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CONSTRUCTING SCIENCE

SETTING GUIDANCE FOR LIFE SCIENCES ACCOMMODATION

LIFE SCIENCE FIT-OUT ACCOMMODATION GUIDE



INTRODUCTION

This guide, commissioned by Scottish Enterprise and the Scottish Government and delivered in collaboration with Constructing Science offers a starting point for life sciences companies beginning to plan their accommodation needs. It introduces the core concepts without assuming prior technical knowledge.

Laboratory fit-outs can be more complex and costly than expected, and this guide outlines the main requirements and common pitfalls in a clear, straightforward way. It aims to help organisations understand the essentials early, before moving into detailed professional planning.

Overview of the Accommodation Challenges

- Complex & expensive to build and operate
- Short lease terms mean landlords are reluctant to fund the fit-out
- Tenant and investors cover the costs
- Early-stage life science companies often underestimate the challenges of designing, fitting out and commissioning a facility
- Scaling companies may underestimate the level of funding needed to scale their R&D

Effective Life Science Accommodation

Success hinges on early collaboration between landlords, tenants, and design teams, proactive planning for technical requirements, and attention to flexibility and scalability in a dynamic market.

Planning for a full, integrated accommodation scope with a balance of laboratories, offices, meeting rooms, support space and amenities enhances operational efficiency, ensures regulatory compliance, and provides the flexibility to scale as research needs evolve—helping to avoid costly retrofits or operational disruption.

12 KEY MILESTONES TO OPERATIONAL READINESS

1. Research Validation & IP Positioning

- Prove the science and secure ownership
- Demonstrate reproducibility and early proof-of-concept
- File provisional patents
- Agree IP terms with the university (license)

2. Founding Team & Governance

- Build a fundable company structure
- Appoint scientific, commercial, and operational founders
- Establish board/advisors (technical + industry)
- Incorporate the company and define the equity Structure

3. Business Models & Commercial Strategy

- Translate science into a business
- Define target market and use cases
- Identify regulatory pathway (if applicable)
- Develop pricing, go-to-market, and partner strategy

4. Funding Strategy & Raising Capital

- Determine and secure capital requirements aligned to lab needs (R&D, lab fit-out, people)
- Apply for grants, seed funding, angels, or VC
- Align funding tranches with facility milestones

5. Technical Roadmap & Scale Requirements

- Understand what the laboratory must support
- Define work-flows, equipment, and future scale
- Identify containment levels
- Estimate headcount growth and equipment footprint

6. Location & Ecosystem Strategy

- Decide between incubator, accelerator, or private facility
- Consider proximity to talent, suppliers, hospitals, universities
- Evaluate incentives, zoning, and local regulations

7. Laboratory Space Selection & Feasibility

- Confirm the viability of the space selection.
- Assess base-build services (HVAC, power, drainage)
- Confirm structural capacity and ceiling heights
- Perform test-fit layouts and compliance checks

8. Laboratory Concept Design & Budgeting

- Translate science into a real laboratory design
- Develop lab layouts, equipment zones and adjacencies
- Select lab furniture, fume cupboards and utilities
- Establish CAPEX and OPEX budgets

9. Regulatory Compliance & Approval

- Ensure legal and safe operation
- Biosafety, chemical safety, and authority approvals
- Building permits and fire engineering sign-off
- Institutional and regulatory alignment (e.g. OGTR, HSE)

10. Detailed Design, Procurement & Fit-out

- Build or rent the laboratory
- Finalise detailed engineering and shop drawings
- Procure lab furniture, equipment, and services
- Construct and install lab infrastructure

11. Commissioning, Validation & Certification

- Prove the lab works safely
- Commission HVAC, fume cupboards, gases, and utilities
- Validate equipment and safety systems
- Train staff and complete risk assessments and SOPs

12. Keys, Handover & Operational Readiness

- Start science operations
- Formal handover of documentation and warranties
- Occupancy permits issued
- Move-in, equipment calibration, first experiments



TECHNICAL REQUIREMENTS

Fit-outs consist of a variety of technical and specialist infrastructure and equipment requirements to meet operational needs.

Start-ups and scaling companies require office accommodation that is flexible, cost-effective, and capable of supporting both administrative and technical activities. The space should include open-plan offices to encourage collaboration, alongside quiet areas for focused work and small meeting rooms for project discussions.

