



Source: Portway Building, Granta Park, Cambridge - BioMed Realty

UK Life Sciences Occupier Guide to Laboratory Space

A conclusive guide to help companies understand the real estate sector, capturing the key criteria you need to consider for your business and the leasing process



Laboratory Space | Leasing Process

Finding the right space for your company can be difficult to plan against the forecasted growth of your business.

In parts of the UK there is a significant lack of specialist lab spaces available. This imbalance is being addressed but it is causing mounting pressures on companies who need to act early to secure quality workspace that suits their needs.

Business continuity is important, especially for companies in the early stages of growth, so understanding the process of leasing, and where appropriate, designing and constructing a commercial lab space can help. Preparing yourself by having the best team around you is imperative.

Real Estate advisory, such as JLL will be well versed in the commercial lab market. They will have insights into the best available stock both on and off the market. They will have clarity on what pipeline space is coming to market in the future so they can help you plan your location strategy ahead of its implementation. Most importantly, real estate advisors can ensure you are getting the best deal for your financial, operational and geographical requirements. In addition, engaging a project and design services team can assess the actual cost of a project, select the right service providers to execute a construction project.

The process for a lab acquisition and the associated project design and construction delivery will vary depending on the amount of space required and the timescales to delivery. However, the typical process may look like the following:



Source: Science Creates Old Market Incubator, Bristol



1. Plan For The Future

- Review your current lease obligations, when is your upcoming expiry, do you have an option to break your current lease, how much notice must be given?
- Define your physical requirement for space in terms of size, technical specification, timing and lease type



3. Options Review

- Review the availability schedule provided by your advisor
- Discuss with them to fully understand the SWOT analysis of different options for your business



5. Due Diligence

- Once heads of terms are agreed, you should instruct solicitors who will work with the landlord's solicitors to draft the lease and complete any CPSEs



7. Design Planning

- Instruct a project manager to assist in the fit out of your new space
- This can help optimise the space utilisation and help retain and attract talent

Start



2. Engage The Market (Part 1)

- Instruct a real estate advisor to work with you to refine your user specification requirements, and identify a longlist of options that meet your timescales



4. Engage The Market (Part 2)

- Instruct your advisor to engage with your shortlisted options, clarifying any questions that may have arisen
- Begin negotiating the heads of terms under the guidance and advice from your appointed agent



6. Lease Negotiations

- Elements of the lease will now be negotiated such as your repairing obligations which can have a significant financial impact upon the expiry of your new lease



8. Project Delivery (Initiate)

- Appoint a project manager, cost manager and design team (with specialist Life Sciences sector experience).
- Agree project budget including procurement strategy, sustainability, quality and spatial aspirations/requirements etc.



9. Project Delivery (Plan)

- Prepare architectural concepts
- Undertake design reviews
- Agree route to achieve statutory approvals including building regulations



10. Project Delivery (Design)

- Undertake design studies, engineering analysis and cost exercises
- Develop architectural and engineering technical design
- Initiate change control process



11. Project Delivery (Construct)

- Finalise site logistics and carry out construction phase plan through to practical completion
- Monitor progress against construction programme inspect construction quality and/or resolve site queries
- Achieve statutory approvals



12. Project Delivery (Handover and Use)

- Hand over building in line with Project Execution Plan for use strategy
- Verify project outcomes including sustainability
- Implement facilities management and asset management

Finish



Laboratory Space | Considerations

Location, Location, Location!







There are many important factors to consider when choosing a new space to expand or move into. The following table sets these out and explains why they are important for the success of your business.







Source: Roslin CT

Critical Location Consideration

How does this affect your business?

