JLL SEE A BRIGHTER WAY

2023 Life Sciences Industry and Real Estate Perspective

Assessing the future landscape for biopharma, medtech and biomanufacturing

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A foreword from Travis McCready

For those particularly prone to pareidolia, the past 12 months of life sciences data have been particularly distracting. Is it up or down? Invest or divest? Build or land bank?

This year's Life Sciences Report is, in many ways, a continuation of a theme we introduced in last year's report, when we gradually moved away from the pageantry of a ranking system (although we know the world loves a good list). Especially for this sector, we believe it is necessary to cultivate a deeper level of understanding of what makes a healthy and vibrant life sciences ecosystem and the critical role that real estate plays in fostering that ecosystem. We have added new elements and new insights into the U.S. ecosystem's performance. No matter the metric, though, the 2023 report shows that market conditions in the life sciences this past year have been particularly volatile and have tested the mettle of even the most seasoned, experienced life sciences real estate professional.

However, as F. Scott Fitzgerald once wrote, "The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function." In that regard, we would encourage you to look past the doom and gloom that sometimes can creep in from a short-term real estate perspective and appreciate that while real estate market conditions may temporarily be challenging, we are also living in a time of extraordinary scientific progress.

Large pharma has embraced the AI revolution with abandon, using AI to understand viral structures, identify small molecule drug candidates, design novel proteins and streamline clinical trials. Small molecule drug design is getting a precision boost from new techniques like skeletal editing, reinvigorating the ongoing relevance of what remains the dominant modality in the sector.

There are new approaches to treating metabolic diseases, including blockbuster drugs for the treatment of obesity. Significant advances were made in the treatment of neurodegenerative diseases, including ALS, spawning a vibrant, rapidly growing neurotechnology sector. And the efficacy of cell therapies continues to improve, with the U.S. FDA potentially set to approve up to nine CGT drugs in 2023, which, if achieved, would break a single-year record. I could go on ... There are literally dozens upon dozens of advances made in the past 12 months alone, each that will have a significant downstream effect on the vitality of our business. One can reliably expect that science, and the nature of scientific discovery, will constantly, inexorably evolve.

Up or down, invest or divest, build or land bank… these are incomplete questions. With each new discovery, drug, diagnostic or intervention comes an opportunity for us to rethink and reshape the infrastructure necessary to make science possible. This, at core, is our mission at JLL Life Sciences, and it is in that spirit that we hope you find the 2023 Life Sciences Industry and Real Estate Perspective a productive tool.

Onward and upward,
Travis McCready
Head of Life Sciences, Americas Markets
Chair, Global Life Sciences Advisory Board, JLL

Key takeaways

1

Demand for lab space has slowed but is poised to bounce back as capital sources grow more confident in coming months.

The top venture capital firms focused on life sciences have raised record amounts of dry powder, which amounts to a matter of "when" and not "if" these funds will be deployed.

Mega deals for companies with strong clinical data are likely to continue in the short term, with investment gains expected in 2024.

2

A supply wave of lab space is hitting markets across the U.S., with higher concentration in Boston and the Bay Area.

The pipeline for lab space has peaked, and completion of projects is expected to surpass new project starts in the coming years, thus reducing the pipeline.

Downward pressure on base rents and occupancy is anticipated in top markets in the short run before supply begins to mediate at the end of 2024.

3

Historical biotech downturns provide limited precedent, but positive signals are emerging.

The industry's growth and record-breaking deployment of VC in 2021 suggests a quicker bounce back compared to previous downturns.

Job demand in the life sciences sector has returned to record highs, indicating a potential increase in demand for lab space in the coming quarters.

4

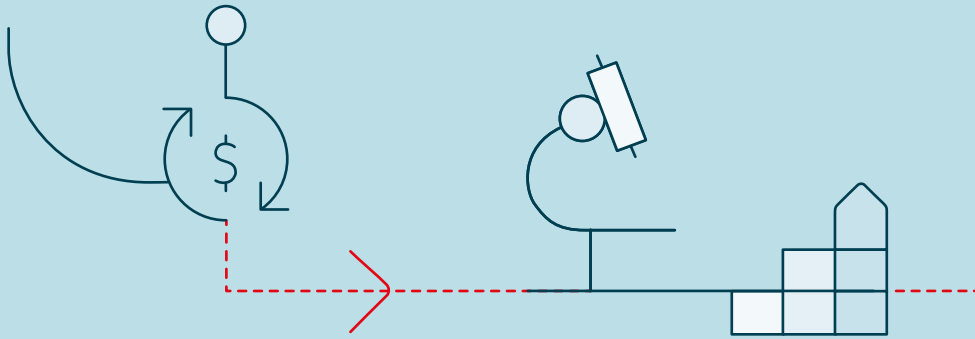
Opportunities exist for tenants and landlords in a challenging environment.

Investors can find opportunities in resilient submarkets with established clusters and high-quality inventory.

Tenants, especially smaller ones, can negotiate economically favorable transactions and shorter lease commitments with extremely limited initial capital outlays.

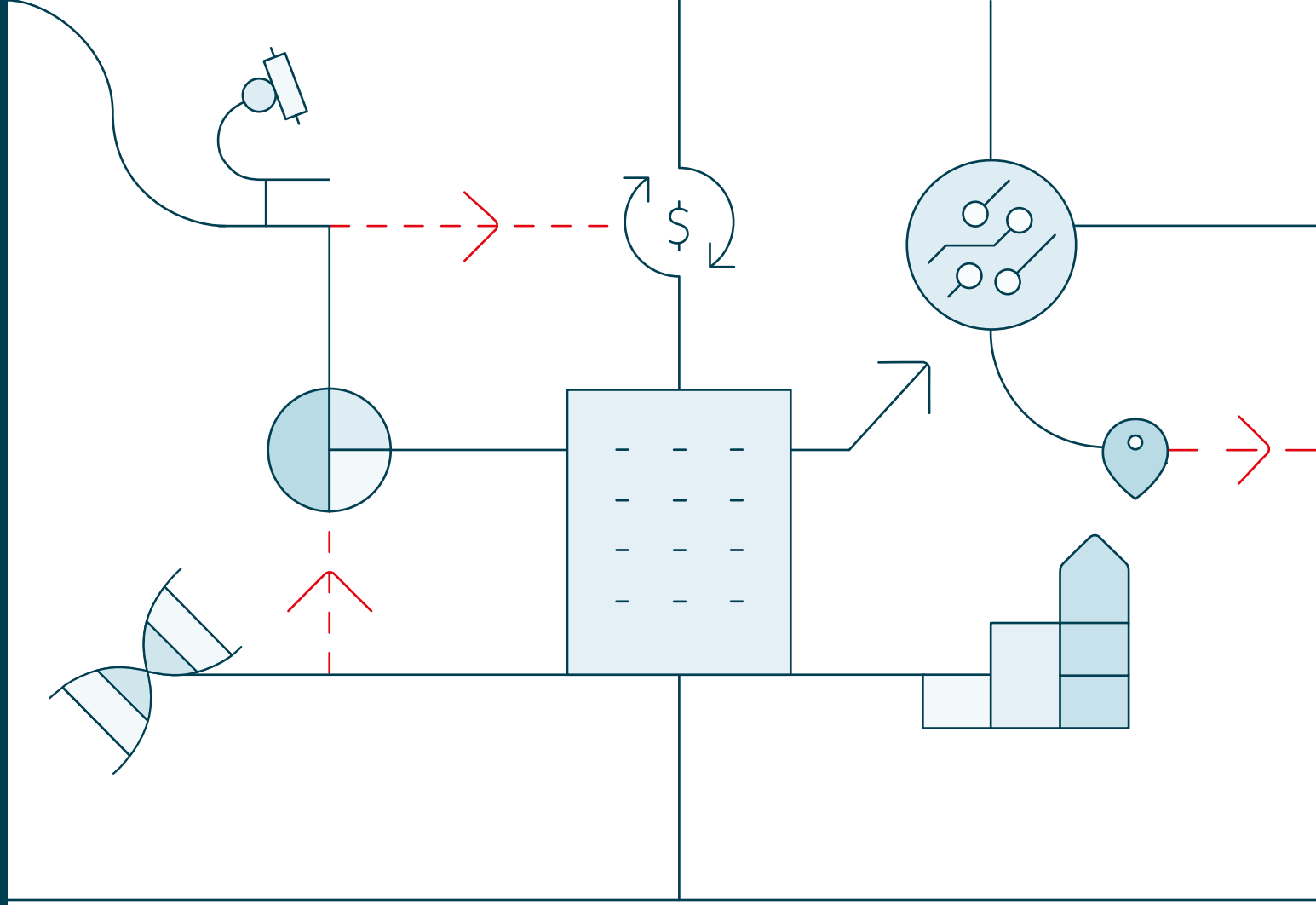
Established pharma and biotech companies have the chance to strategically select long-term markets for R&D growth.