CONTAINMENT LEVEL

A containment level defines the minimum physical, operational and engineering controls threshold required to safely handle biological agents within science facilities. It is an ACDP, SAPO and GMO(CU) risk-based classification set to protect people, the environment and science.

CL1 - Work with biological agents unlikely to cause disease in healthy humans.

CL2 - Work with biological agents that can cause human disease, unlikely to spread provided procedures are followed.

CL3 - Work with biological agents that can cause severe disease, present a serious hazard, and may spread easily if procedures not adequately followed.

Critical infrastructure and equipment encompasses, among others:



IT, Data and Communications



The development and adoption of operational practices and safety protocols - Chemical, Biological and Radiation Safety Systems



Occupational Health & Personal Protection - Systems focused on protecting laboratory users



Mechanical, Electrical and Plumbing Infrastructure



Waste Management Systems - Safe handling of laboratory waste streams



Fire Protection and Life Safety Systems - Systems that protect occupants and assets in the event of fire or emergency



Monitoring, Control, and Digital Systems - Systems ensuring ongoing safety performance and designed to eliminate or reduce hazards



Management and Procedural Systems - Administrative systems that underpin safe operation

DESIGN & CONSTRUCTION

Checklist for Occupier Operational Readiness

Although life sciences firms and laboratories vary widely, much of the technical challenges are common.



Goods Lift Accommodations

Goods lifts are paramount to successful operations within Life Sciences facilities within buildings greater than a ground floor. Be mindful that if only one goods lift is available, an oversized passenger lift may also be considered and maintenance should be carried out on a regular basis to ensure no downturn in operations.



Floor to Floor (Slab to Slab) Heights

Typical facilities can vary between 4.2-4.5 metres for CL2 biological and chemistry requirements.



Ongoing Operational Readiness

Equipment such as autoclaves and ducted fume hoods become 'fixed' items within the laboratory, due to their size/footprint, number of 'hard' services connections and validation protocols. Both installation and removal cause significant disruption to operations and surrounds, so once installed, they tend to remain in place for long periods of time until a wholesale renovation of the laboratory is due.



Air Change Rates

Air change rates are critical in laboratory facilities because they directly affect air quality, safety, and operational efficiency, ensuring that contaminants, vapours, and airborne pathogens are removed or diluted. Inadequate air change rates can compromise both worker safety and experimental integrity, making them a fundamental consideration in laboratory planning and ongoing facility management.



Vibration Criteria

Vibration criteria should be suitable for sensitive laboratory equipment uses. Areas may require >RF2 depending on equipment and processes but general purpose lab work should be at least RF1 - RF2. Establish suitable location within the base build.



MEP Services (Power, Ventilation, Process, Cooling, Water, Gases)

Occupiers should also evaluate energy efficiency, redundancy, and maintenance requirements, as these directly impact operational costs and uninterrupted lab operations.



Accessibility for Deliveries

Adequate access, turning circles and drop off locations built in to operations strategy.

The level of servicing in a laboratory ranges from basic offices and dry labs through to high density cooling and power depending on the work undertaken.

FIT-OUT MODELS

OCCUPIER LED

FIT-OUT (Shell & Core)

The tenant directly procures, manages and funds all the fit-out works, typically within a leased facility.

- Capital investment and financial commitment are significant, borne entirely by the occupier, resulting in a higher initial outlay and capital being tied up, often accruing interest
- Programme certainty is dependent on the capability and coordination of the occupier and their appointed professional teams; however, internal governance can enable quicker decision-making
- Infrastructure is tailored precisely to the occupier's operational requirements, supported by established access, maintenance, and validation processes

DEVELOPER

LANDLORD LED

FIT-OUT (Lab Enabled/ CAT A)

The landlord or developer is responsible for procuring, managing and funding fit-out works to an agreed specification with rental terms agreed with the incoming occupier.