 Size and make up of existing company base	Being part of an ecosystem that drives innovation. This will allow you to synergise with neighbouring companies, sharing ideas and best practices
 Access to finance	Ability to engage with and partner with VC or other equity sources who are either located in the same building, or close by
 Ability to attract and retain talent	Strong provision of amenities, public realm, placemaking and sustainability is important to attracting and retaining talent
 Access to intellectual property	Proximity to: academia, corporate anchors, incubators to knowledge/IP share is vital
 Proximity to SMEs	Co-location to incubator facilities or accelerator programmes. This offers the ability to collocate with the best in the industry and in your specific field of work
 Specialist infrastructure	Identifying space that is fit for purpose, ability to flex your space over time based on changing R&D focus is also important

Why is it important to think ahead?

 Data shows that capital raising, either private VC or public led, can drive a company's need for physical space.	 Following a capital event, companies want to scale and grow within 6-12 months
 Limited specialist lab space is coming forward in the near term in mature markets such as Cambridge, Oxford and London. Although this pressure on available space does ease in other UK clusters.	 Time lag for suitable lab space to become available is stifling company growth, therefore it is important to plan early

Laboratory Space | Technical Specifications

One of the more challenging elements of finding appropriate lab space for your company is knowing that the building will meet your requirements from a design and specification perspective. There are a number of key building characteristics that almost every lab building will require to operate effectively, along with many other features which should be considered prior to committing to a space. This list is not exhaustive and each lab user will have different base requirements:

Spatial flexibility

- 6.6m-7.2m planning grid (fully optimised vs flexible fit)
- 60% / 40% Lab : Office capability (typically based on biology/biochemistry as opposed to heavy chemistry)
- 1 person/8m² in office, 1 person/15m² in labs

Specialist systems

- Dedicated fume extract system (typically 1 fume cupboard per 200-500m²)
- Dedicated laboratory drainage stacks and consideration of need for trade effluent license
- Availability of on-floor or local tenant plant for enhanced air change rate zones e.g. clean rooms or CL3 (subject to viability)
- Consideration of softened water provision. Analytical water systems typically by tenant

Floor-to-floor heights

- 4.2m typically optimal for new build (depending on floor plate)
- 3.8m typically required for refurb (depending on floor plate)
- MEP ceiling zone typically 0.8-1.2m, with no raised access floor
- Floor to ceiling 2.7-3.0m clear

Increased HVAC & electrical

- 6 air changes/hr in labs,
- 12-16l/s/person in offices
- 20-25W/m² power & cooling in offices, 50-100W/m² power & cooling in lab areas
- Consideration of space for additional tenant plant at roof

Internal Logistics

- Dedicated goods lift(s) for at least 2,000-2,500kg suitably sized for safety cabinets, fume cupboards etc. and with remote operating provision for transport of hazardous goods including LN₂
- Consideration of loading bay and goods in protocols
- Provision for general/clinical/chemical waste streams

Power Resilience

- Generator provision by landlord including life safety and plant backup, or space for tenant generator only
- Consideration of requirements for backup power to air handling, fume extract, heating & cooling as well as small power
- Typically 5%-100% backup of small power in labs
- UPS typically by tenant

Enhanced Structural Design

- Lab loading 4kN/m² + 1kN/m² (floor loading + partitions)
- Vibration criteria typically RF=1 across majority of floor / VC-A or better in localised areas with any active vibration control by tenant
- Consideration of soft spots for high-bay space or tenant risers

Gases & Cryogenics

- External compound for cylinder gas storage and/or piped manifolds
- Provision of house gases by landlord – typically compressed air, CO₂ & N₂. Consider purity requirements
- Landlord provision for LN₂, cryostores and dewar fill points

Therefore, it is very important for lab using companies to have a clear understanding of their technical requirements for a new space. This will need collaboration between your technical teams and your instructed advisor to ensure that the new lab opportunities in the market are suitable for your needs. Key questions that will need to be considered include:

- What type of lab do I require?
 - What containment level is appropriate for my business operations?
 - Do I need any GMP/clean room space?
 - What design/safety accreditations does my lab require?
- What are my programme considerations, how much of the space needs to be allocated as labs compared to write up/office space?
- What type of equipment will my new lab require?
 - How big is this equipment? Does the building require a goods lift in order to install it?
 - What is the weight of the equipment, does it have an impact of the floor loading capacity of the building?
 - Do I need to consider floor vibration levels for the proposed lab equipment?
- What type of air circulation is applicable to my lab?
 - How many air changes do I need?
 - Do I need negative pressure?
 - Do I need additional ducting for fume cupboards or can this be recirculating?
- How much power will my lab require? Will my lab need a back up emergency generator for long term projects? How big does this generator need to be?
- What types/quantum of gases are required? How much additional storage space do I need for gases and other consumables?
- Do I need any additional storage?
- Do my supply chain partners use large trucks that require a loading bay for goods in/out?
- What is my waste management strategy? How does the building fabric play a part in this?

Struggling to answer the above questions?

The integration of specialist lab consultants and M&E contractors as part of your wider leasing team is critical. This further increases the necessity to plan early and ensure you are surrounded with the best team for your relocation project. **JLL's Project & Design Services** are there to help you through these stages and ensure a smooth transition into your new space.

Need a technical specialist to help? We recommend the following who would be best placed to help:

tétris
design × build

BURO HAPPOLD

Laboratory Space | Sustainability

Just like any other company, Life Sciences companies need to seriously consider their ESG strategy. Lab operations are typically more energy intensive, requiring 550-1,000 kWh/m²/y compared with 175-300 kWh/m²/y for a typical office¹. As a result, your choice in real estate is a key driver to achieving your sustainability goals.

Furthermore, venture capital companies are becoming more and more stringent on their ESG requirements for their portfolio companies. In the future, Life Sciences companies will find it more difficult to raise VC without a concrete ESG plan.



Source: One North Quay, London - Kadans Science Partner and Canary Wharf Group

What are the typical sustainability issues for Life Sciences companies?



Lab spaces are energy intensive. The use of fume hoods, freezers, round the clock heating and cooling to maintain temperatures for long term experiments all contribute to a much greater power requirement. This coupled with rising energy costs is a real consideration for lab space operations.

How can your choice in lab space help?

All landlords, including lab developers are under pressure to increase the energy efficiency of their buildings². Introducing solutions such as air or ground source heat pumps, photovoltaic solar panels, and vertical sun shading can help reduce energy use and operational costs. Your advisor will be able to advise on the energy performance of a building and give estimates on the potential operational costs of your future lab.



Lab spaces produce unique and non-biodegradable waste. The nature of lab work often requires single use plastics or biochemical waste to be produced. In the US, lab space is estimated to produce enough waste to cover 138,000 ha each year. The biggest element being single use plastics such as pipette tips.

Modern lab spaces can be equipped with infrastructure to handle waste effectively and efficiently, ensuring the building is protected from leakage and pollution into natural systems. Alternatively, the provision of shared equipment such as autoclaves can encourage occupiers to reduce single use plastics and consider reusable or biodegradable alternatives.



Lab spaces have high embodied carbon. This refers to the emissions produced through the life cycle of a building. For occupiers, this usually relates to the fit-out selection when considering new lab spaces.

Working alongside an environmentally conscious landlord will help in the fit-out process. For example, landlords can work with tenants to ensure their fit outs are adaptable to avoid unnecessary carbon-intensive refurbishments. Companies looking for shared lab spaces can optimise the use of shared lab equipment to both reduce cost and embodied carbon.

Green Leases

Leases are considered 'green' when they include specific clauses relating to the environmental performance of a building. This can be seen in the form of obligated landlord reporting on the energy use of the building, providing infrastructure for sustainable travel (cycle spaces and showers) or imposing a duty to adopt rainwater harvesting solutions.

This will encourage both landlords and tenants to operate buildings more efficiently and the same can be said for laboratories.