Different markets across the U.S., beyond the major clusters, offer opportunities for startups to grow and access talent.



Navigating this report

Our latest perspective has been reimagined to include a “look back” and “look ahead” for each major research theme. This provides you, the reader, with the past and current view and a forward-looking lens. Second, we have a few areas of opportunity for both CRE investors and life sciences companies. Last, our cluster models highlight stories of thriving markets for not only biopharma, but medtech and biomanufacturing as well.



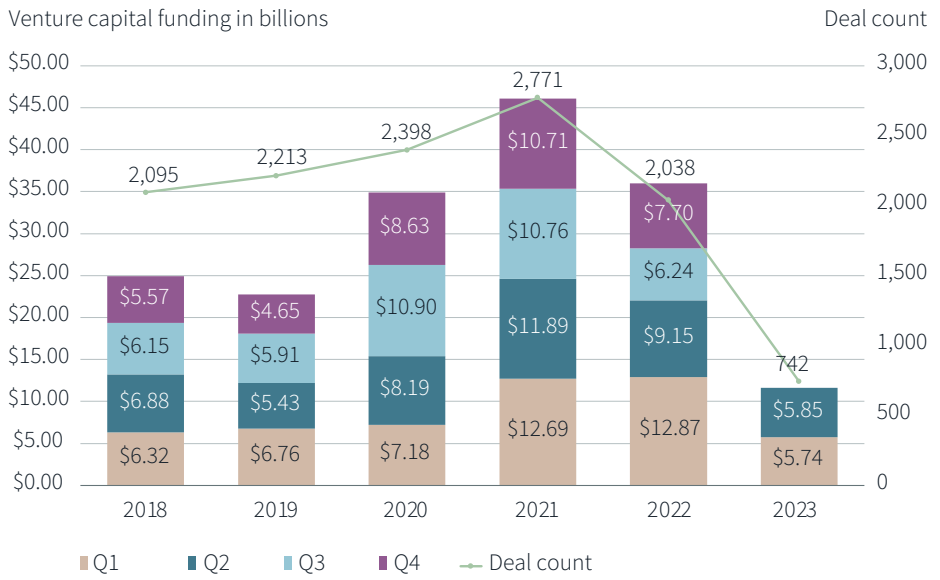
1 Robust demand for lab space will return when venture capital ramps back up

Look back

One of the purest relationships in the biotech sector is between venture funding rounds and how the recipient startups use those funds to expand their footprints. In the wake of COVID-19, the investment craze meant that $10-$13 billion was invested per quarter across the U.S., instead of the typical $5-$6 billion. Companies that otherwise would have struggled to fundraise were successful in raising funds during this period and in many markets those startups drove the rapid rise in demand for commercial lab space.

Following a cooling in the public markets starting in late 2021, private capital became crimped by mid-2022. The past four quarters have returned to levels of investment more akin to 2018 and 2019 rather than 2020 and 2021. A broad reset in funding levels, valuations and commercial real estate needs has now permeated the sector. Demand in Q2 2023 across eight prominent life sciences markets was 10.1 million s.f., a -60% decrease from YE 2021 highs. However, the past four quarters saw nearly $26 billion in VC investments across the U.S., which is more than any year pre-COVID-19. The industry is resetting to its long-term growth trajectory.

$25.5B VC raised in past 12 months, which would surpass the pre-COVID-19 annual record despite current headwinds



Source: Pitchbook

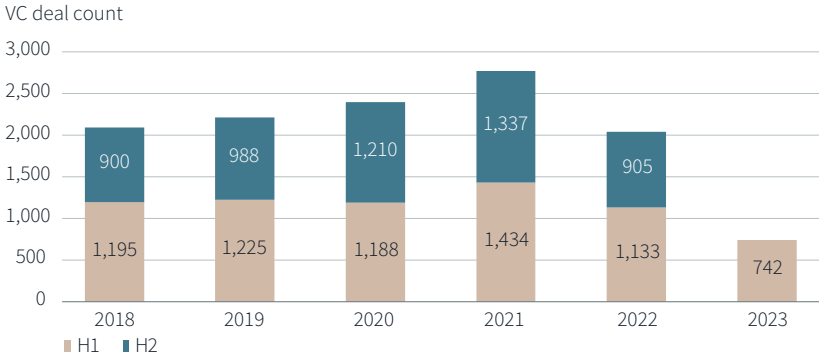
1 Robust demand for lab space will return when venture capital ramps back up

Look ahead

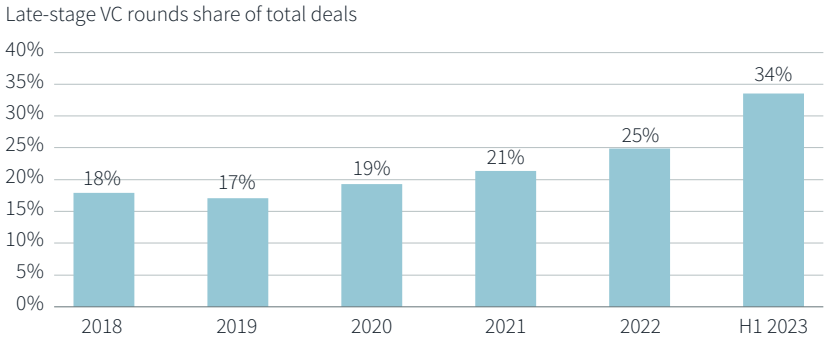
The immediate future of private capital flows deployed into the sector remains muddied. One hopeful sign is that the top 20 VCs focused on life sciences have record dry powder that will soon find its way into growing startups. They've raised over $22 billion collectively since 2021. In the heady years of 2021-2022 fundraising was four times that of a typical year. The time it can take to fully deploy these funds is roughly 5-6 years.

VCs have been writing 35%-40% fewer checks in 2023. But with ample ammo and mandates to get deals done, the rest of 2023 will likely see more of what we've seen so far: mega deals for companies with top-notch science deep into the clinic. Into 2024, the likelihood that investment sees material gains is as high as it has been in any period since the market turned in late 2021.

Less deal volume, smaller rounds and a higher share to companies closer to generating revenues



Late-stage companies receiving a larger share of VC funds



Source: Pitchbook

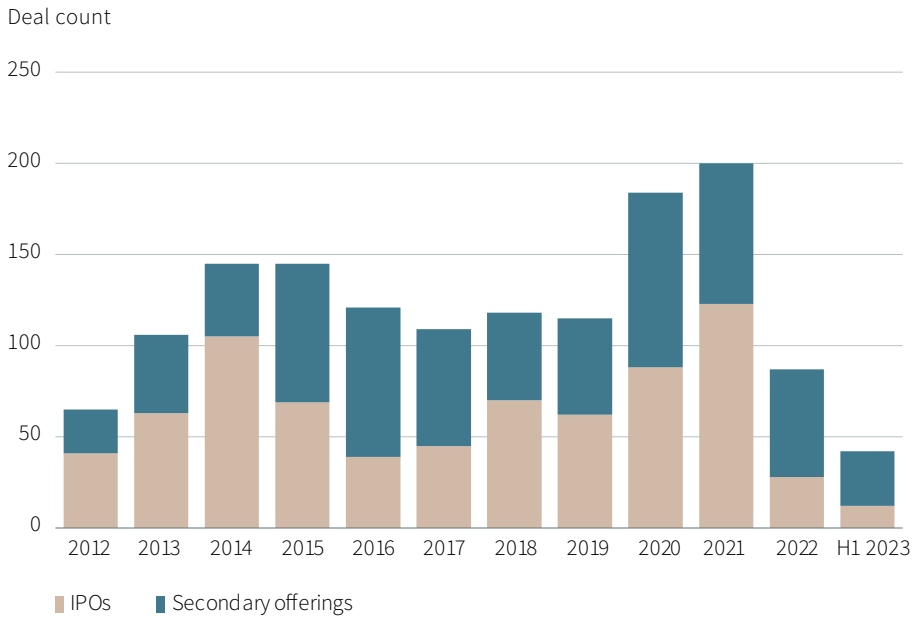
2 When will public markets open again to biotech companies?