- Initial development costs are typically funded by the landlord and subsequently recovered through rental income, incentives, or amortisation

- Programme certainty may be slower due to landlord developer approval processes and involvement of multiple stakeholders / professional teams
- Infrastructure and facilities are generally standardised flexible, designed to accommodate comparable science typologies and early-stage occupiers. Shared equipment may be provided to support business growth and reduce operating costs

OPERATOR LED

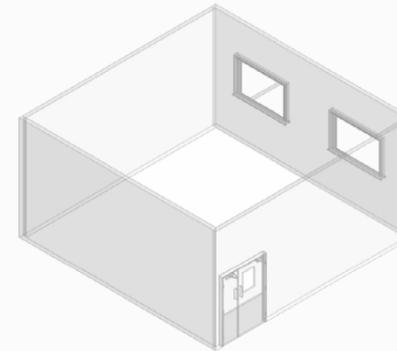
FIT-OUT (Lab Ready / CAT B)

An operator led fit-out is a delivery and operating model used widely in Life Sciences where an operator of an incubator or accelerator designs, funds, delivers and manages the fit-out on behalf of multiple tenants and future occupiers rather than for a single tenant

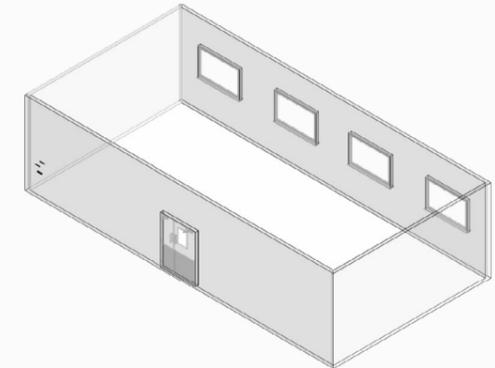
It consists of a pre-configured flexible laboratory and office environment, enabling rapid occupation by start-ups and scale-ups without each company needing to fit out its own

- Occupiers rent benches, areas or suites for short lease periods with minimal upfront capital
- Infrastructure and facilities are standardised and designed for multiple tenant profiles, not one specific or bespoke user requirement
- Operators provide and manage shared equipment, services provisions and facilities management

SHELL & CORE



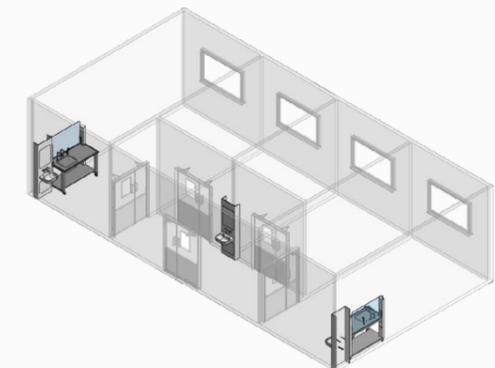
The base building structure and primary services without internal fit-out.



Base build designed with sufficient capacity and infrastructure to support future laboratory use. Suitable for tenant occupation and tenant fit-out additions if required. Traditional CAT-A naming is typically associated with office environments.

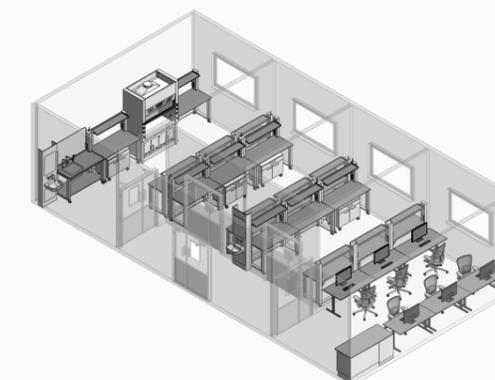
CAT A (OFFICE)

LAB ENABLED (LAB)



CAT B (OFFICE)

LAB READY (LAB)



Lab ready facilities and CAT B fit-outs are tailored spaces to meet the end-user's operational needs. A fully fitted and operational space delivered with key services and systems installed, requiring minimal adaptation before occupation.

* Indicative examples - specifications and provisions may vary

COMMERCIAL CONSIDERATIONS

CAPITAL PLANNING

- Integrate accommodation expenditure into financial models before raising capital
- Ring-fence contingency budgets of 10-20% for unforeseen technical requirements
- Consider lifecycle costs of equipment and facilities, not just upfront fit-out spend
- Consider on costs beyond the construction such as professional fees

CAPITAL GAINS & TAX ALLOWANCES

Capital allowances are available on refurbishment, fit out, contribution, and demolition expenditure for all commercial property types, with the exception of residential dwellings.