Your instructed advisor will be able to advise on the most appropriate strategies for green leases and how they can be used to practically reduce your lab's environmental footprint.

Want to find out more?

Check out JLL's Life Sciences Sustainability Series report:

Achieving Environmental Sustainability



Laboratory Space | JLL

JLL are well equipped to help you find the right space for your business expansions. Our award winning Life Sciences team has strong industry links and understanding on what space is available, when it is available and will be best placed to negotiate the most appealing terms on your behalf.

How JLL can help:



Understanding your business needs today

We will help to align your science plan with your real estate strategy, and work within your programme timescales and budget requirements.



In depth understanding of technical requirements and physical infrastructure

We will provide life science subject matter experts to support you throughout your journey, who understands your requirements and can help you shape and develop the brief, act as an intermediary between all involved in your journey



Ensuring your future growth is protected

Early engagement is key to plan for future growth and business continuity. We will work with you, using our industry subject matter experts to understand your science plan, opportunities, growth plans and align these with your real estate requirements



Source: Alderley Park, Cheshire - Bruntwood SciTech

Ability to support you throughout your growth journey:

Phase 1: Strategic Review

1. Define Guidelines

- Quantum of space
 - Type of space
 - Location
 - Sustainability goals
 - Amenity requirements
 - Establish a budget against likely costs
 - Timing
 - Budget
- This can be done through a full audit of your current lab programmes and lease commitments

2. Establish Perspective

Complete a market review of key real estate benchmarks (prime lab rents, typical rent free periods and other tenant incentives). This will all feed into an initial financial model

3. Outline Market Opportunities

Preparation of a long list of potential options both on and off the market. This includes collating the rents and other operational costs to compare and contrast

4. Business Review

Analysis of shortlist from a workforce commuting perspective, revising the financial model

Milestone: Stay v Go Decision?

Phase 2: Lease Negotiations

1. Create Shortlist

- Undertake technical site appraisal and agree a short list of options that are most suitable and engage with the landlords and their advisor.
- Begin initial site tours
 - Technical Survey Input

2. Test Fit & Technical Brief

Introduce high level technical specifications and programs to test fit the short list options, dismissing schemes that are not suitable

3. Negotiation

Draft RFPs for the most applicable sites. Drive negotiations with a preferred options while maintaining a plan B option at all times

4. Closing

Finalise lease negotiations and update financial analysis for tenant board approval. Instruct solicitors in the exclusivity period

Milestone: Sign Lease and Commence Fit Out

Phase 3: Project Delivery

stages listed in the ppt uploaded

JLL Services:



Lease advisory



Rating



Facilities management



Corporate advisory



Workplace and technology solutions



Project and cost management solutions



Sustainability services



Property and asset management

Laboratory Space | Case Studies

We can learn from previous experience what works well for tenants as they are searching, designing and constructing their new space. The below examples highlight some recent successes where tenants were able to secure new premises in order to continue their growth and expansion.



Advisor JLL

Advisor JLL

Babraham Research Campus

Based at the Wellcome Sangar Genome campus Cambridge, Mosaic is an oncology therapeutics company with a highly specialised drug discovery platform. They Closed £22m Series A funding round in 2022 and needed to expand their lab facility.

Amidst a highly competitive lab market, JLL successfully acquired a fully fitted lab at Babraham Campus, which had garnered interest from multiple parties.

Other BIA Member JLL clients:

Through our deep bench of 2,400+ dedicated professionals, JLL works with more than 360 pharmaceutical biotechnical and medical device companies around the world. Whether you're looking to occupy or invest in life sciences real estate, our integrated real estate and facilities services help you tackle the ever-evolving demands of innovation.

The Recodery, Lion Works, Whittlesford

Constructive Bio launched in 2022 with £12.4m seed investment to scale and commercialise groundbreaking synthetic biology research.