Look back

In the 10 years prior to 2022, an average of 70 life sciences companies made their public debuts per year. This provided founders, key investors and early employees with their "exits" and gave companies access to vast pools of growth capital. In the past 12 months, 28 companies have gone public, less than half the historical pace. Only six of these 28 companies raised over $100 million at offering, meaning that mega-debuts have largely been frozen in place.

In fact, the median capital raise at IPOs has been lower only once in the past 16 years. With so few debuts (and so few large debuts), a once-robust source of financing has been shuttered. Secondary offerings receded in H1 2023 back to 2013-2014 levels. Public sources of capital have been critical for the sector, amounting to about half the capital that VCs historically provided. With levels currently subdued, it forces many midstage biotechs to look elsewhere for funds or reduce their operations to stretch out their cash runway.

Public sources of capital



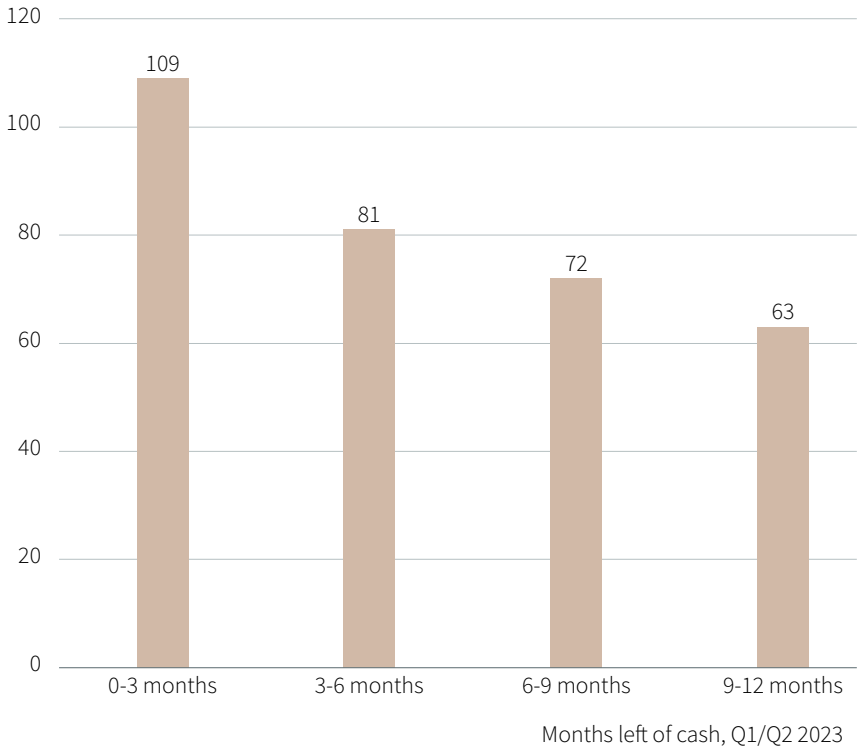
Source: Pitchbook

2 When will public markets open again to biotech companies?

Look ahead

Through summer 2023, the two major biotech indices—S&P Biotech ETF (XBI) and NASDAQ Biotech Index (NBI)—have trailed the broader market for well over a year now, indicating a subdued interest in investing in the sector despite recent tailwinds in other technology sectors. This is bad news particularly for markets with high exposure to public pre-revenue startups who rely on the public markets for funds for operations. By spring/summer 2023, over 300 public biotech companies had less than a year's worth of cash left, according to BioPharm Analyst. This will likely spur these companies to seek secondary offerings to bolster their financial positions, or to seek strategic partnerships or acquisitions to stay afloat through the middle of 2024.

Remaining cash runway for publicly traded biotechs



Source: Pitchbook

3 Demand for space has changed considerably

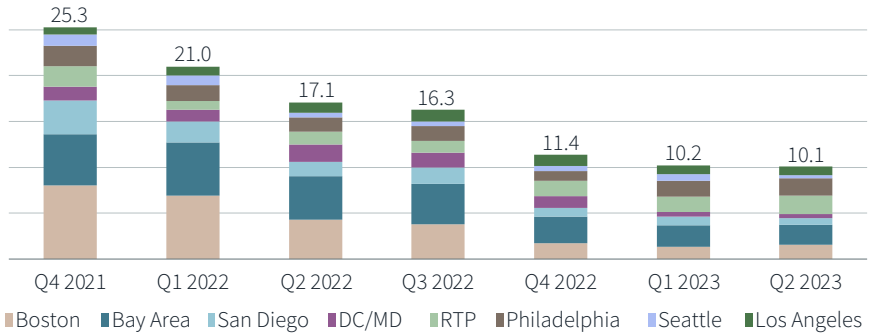
Look back

The last 18 months have been proof positive that the biotech sector is incredibly sensitive to movements in interest rates. Public markets moved sharply downward in late 2021 as the Fed announced its intentions to combat runaway inflation with interest rate hikes. Further pain was felt in funding and valuations as the Fed continued to hike rates 10 times in the past year or so. By discouraging investment in riskier, far-distant revenue streams and profits, high-growth tech sectors like biotech are now seen as a less attractive place for investment capital.

As funding dynamics shifted downward, so too has demand for space in most of the largest life sciences markets across the U.S. Pre-revenue startups rely heavily on venture capital (typically) to fund expansions. With capital so limited, demand has been choked off to a substantial degree, as the level of demand is tightly correlated with the abundance of private and public capital. To end 2021, demand across the top eight markets in the U.S. stood at over 25 million s.f. By mid-2023, that had fallen to just over 10 million s.f. Additionally, the composition of demand has shifted in most markets. Small users, who have a critical need for bench space as opposed to mid-to-late-stage companies who can make do with their current situations, are the vast majority of users seeking space. Sub-30,000 s.f. tenants accounted for 82% of deals signed in the first half of 2023, up from the previous average of 65%.

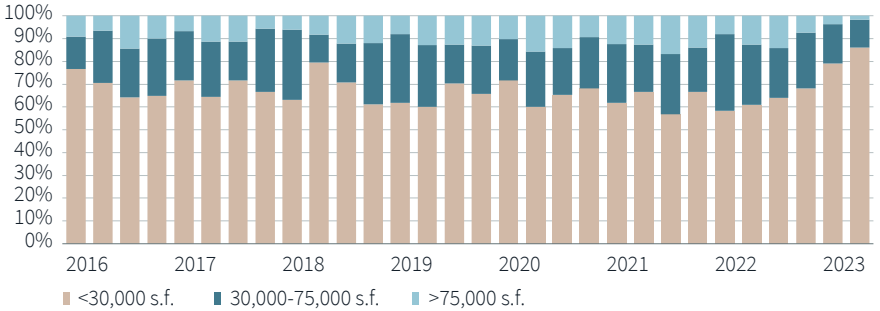
Tenant demand has fallen below half of peak levels

Lab tenant demand (m.s.f.)



Smaller deals are increasingly driving leasing activity

Share of leasing deal count



Source: JLL Research

3 Demand for space has changed considerably

Look ahead

Demand likely hit its nadir in mid 2023, but with an expected increase in funding in the coming quarters, we will likely start seeing demand growth. Boston is often on the vanguard for biotech markets and is starting to see incremental increases in demand already. There is an open question around tenant expectations moving forward, as early-stage groups have become accustomed to move-in-ready options (subleases, spec suites) and may resist returning to an environment where they spend their own capital on build-outs for spaces leased for longer lease terms instead of plowing those resources strictly toward core scientific endeavors. Through the end of 2024 many markets will be experiencing elevated levels of supply, meaning that even with growth in demand, the leverage needle will be tilted toward users of space in the coming quarters.