Capital allowances are used to reduce taxable profit or increase losses. Consequently, the cash saving benefit of capital allowances equates to 19% - 25% of the qualifying spend incurred. This is based on the current UK corporation tax rate of 19% for smaller profits and 25% main rates.

Research and Development Allowances are another form of Capital Allowances. They are applicable when capital expenditure has been incurred on a qualifying research and development activity, including the provision of buildings, facilities and equipment.

OPERATIONAL COSTS

Ongoing accommodation expenditure often exceeds expectations, especially for companies transitioning from all-inclusive incubators to grow-on space. Key cost areas include:

- Water Provisions & Waste Disposal
- Mechanical, Electrical & Plumbing operation
- Service charges and building management
- Specialist maintenance (e.g. LEV testing, BMS servicing)
- Compliance, certification and validations
- Security and access systems

RENT / LEASE IMPLICATIONS

Premium lab-ready facilities command higher rents due to their technical capability and higher build cost. Lease structures may include:

- Turnkey fit-out costs spread through rentals
- Upgraded services charges for energy-intensive uses
- Opex recovery for specialist equipment

Costs from base build shell & core based on individual projects up to 1000m ²	Low	Medium	High
	£/m ²	£/m ²	£/m ²
Office / Write Up Spaces	£1,500.00	£2,000.00	£2,500.00
Wet Laboratory Containment Level 1	£1,650.00	£2,200.00	£2,750.00
Wet Laboratory Containment Level 2	£3,360.00	£4,200.00	£5,040.00
Wet Laboratory Containment Level 3	£6,400.00	£8,000.00	£9,600.00
Costs from base build shell & core based on individual projects up to 5000m ²	Low	Medium	High
	£/m ²	£/m ²	£/m ²
Office / Write Up Spaces	£1,300.00	£1,500.00	£1,900.00
Wet Laboratory Containment Level 1	£1,400.00	£1,700.00	£2,100.00
Wet Laboratory Containment Level 2	£2,600.00	£3,200.00	£3,550.00
Wet Laboratory Containment Level 3	£4,900.00	£6,200.00	£7,400.00
Costs from base build shell & core based on individual projects up to 10,000m ²	Low	Medium	High
	£/m ²	£/m ²	£/m ²
Office / Write Up Spaces	£1,200.00	£1,300.00	£1,400.00
Wet Laboratory Containment Level 1	£1,320.00	£1,430.00	£1,540.00
Wet Laboratory Containment Level 2	£2,000.00	£2,250.00	£2,450.00
Wet Laboratory Containment Level 3	£4,680.00	£5,140.00	£6,330.00

Costs are based on:

- CL2 base data average 50% wet/50% offices
- CL2 air changes 6-8 per hour
- No allowance for operation/running costs
- No allowance for active IT equipment
- No central UPS - local equipment supplied UPS only
- No allowance for laboratory equipment
- No allowance for moves and migration costs
- Normal utility demand and capacity
- Base date Q1 2026

RECOMMENDATIONS

'Life science accommodation decisions have long term implications for cost, compliance and the ability to scale. Fit-out works are complex and capital intensive and are most successful when planned early and aligned with business strategy, funding cycles and anticipated growth. Organisations that treat accommodation as an operational afterthought often face avoidable delays, redesigns and funding gaps.'

The recommendations below are intended as a practical sense check rather than a prescriptive process. They highlight the key considerations that life science occupiers should address before committing to fit out works, entering into leases, or raising investment. Taken together, they encourage a whole accommodation approach considering laboratories, offices, support space, commercial terms and regulatory compliance as a single, integrated strategy.'

