number of tenants the space can accommodate and marketability of the building.

5 DOES THE BUILDING HAVE THE FLEXIBILITY TO SUPPORT MULTI-TENANT USE?

In all likelihood, you'll be designing your facility for multi-tenant use. With the flood of investment capital funding new life sciences innovators, many submarkets in life sciences hotspots are seeing strong demand for smaller laboratory spaces typically found in multi-tenant facilities.

One important consideration is whether a building's floor layout can be modified to accommodate multiple tenants. A building may have a simple floorplate—or it may have multiple cores and entrances that complicate the task of creating a multi-tenant floor plan. Many laboratory bays are based on an 11-foot module, which means that column spacing of 22, 33 or 44 feet is ideal. However, a creative project team will likely be able to design a flexible floor plan with less-than-ideal column spacing and test-fit different design options.

Given the significant use of utilities by laboratory operations, multi-tenant life sciences building leases are always triple net. Since tenants pay utility costs directly, submetering is essential.

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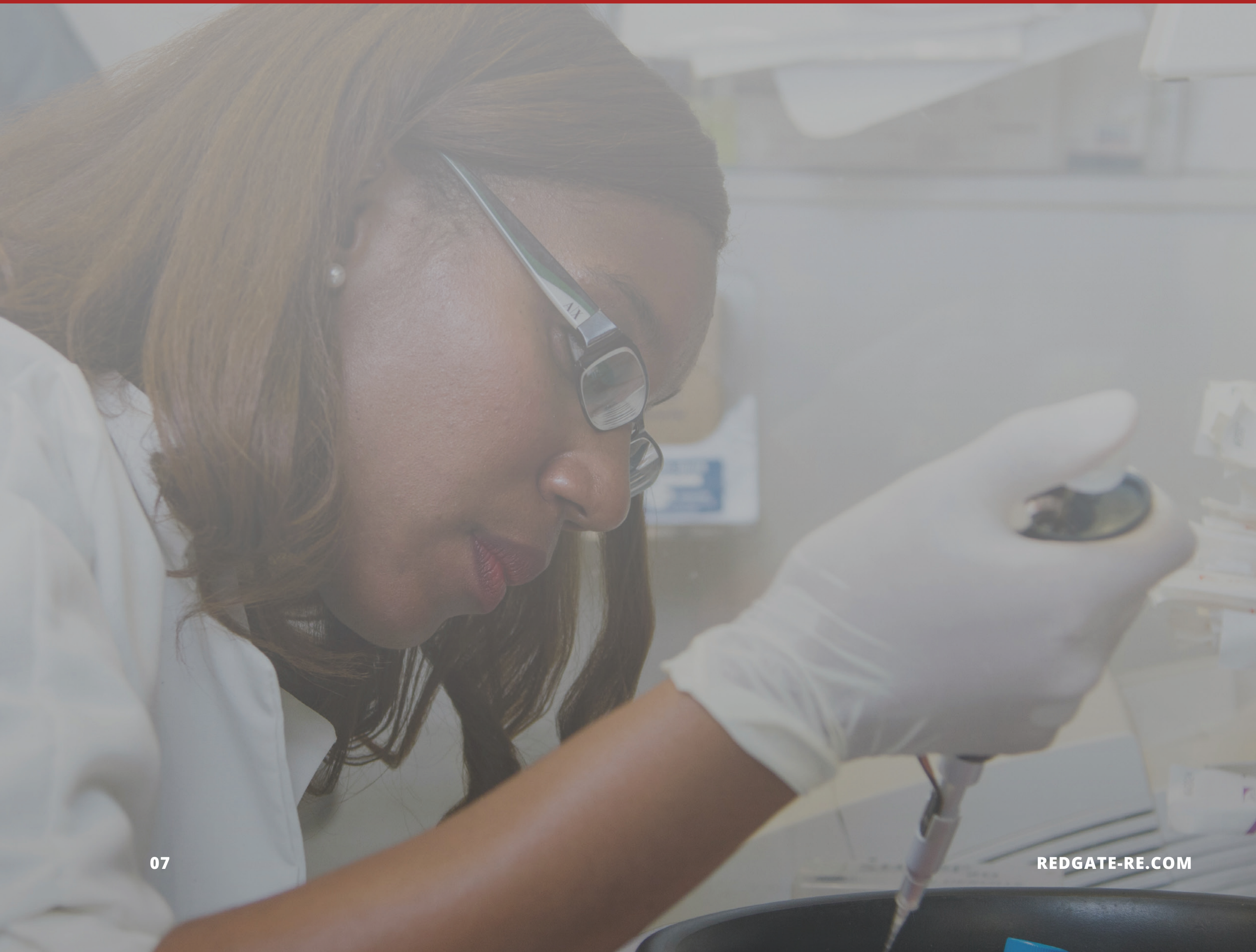
Uncovering the business case for conversion

Even if a building meets many life sciences requirements, it may require costly remediation to support a life sciences laboratory or production operation. Every design and construction decision contributes to cost and ultimately impacts marketability and return on investment. Therefore, the most successful life sciences adaptive reuse projects begin with extensive due diligence to determine whether a property offers a strong business case for life sciences use.

For developers and investors—especially first-timers—pursuing life sciences conversion opportunities, it's most effective to partner with experienced development managers, designers, contractors and other service providers that already understand the life sciences sector. No existing office or industrial building will be perfect for a laboratory, so you will need a team that can bring creativity to maximize the potential of the asset. With the right team in place, you'll be better equipped to create a life sciences facility in which innovation can thrive.



Want to know if your property is right for life sciences conversion?

Contact us at redgate-re.com or 617-904-7000.

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