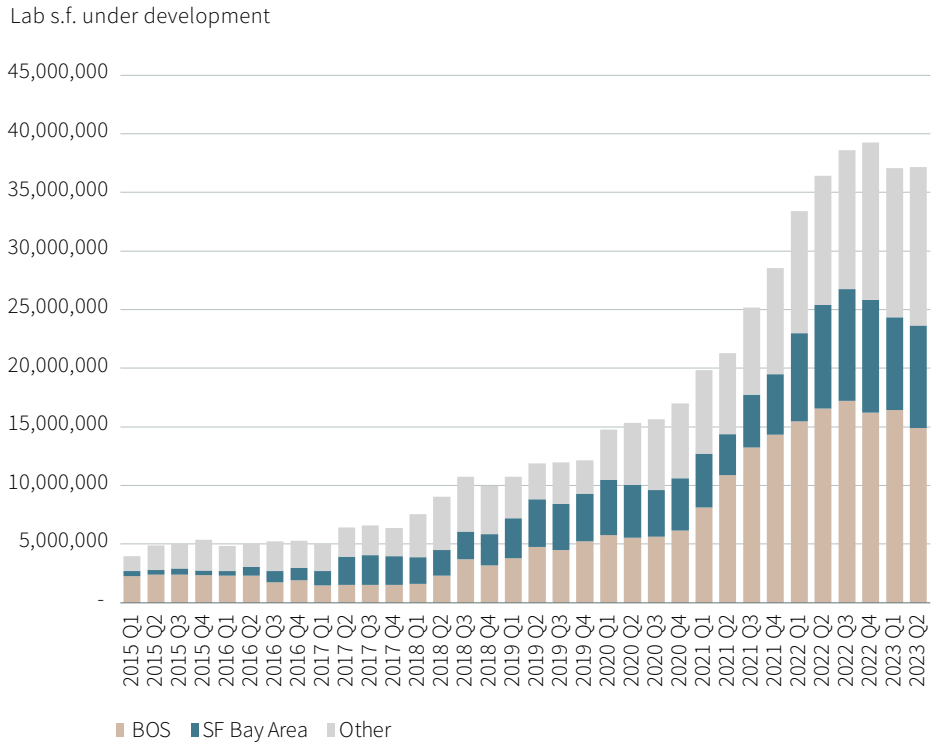
4 Have we reached “peak supply”?

Look back

In the face of subdued demand, a supply wave is hitting markets across the U.S., though not evenly distributed. Of the 37 million s.f. of investor-owned lab space under development in the U.S., 63% is in Greater Boston or the Bay Area. Markets like Los Angeles, Raleigh-Durham and D.C./Maryland have pipelines as a percentage of current stock of approximately 10% or less, which applies some constraints on supply in those growing markets.

The national pipeline figure is three times that of 2019. While the approved and proposed pipelines remain large after many parcels in top markets were acquired with life sciences uses in mind, it is almost assured that peak pipeline is behind us. Already, labs under development have fallen by 2 million s.f. since YE 2022. Completions of projects are likely to outweigh project starts for some time. In the rate run-up of the last year, borrowing costs for speculative lab construction have risen to over 10% on select deals.

Lab pipeline in U.S. is concentrated in Metro Boston and SF Bay Area



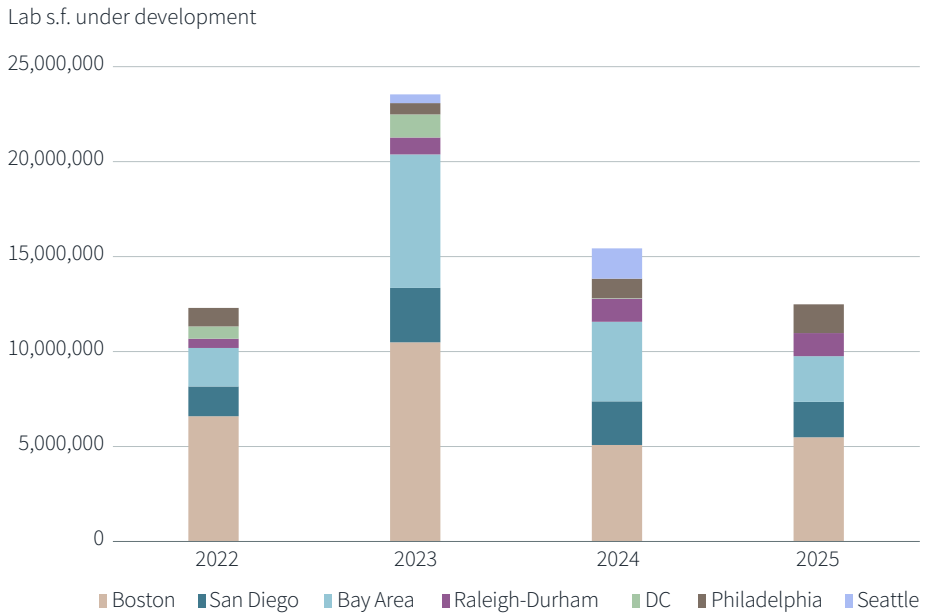
Source: JLL Research

4 Have we reached “peak supply”?

Look ahead

Today’s supply dynamic will provide downward pressure on base rents and occupancy in the coming quarters in our top markets. Lower lender appetite to fund these projects in the down market we’re experiencing today, coupled with the higher cost of capital, means that we’re likely going to see a considerable lull in construction starts. Given the approximate 24-month construction period of these projects, we anticipate deliveries to slow to a trickle starting in late 2024 and lasting into at least 2026, if not longer. This will provide an opportunity for believers in the long-term fundamental health of life sciences to capitalize on what will likely be an inversion of today’s supply-and-demand dynamics as early as 2025.

Lab development pipeline delivery by year



Source: JLL Research

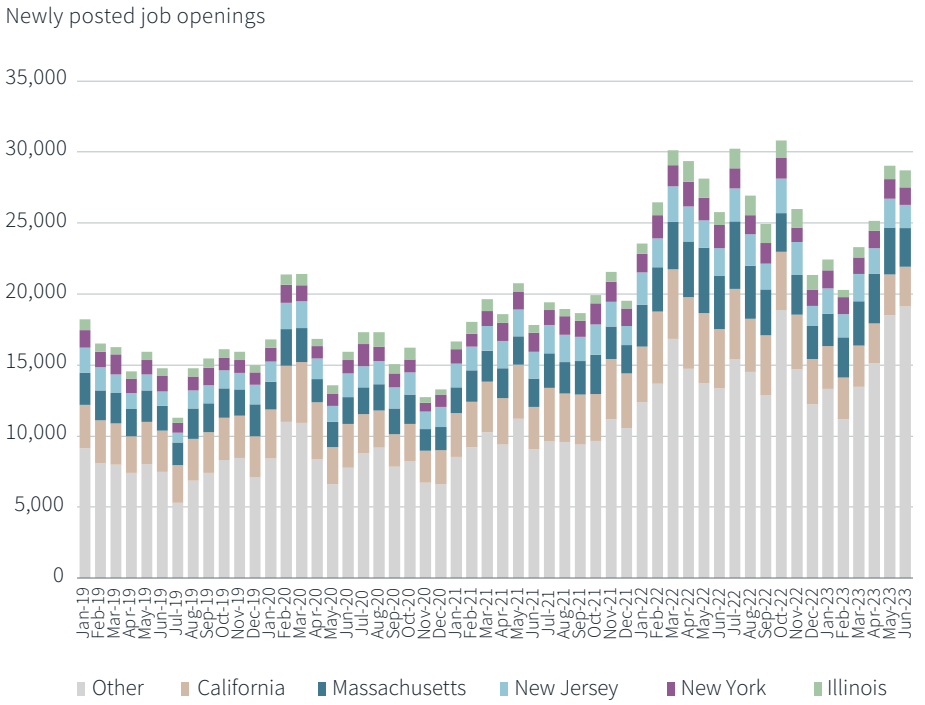
5 Life sciences job openings—a harbinger of better days ahead?