- ✓ **Assign a lead representative(s) for Regulatory Compliance, Quality Assurance Protocols and Health & Safety Standards**
- ✓ **Engage with a reputable agent with a proven track record in the sector**
- ✓ **Organise company structures or client team to navigate core operational and business requirements**
- ✓ **Ensure Product Protection, Data Management and Intellectual Property have been considered**
- ✓ **Early-stage laboratories benefit from structured policies, staff training, and access to shared resources to minimise operational risks.**
- ✓ **Consider more than just lab space. Combining wet, dry, and computational areas can improve operational efficiency**
- ✓ **Early-stage companies should leverage support from incubators, accelerators, and associated networks, including venture capital opportunities, training, partnerships, and outreach programmes.**
- ✓ **Build flexibility into the design; avoid over-bespoke solutions.**
- ✓ **Appoint experienced representatives with a clear understanding of laboratory accommodation requirements. A tenant side laboratory manager may be advisable.**
- ✓ **As operations scale, labs must accommodate additional staff and higher experimental throughput. Consider future integration of automation, robotics, and AI**
- ✓ **Early modeling matters - accommodation costs should feed into funding rounds, cash-flow projections, hiring plans and equipment procurement schedules**
- ✓ **Engage with a developer or landlord who understands science, technology, and research facilities requirements**
- ✓ **Work early with a specialist lab planner or designer to translate operational needs into a practical lab specification**

STRATEGIC ALIGNMENT WITH BUSINESS GROWTH AND FUNDRAISING CYCLES



BREAKDOWN COSTS CLEARLY

Capital expenditures (CAPEX): building works, cleanroom/lab fit out, ventilation/HVAC, specialised equipment, safety & waste handling infrastructure. Operating expenditures (OPEX): utilities, maintenance, staff, waste disposal, compliance costs, consumables, overheads, accommodation / rental costs. Contingency and buffer for regulatory compliance, delays, unexpected costs.



DEMONSTRATION OF VIABILITY AND COMPLIANCES

Investors will require evidence of a compliant business plan. Technical competences, regulatory approvals and consideration to safety, waste, environmental management will support the proposal. Outline commercial proposition clearly and the market / scale of the opportunity in a strategic way. Regional economic benefits, employment, sustainability goals.



ALIGN FUNDING SOURCES TO COST

Use grant funding to support a portion of the capital expenditure or equipment costs; loans and equity should be a last resort however may bridge funding gaps and cover operational expenditure. A blended approach to the funding will reduce risk but may increase complexity on accounting and governance.

Start by visiting <https://findbusinesssupport.gov.scot/scot>. Search for "research and development grants," "capital investment grant," or "business support for life sciences" to view current grants and support options. Engage with Scottish Enterprise or Highlands and Islands Enterprise (depending on location) to discuss eligibility and suitability of grants or capital investment funding.



<https://findbusinesssupport.gov.scot/scot>



PHASED INVESTMENT AND EXPANSION

Life Sciences businesses can scale research, development activities and production over time. Forecast for incremental investment aligning with the Series funding milestones and a set of a goals or achievable actions to target. Series A is often the inflection point where companies seek their own independent and secure space. Fit out costs should be factored into overall fundraising requirements.



ACCOMMODATION AND SPATIAL NEEDS

Highlighting projected rents, facility management overheads, utilities, maintenance and future requirements will ensure the financial models incorporate long term running costs alongside build out. Early alignment with a landlord may enable discussions for pre let or Agreement for Lease arrangements and a Licence for Works/Alterations.

PUBLICATION SUPPORT

SCOTTISH ENTERPRISE

Scottish Enterprise is Scotland's national economic development agency, helping ambitious businesses to innovate, scale, and compete internationally in order to transform Scotland's economy.

Using our global reach and networks, we attract inward investment and enable Scottish companies to export and enter new markets.

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The Scottish Government is the devolved government for Scotland and has a range of responsibilities that include: the economy, education, health, justice, rural affairs, housing, environment, equal opportunities, consumer advocacy and advice, transport and taxation.



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CONSTRUCTING SCIENCE

The Constructing Science consortium is a collaborative effort of health, life sciences, and construction consultants aimed at improving the design and construction of science buildings. The initiative, launched in July 2023, includes a dynamic model and building standards that help decision-makers quickly assess the suitability of existing or proposed lab buildings for specific scientific work. The consortium's goal is to provide a common language and approach within the life sciences sector, addressing the need for universally agreed design and construction standards.



CONSORTIUM PARTNERS
<https://constructingscience.com/>



ADDITIONAL INFORMATION



SUPPORTING INFORMATION

Constructing Science publish construction guidance to enable the construction of science facilities.

Website: <https://constructingscience.com/>



SUPPORTING INFORMATION

Constructing Science publish construction guidance to enable the construction of science facilities.

website: <https://constructingscience.com/our-publications>



GLOSSARY OF TERMS

Glossary of Terms

Website: <https://constructingscience.com/glossary>

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