Previously based in 2,000 sq ft at the Science Village within Chesterford Research Park. The Recodery, Whittlesford was acquired by JLL as a self-contained opportunity to create a bespoke Laboratory for Constructive Bio from an existing tired workshop building.



Source: Elevate Quarter, Stevenage - UBS and Reef Group. Image provided by Hawkins Brown

Laboratory Space |

Real Estate Glossary

Alienation	The legal transfer of title or ownership of a property to another party
Arrears	Overdue debts
Assignment	Where the tenant sells or transfers their interest in a lease to another party for the remaining unexpired term
Breach of covenant	Where an entity of the signed lease does not uphold the conditions and terms of the lease
Break Clause	A clause in the lease that allows either the tenant, landlord or both to decide to terminate the lease on a specified date ahead of the expiry
Break Notice	The notice period required for a tenant or landlord to instigate a lease break
Business Rates	A tax on the use of commercial property, typically paid by the tenant
Covenant	Covenants in a lease refer to the obligations imposed on each party by the various clauses.
Demised premises	The area defined by the lease that the tenant is taking occupation of, typically drawn as a red line plan within the lease or its appendices
Dilapidations	The tenant's covenants of repairing a demise and reinstating the premises into the same condition as it was when the lease started
Estate Charge	Similar to a service charge, an estate charge is a budget that tenants and landlords contribute to for the upkeep of external premises such as landscaping
Forfeiture	Where a tenant has breached the covenants of the lease, such as failure to pay rent, the landlord has the right to terminate the lease ahead of its expiry
Freehold(er)	The ultimate owner of the property and the land it sits on
Full Repairing and Insuring (FRI)	FRI is used where the tenant is responsible for the repair and insurance of their demise as defined by the lease
GIA	Gross Internal Area as defined by the RICS Code of Measuring Practice 2015; this area typically includes common shared spaces on top of the NIA

Guarantee	An agreement whereby a third party is responsible for paying a tenant's debts when in arrears
Headlease	The primary lease between a freeholder and leaseholder
Heads of Terms	HoTs form the basis of the lease and are initially agreed to during the negotiations of the lease, they set out the key provisions including the rent, term and options
Lease	A contract between two entities that allows for the full use and access to a property or demise for a specified rent and period of time
NIA	Net Internal Area as defined by the RICS Code of Measuring Practice 2015; this is usable floorspace in a tenant's demise
Premium	The price paid for a lease, from a tenant's perspective, this can be seen with an assignment
Reinstatement	The tenant's obligations to remove any alterations and decorations ahead of the lease expiry
Rent Free Period	The period of time at the beginning of a lease where the tenant does not pay rent, typically used as an incentive for a tenant to sign a lease
Rent Review	A point(s) in time in the lease where the rent reverts to market level or increases in line with inflation (as defined by the lease)
Schedule of Condition	A record of the property's condition upon lease commencement
Service Charge	A budget set out by the landlord of a multi-let building to cover the costs of services such as security, cleaning and maintenance
Sub-letting	Where a tenant leases their demise to another tenant and acts as landlord to the subtenant while retaining their obligations of the existing lease
Term	The length of the lease, typically stated in years or between two dates
Without Prejudice	A legal term used in negotiations and correspondence meaning that anything said or offers made cannot be subject to forced disclosure in the event of litigation or arbitration.

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About JLL Life Sciences

JLL Life Sciences provides specialist advice to real estate owners, occupiers, investors and developers in the science sector. The dedicated team utilises a deep industry knowledge and extensive experience to provide clients with the best possible advice in connection with acquiring, developing or disposing of sites, creating portfolio strategy, project management, connecting with occupiers or finding the optimal space to locate. For further information, visit <https://www.jll.co.uk/en/industries/life-sciences>

About BIA

The BioIndustry Association (BIA) is the voice of the innovative life sciences and biotech industry in the UK, enabling and connecting the UK ecosystem so that businesses can start, grow and deliver world-changing innovation.

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