Look back

Finding the right talent is mission critical for biopharma companies. Research by Pillar shows that early-stage companies (50 employees or less) require highly specialized research scientists for about one-third of their workforce and a further 10%-15% are C-suite leaders. Location matters deeply to these companies, whether it is clustering near like-minded groups or adjacent to concentrations of top-flight scientific talent. One question in the real estate world was that after the sugar high of 2020-2022 subsided, would employment growth slow and thus the need for space to accommodate their work?

Job postings grew from a monthly average of 16,000 before COVID-19 to nearly 27,000 in November 2022 before declining sharply. Coupled with an uptick in layoffs in Q1 2023, it looked as though the life sciences job market that had run red-hot for several years would experience some slack. However, the appetite for new jobs grew substantially in spring 2023, to the point where May and June 2023 were both in the top six months for most monthly job openings on record.

Biopharma job openings pick up substantially through Q2 2023



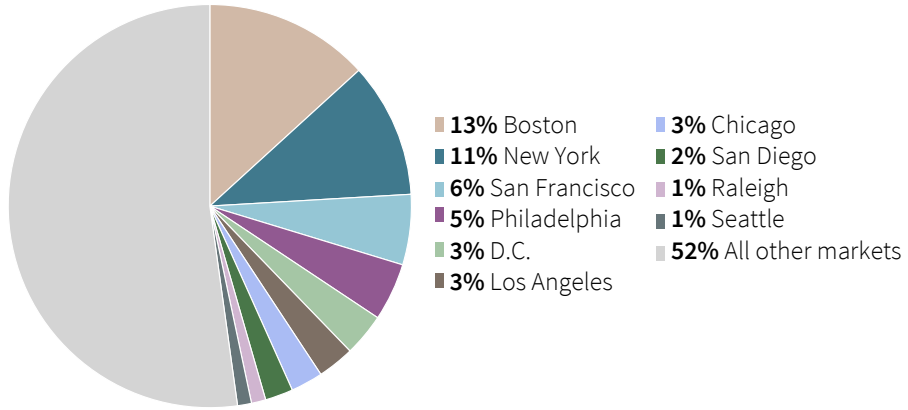
Source: Lightcast

5 Life sciences job openings—a harbinger of better days ahead?

Look ahead

The end of Q2 2023 saw a return to the record-high levels of job demand seen in 2022. If that level persists, it will likely bring about a rise of demand for lab space across the U.S., especially if the job openings are concentrated in roles that require bench work. Promisingly, six of the 10 most sought roles were in R&D. Established pharma companies have been driving much of the growth in job openings in 2023, as they are generally cash-rich and in strong financial positions. As biotech comes out of a "painful reset," the hope is that they join the fray in hiring in greater numbers to show a truly broad-based recovery that will drive growing infrastructure needs in 2024 and beyond. And with half of all openings in the top 10 markets, it illustrates how geographically diverse the sector is in the U.S.

H1 2023 job postings by metro



Source: Lightcast

6 Historical biotech recessions—any precedent for today?

Look back

Undoubtedly in the past year the biotech sector, as well as its accompanying real estate markets, has entered a downturn. The fundamental science, end-user demand and talent have never been in a stronger position. But funding is down, demand has been cut by more than half and rents and occupancy have entered negative territory, with near-term supply elevated.

The past decade has been a super-cycle for biotech, with significant gains across the board, which makes for a difficult search for precedent to help guide our understanding of today's market and when we can expect to come out the other side of it. In the most mature markets of Boston, San Francisco Bay Area and San Diego, the last significant downcycle was in the aftermath of the Great Financial Crisis (GFC). Back then, it took on average 2.5 years from peak vacancy until rents bottomed out, as competitive pressures took a long time to diffuse throughout the market among landlords with large availabilities.

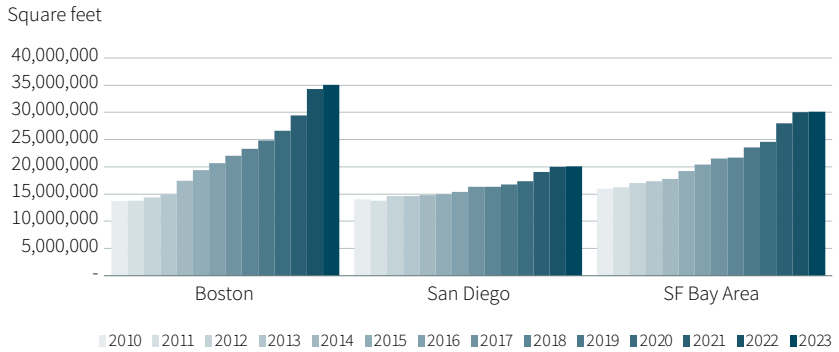
6 Historical biotech recessions—any precedent for today?

Look ahead

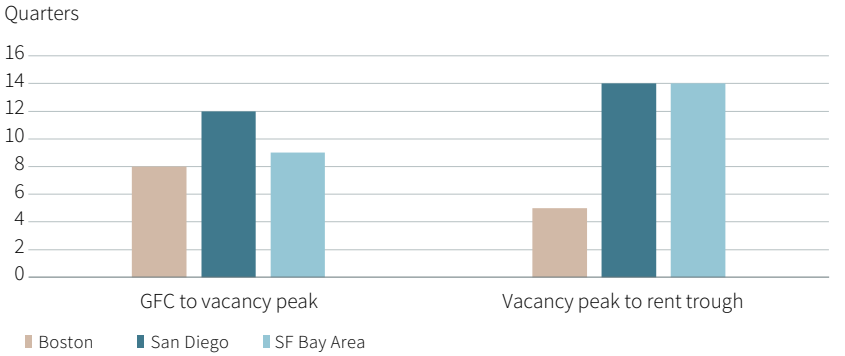
The issue with using data from a dozen years ago to model out what the next few years might look like is that with substantial growth the industry has matured to a point where these markets are markedly different from that period. For instance, Boston has grown from 14 million s.f. of occupied lab space during the GFC to over 35 million s.f. today. The Bay Area has doubled in size. San Diego is 40% larger. These clusters have evolved to a point where is it easy to argue that in being home to so many more companies today than during the GFC, the time it will take to bounce back could be materially quicker.

From 2008 to 2012 the average VC deployment in the U.S. was $7.6 billion per year. We surpassed that in 3.5 months to start 2023, in a “down” market. Occupancy rates are likely to continue feeling downward pressure well into 2024. But to forecast that rents will fall for a further 2.5 years afterward ignores the fact that the industry is in position to bounce back, especially considering the record dry powder at the ready.

Occupied lab space



Historical recovery times



Source: JLL Research

Where are the opportunities in a challenging time?

For real estate investors

JLL developed a methodology to evaluate the vitality of lab submarkets across the U.S. We looked at various metrics that contribute to the health of a life sciences commercial real estate node—age and quality of inventory, landlord experience, historical performance and location—to uncover resilient submarkets that may outperform the median market as the broader sector recovery begins.

The top submarkets of over 1 million s.f. are unsurprisingly long-established clusters. Boston's East Cambridge and Seaport District submarkets are both in the top five, owing to their global biopharma HQ base, heavy concentration of experienced sponsors and prime location. Aside from the obviousness of the South San Francisco submarket, Mission Bay/China Basin (like Boston's Seaport in its proximity to an urban center and unique concentration of new builds) ranks fifth in the U.S. UTC in San Diego ranks high due to the heavyweights of life sciences ownership (ARE, BMR, PEAK), who collectively have a stake in all but 6 of the 35 existing lab buildings there. UTC, as well as Mission Bay, also has the lowest oncoming supply of the top-ranking submarkets, which will further redouble these markets in the face of broader downward pressure on rents and/or occupancy.

Last, the top-ranking submarket outside of the "Big 3" U.S. markets is Seattle's Lake Union. Home to Amazon, Apple and Meta, the area has long been a bastion for global tech talent, but in recent years it has seen ARE and BMR both claim a foothold in the burgeoning Seattle market. In smaller submarkets (under 1 million s.f.) the score highly includes the Bay Area's Brisbane, Philadelphia's Navy Yard, Downtown Durham and San Diego's Del Mar Heights/Carmel Valley.

Overall, the top 10 evaluated submarkets outperform all others in **occupancy by nearly 300 bps** and in asking **rents by 23%** **across the U.S.**

For life sciences companies

The elements that are mission critical for young startups to grow are numerous. Industry observers know that Boston, the Bay Area and San Diego have had decades of clustering and boast the deepest benches of researchers at the discovery and clinical stages, as well as the highest concentration of VCs with deep industry knowledge. Those markets also have the most optionality for tenants with second-generation space, spec suites and forthcoming supply—enough to provide the necessary capital and infrastructure to further their science. But it comes at a higher price in terms of real estate and talent.

Other markets with top 10 life sciences talent pools include Metro D.C., Raleigh-Durham and Los Angeles—the latter of which is not traditionally thought of as a top 10 market but is rising fast.

NYC is often talked about as the next "it" market and shows promising signs—boasting a top 10 market for capital and the ninth-deepest pool of life sciences talent in the country. New Jersey, long a hub for traditional pharma, makes for an intriguing option, with the sixth-most leasable real estate plus eight million s.f. of user-owned space, out of which some may eventually be scooped up by investors trying to capitalize on a market that boasts the fourth-best talent market in the U.S.

When zooming out from those three markets, there are plenty of pockets across the U.S. where a founder with a vision can grow their startup. Our market rankings model incorporates **over 20 metrics** in evaluating the relative strengths of markets across the country.

How do the 2023 life sciences markets stack up?

Which life sciences clusters are especially thriving?

Life sciences clusters are emerging in various markets across the country. While the Bay Area and Boston have long been the dominant centers of life sciences excellence in the U.S., new markets are showing signs of significant growth and potential. These emerging clusters are attracting investments from universities, institutions, governments and industry players who recognize the importance of fostering breakthrough scientific developments.

To identify these markets, our 2023 cluster model was created, analyzing key components of a successful life sciences ecosystem: **access to talent**, **funding** and **real estate infrastructure** to support further growth. Incorporating aggregate measures as well as metrics of growth, density and momentum, the cluster model provides a blended approach that highlights both the current strength and the future potential of different markets.

2023 top life sciences clusters

1. Greater Boston
2. SF Bay Area
3. San Diego
4. Greater D.C. & Baltimore
5. Raleigh-Durham
6. New Jersey
7. New York City
8. Boulder & Northwest Corridor
9. Philadelphia
10. Seattle

*These top clusters are just the tip of the iceberg. JLL's proprietary methodology utilizes a variety of data points to evaluate top markets. **Start a conversation with us** to explore these clusters further and discover other geographies that made our list.

New this year: What are the top medtech and biomanufacturing markets?

This year, we've ranked the top medtech and biomanufacturing markets by applying a concentrated analysis to our model. We emphasized metrics specific to the two subsectors to determine which markets show strength when narrowing in the focus on medtech and biomanufacturing.

Similar to our overall life sciences market evaluation, the medtech and biomanufacturing models comprise variables such as employment, job postings and degrees, venture capital funding and clinical trials, and industry concentration and performance.

The life sciences industry is more than just the research and development of new therapeutics. It encompasses other life-impacting scientific endeavors: medical devices and technologies and the emergence of biomanufacturing as a key driver of the overall industry's evolution. Through our analysis, we've uncovered markets that show strength in these specific subsectors.

Which medtech markets are especially thriving?

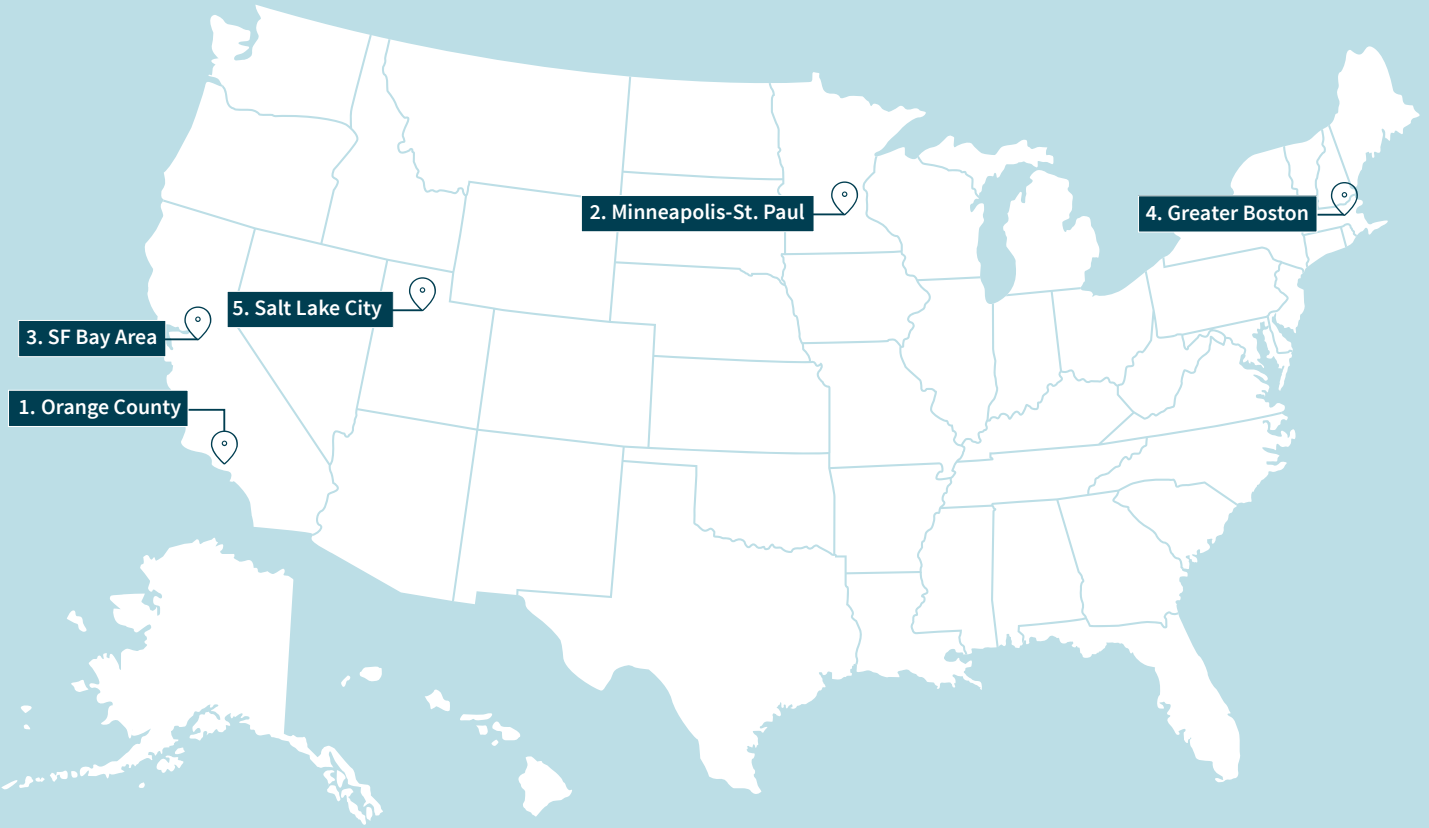
Several variables were weighted to derive the top medtech markets—two of those variables were on employment and capital funding:

2022 medtech manufacturing employment

Greater Boston	40,433
Minneapolis-St. Paul	32,074
SF Bay Area	29,173
Orange County	28,953
Salt Lake City	10,376

2018-2022 total healthcare devices and supplies venture capital funding (millions)

SF Bay Area	$17,493.40
Greater Boston	$3,315.40
Minneapolis-St. Paul	$1,902.70
Orange County	$1,051.40
Salt Lake City	$528.70



*These top medtech clusters are just the tip of the iceberg. JLL's proprietary methodology utilizes a variety of data points to evaluate top markets; the first of its kind for the medtech sector. **Start a conversation with us** to explore medtech opportunities further and discover other geographies that made our list.

Which medtech markets are especially thriving?

Salt Lake City

Salt Lake City has a prominent medtech ecosystem that is diverse and highly specialized. Historically known for its robust medical device manufacturing sector, Salt Lake City has experienced significant growth in several other areas including healthcare devices and supplies, drug discovery, gene therapy, health tech and many other life science verticals. Salt Lake City also benefits from a skilled employment base, multiple STEM university programs and a low cost of living. Venture capital funding plays a crucial role in the growth of Salt Lake City's medtech sector, attracting investments and fostering innovation that will play a key role in Utah's economic growth for many decades to come.

Minneapolis-St. Paul

The pacemaker was invented in the Minneapolis-St. Paul market. Medtronic leads a list of life sciences companies in the Minneapolis-St. Paul market that includes St. Jude/Abbott, Boston Scientific and 3M. Also included on the list of top occupiers are Colder Products, a bio and medical product fitting maker, medical device and contract manufacturing company JunoPacific/Cretex and hearing aid manufacturer Starkey.

Greater Boston

The nation's top life sciences market, Boston, is well-balanced with a deep bench of medical device companies. Boston Scientific, Abiomed and Hologic are headquartered locally and have a combined market capitalization of over $100 billion while doing $18 billion in revenue in Q2 2023. With a focus on therapeutic devices, surgical devices and diagnostic tools, Boston's medtech sector matches up with nearly any in the U.S. In all, the sector accounts for employment of over 15,000 people in the state of Massachusetts.

SF Bay Area

The Bay Area has become a major hub for medtech innovation and growth. Fueled by a robust life sciences ecosystem, access to VC funding and strong talent from institutions like Stanford, UCSF and UC Berkeley, the region has given rise to hundreds of medtech companies. Silicon Valley in particular has seen growth, with its powerful tech presence that helps provide resources to advance medtech. Key areas of focus include robotic surgery devices and AI-based diagnostics and analytics. Leading medtech occupiers continue to expand their footprints, indicative of the sector's growth. For example, Intuitive Surgical occupies over 1M s.f. with 847k s.f. of construction underway and 364k s.f. proposed in Sunnyvale. Agilent Technologies is another big occupier with 395k s.f. of space in Santa Clara. Overall, the talent, location, funding channels and research capabilities make the Bay Area one of the leading hubs for medtech.

Orange County

With its diverse industry base and renowned academic institutions, the greater Los Angeles area is a hotbed of innovation in the medtech sector. Biopharma, artificial intelligence, aerospace, agtech, foodtech and cleantech industries foster cross-pollination of ideas and drive innovation. Notable companies like Edwards Life Sciences, Medtronic, Boston Scientific and others have a presence in Orange County. The county is home to esteemed academic institutions such as UC Irvine, Chapman University, and California State University in Fullerton, which promote collaboration and innovation in medtech. Government support, industry associations and accelerators provide incentives, infrastructure and resources to foster medtech growth. Orange County's proximity to major medical centers, strong venture capital presence, diverse talent pool and supportive business environment make it an attractive location for medtech companies. Southern California's large population, diverse demographics, robust healthcare industry and opportunities for clinical trials and commercialization make it an ideal market for medtech products and services. The region also offers opportunities for early adoption and pilot testing of innovative healthcare technologies.

Which biomanufacturing markets are especially thriving?

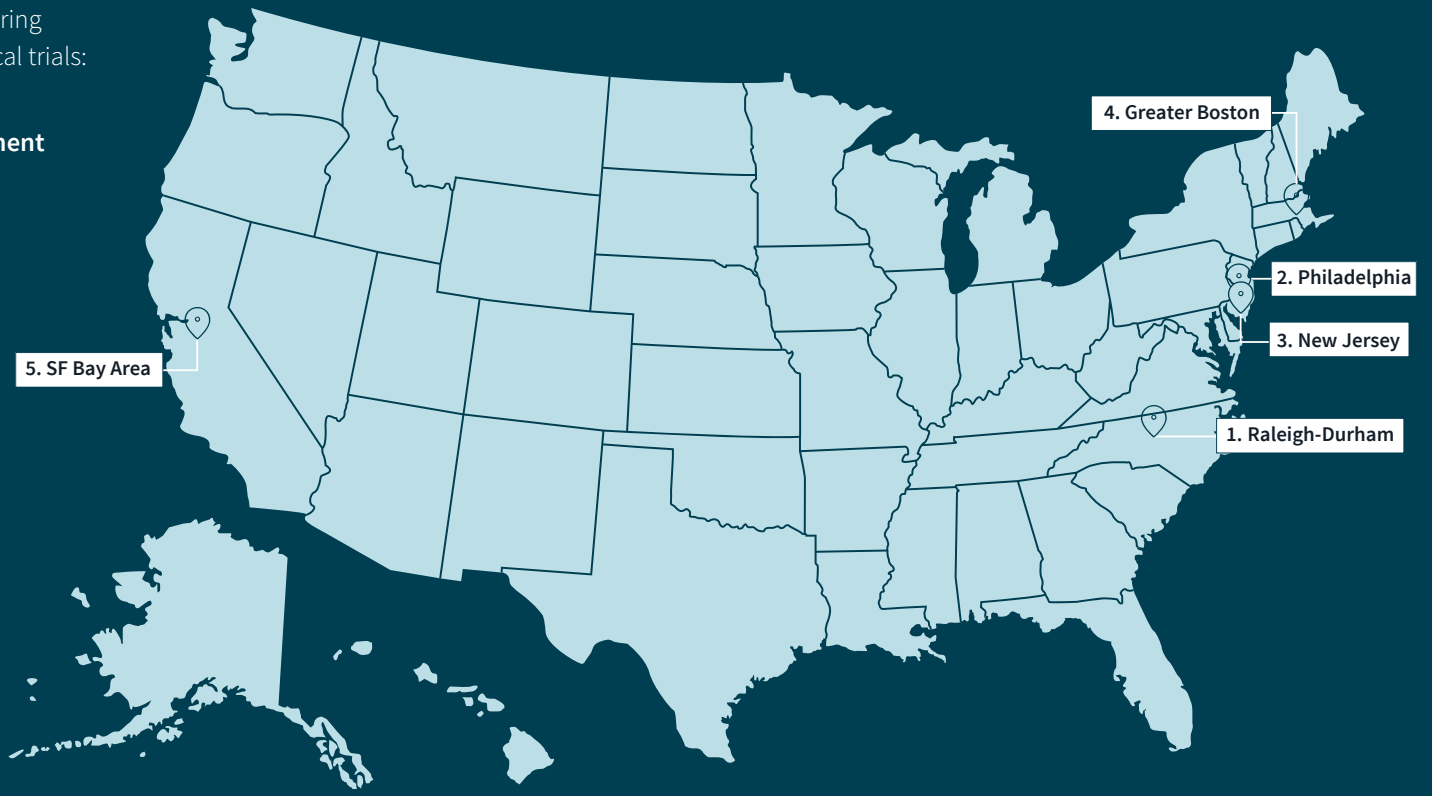
Several variables were weighted to derive the top biomanufacturing markets—two of those variables were on employment and clinical trials:

2022 pharmaceutical and medicine manufacturing employment

New Jersey	24,428
SF Bay Area	19,696
Greater Boston	17,830
Philadelphia	16,337
Raleigh-Durham	9,841

Headquartered companies conducting phase 2-3 clinical trials June 2022—June 2023

Greater Boston	136
SF Bay Area	131
Philadelphia	55
Raleigh-Durham	49
New Jersey	8



*These biomanufacturing clusters are just the tip of the iceberg. JLL's proprietary methodology utilizes a variety of data points to evaluate top markets; the first of its kind for the biomanufacturing asset class. **Start a conversation with us** to explore biomanufacturing opportunities further and discover other geographies that made our list.

Which biomanufacturing markets are especially thriving?

Raleigh-Durham

As there is more pressure than ever to speed up the drug development process, Raleigh-Durham is uniquely positioned to meet the need. With a rich history of large-scale biomanufacturing in the Research Triangle Park and the market's outlying counties, a critical mass of workers is present. Research and development from the market's three tier-one universities has facilitated an emerging lab market. Bridging the gap is a healthy pipeline of pilot manufacturing real estate with plenty of land, a growing talent base and an increasingly favorable business environment to catalyze the entirety of the drug development life cycle.

SF Bay Area

The Bay Area has growing contract manufacturing organizations (CMOs) centered in the Hayward and Fremont submarkets due to the robust industrial and flex/R&D nature of those areas. A few large biomanufacturing companies in the Bay Area include Gilead, Personalis and Alexza Pharmaceuticals. The proximity to academic research centers and suppliers makes the Bay Area ideal for translating innovation into manufactured products. Look out for the North Bay as it's becoming an emerging CMO market in the Bay.

New Jersey

Biomanufacturing is a rapidly growing sector within New Jersey's thriving life sciences market. Helping to support this growth have been the state's historical manufacturing roots and robust logistics industry. New Jersey's skilled workforce, high quality of life (schools, healthcare, recreational activities) and inventory of existing legacy pharmaceutical facilities, as well as mature transportation infrastructure that includes access to Newark Liberty International Airport and Port New York/New Jersey, have put the state on the radar for companies with biomanufacturing space requirements.

Greater Boston

Boston was traditionally home to CMDOs looking to capitalize on the robust drug pipeline coming from Cambridge with companies such as Thermo Fisher, ElevateBio, National Resilience, Catalent and Lonza. As new research modalities emerged and started their crawl toward commercialization in the past five or so years, Boston emerged as an attractive market for end-user biomanufacturing facilities. The result is a vibrant cGMP ecosystem, home to over 4 million s.f. of investor-owned product, with a cross-section of CDMOs and end-users leveraging Boston's high-end technical talent to produce mostly clinical-stage batches of therapeutics. Companies more interested in reducing input costs tend to find themselves priced out of the Boston area more often than not.

Philadelphia

While long regarded as a hub for cell and gene therapy "(CGT)" research, Philadelphia is increasingly a major player in the manufacturing of novel therapies as the CGT sector matures. WuXi Advanced Therapies (WuXi ATU) tripled its capacity at Philadelphia's Navy Yard during the pandemic with a new 140,000 s.f. facility for its Contract Testing, Development and Manufacturing Organization (CTDMO) business model. In the suburb of King of Prussia, the Center for Breakthrough Medicines employs more than 300 people and aims to eventually be the world's largest end-to-end cell and gene therapy CDMO. Meanwhile, the region's largest CGT company, Spark Therapeutics, is well into construction of its Gene Therapy Innovation Center in University City. This 500,000 s.f., $575 million facility will double the company's footprint, establish a global hub for CGT manufacturing and represent the first major multistory urban life sciences manufacturing project that the region has seen.

What does this all mean?

There is a central tension today in the life sciences sector: the here-and-now versus the long run. The here-and-now presents challenges to early-stage companies seeking funding, real estate providers looking for occupancy and investors seeking immediate returns. But when looking ahead, there has never been a more exciting time in the space. This report aimed to tell both stories.

In real estate terms, we will likely be entering a period of recovery. VCs have record dry powder. The lab pipeline will recede and a more balanced supply picture comes into focus as early as late 2024. And demand is likely at its nadir and will grow in the coming months. The downward pressure on rents and occupancy won't disappear immediately, but the biotech "supercycle" will regain its footing and drive growth as it has for much of the past decade. We are returning to the long-term growth path of the sector, which requires recalibration of expectations that calcified during the sugar high of 2020-2022.

The question now shifts to: what does it all mean? In the short run, smaller tenants are as important as ever to landlords and will have many opportunities to drive economically favorable transactions. This will materialize in low capex, shorter-term lease commitments and falling rental rates—a market the likes of which have not been seen in over 10 years. More established biopharmas will take this opportunity to strategically select new markets in which to grow.

For real estate investors, there are many pockets of resiliency to focus on in a challenging market today. Markets with scale, experienced operators, quality inventory and proven performance will lead the charge. Burgeoning markets adjacent to centers of technology excellence are emerging across more than a dozen markets in the U.S. Believers in the sector can rest assured that the winds will shift, and momentum will pick up again soon.

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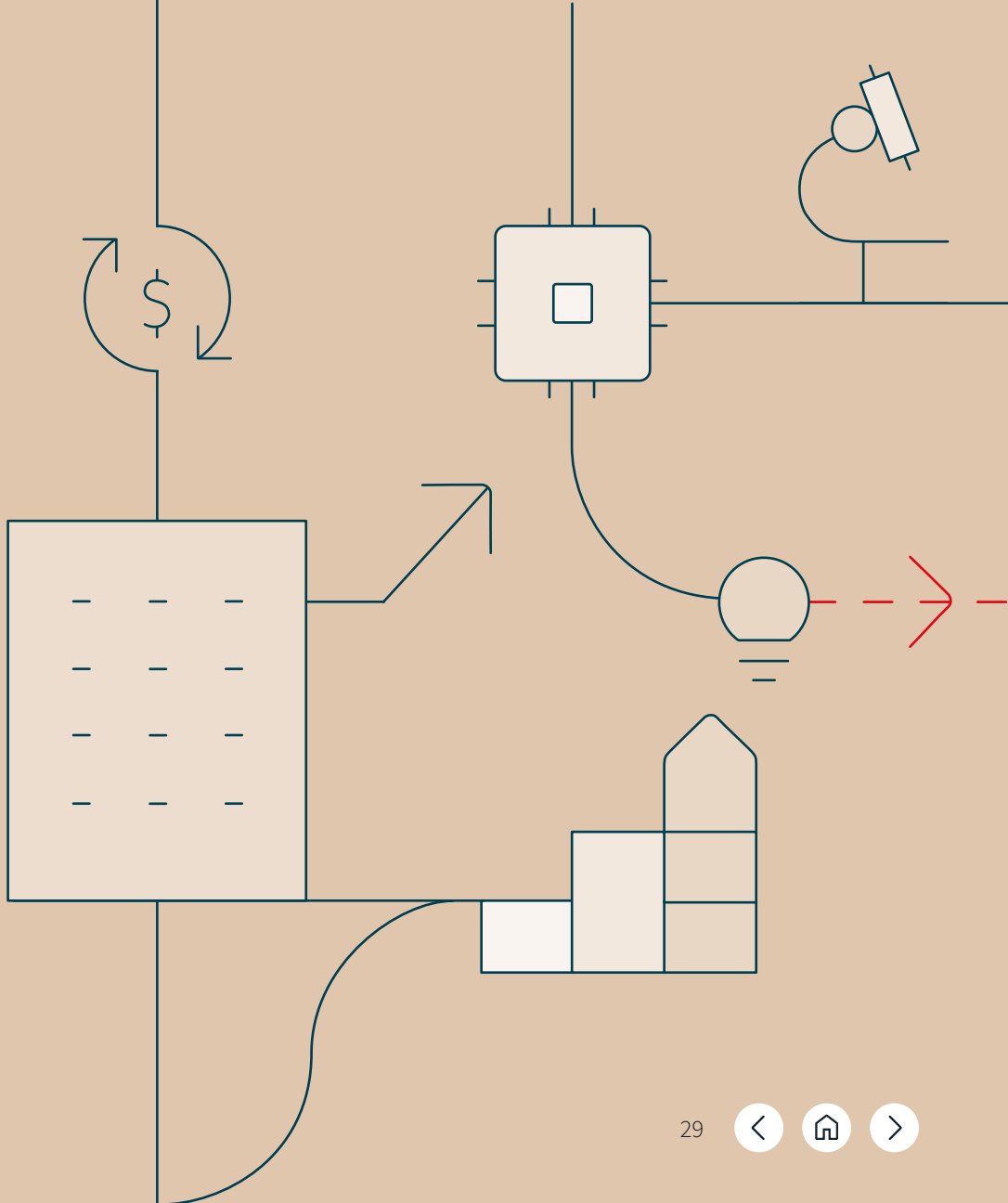
Click here to contact our experienced life sciences subject matter experts.



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