Review of Wet Lab Space and Incubator Space for the Life Sciences in the Cambridge Area

A Cambridge Ahead Commissioned Report

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CAMBRIDGE AHEAD

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Review of Wet Lab Space and Incubator Space for the Life Sciences in the Cambridge Area

September 2017

This report was commissioned by Cambridge Ahead to help understand the issues and constraints in the provision of Wet Lab Space and particularly incubator space for Life Science companies in the Cambridge sub-region. The research looks at the economics of this type of real estate and the costs associated with supplying this type of space.[1]

The findings are based on interviews with operators/providers of space (Babraham Research Campus, Cambridge Biomedical Campus, The Wellcome Genome Campus, Cambridge Science Park etc.), consultants/advisers and a small number of occupiers alongside other desktop research. The report is designed to be read in conjunction with David Gill's paper on "Cambridge Incubator Space – Engineering, IT & Digital".

Cambridge is a globally competitive location (high quality research and people at a lower cost than key US locations) with strong potential for further rapid growth. The life sciences cluster effects are substantial, with a desire to be in the Cambridge area driven by:

- Access to labour pool/ source of entrepreneurs
- Supplier base (technical, financial etc.)
- Knowledge spillovers and informal learning

However, there are issues that are likely to affect future growth of the sector:

- Insufficient supply of space for new start-ups and early stage firms – demand has outstripped supply – leading to both start-ups and expansions being delayed.
- Early stage firms are unwilling (unable) to commit to conventional leases (5 years+) and have rapidly changing requirements.
- Returns available on multi-occupancy buildings for early stage firms are insufficient to justify new supply, even before taking account the costs of supporting infrastructure e.g. genuine "incubator" environment. In particular, wet-lab space is significantly more expensive to build than office space whilst the income flows generated from space aimed at early stage firms typically have shorter duration and lower credit strength.
- The supply response needs to maintain the cluster benefits e.g. accessibility is critical.

There is a recognition of the issues in ensuring there is sufficient space for new and small businesses in the life sciences across the main providers of space in the sub-region. There is also a willingness to collaborate/coordinate with other organisations to find ways to address the viability gap in the supply of additional space.

[1] We are grateful for the support of AstraZeneca, Bidwells and the Howard Group in sponsoring this report and for their input into the study, along with other contributors who have provided their views and research material.

1. Introduction

The Cambridge sub-region is in a unique position in the UK and Europe in terms of life sciences and related knowledge-intensive industries. The associated wet lab space market and the availability of appropriate space is expected to play an important role in the vitality of the sector.

To understand the issues and constraints in this part of the commercial property market, particularly for incubator space, requires developing an understanding of the economics of this type of real estate and the costs associated with supplying this type of space - a gap which this report seeks to address. We are grateful for the support of AstraZeneca, Bidwells and the Howard Group in sponsoring this report and for their input into the study, along with other contributors who have provided their views and material for this report.

The ability of start-ups and small firms to find appropriate premises is potentially a key constraint on the development of the biotech/life sciences sector, with implications for economic growth locally and nationally (as many occupiers are as likely to consider international options as other UK options). Wet lab space for new start-ups and small businesses is predominantly found on research campuses and parks which aim to offer more flexibility to companies and the scientists using them by providing lease terms more closely aligned with their funding, as well as access to capabilities, support and equipment.

This paper builds on and is designed to be read in conjunction with David Gill's paper on "Cambridge Incubator Space – Engineering, IT & Digital" to understand the supply dynamics and, crucially, the costs and constraints in the supply of space to the life sciences sector that may hinder growth of new start-ups and small businesses going forward. As the Cambridge Incubator Space paper identifies, there are key issues in terms of:

- Early stage firms are unwilling (unable) to commit to conventional leases (5 years+)
- Insufficient supply of space for new start-ups and early stage firms/ demand has outstripped supply
- Returns available on multi-occupancy buildings for early stage firms are insufficient to justify new supply

The approach for this paper has been to discuss these supply issues with the main providers and potential providers of this type of space in the Cambridge sub-region, e.g. Babraham Research Campus, Cambridge Science Park, Cambridge Biomedical Campus and The Wellcome Genome Campus, along with intermediaries guiding smaller occupiers and new start-ups, alongside discussing with a few small occupiers their considerations for their property requirements.

This report therefore aims to:

a) Explore the success factors for Wet Lab space and drivers of supply of the Wet Lab Space Incubator Market

b) Examine the economics and costs of Wet Lab space.

2. Success Factors for Life Science/ Wet Lab Space - Industrial Clustering in the Cambridge Area

Demand for overall wet lab space has grown strongly and looks likely to continue to do so in the Cambridge area. The overall Cambridge Laboratory market has grown by more than 500,000 sq. ft. (41%) over the five years to end 2016. This will increase by a further 500,000 sq. ft. when the AstraZeneca Campus is completed in 2018/19 and will increase further as other new developments are completed at various sites across the sub-region. Take-up has been strong and the laboratories market recorded its second highest annual take-up figure in 2016, 288,000 sq. ft. (Bidwells' Spring 2017 report).

Isolating specifically what is wet lab space is problematic, as some buildings have been designed for flexibility in fit-out - with the additional floor height (c.3.5-4m) to allow more complex air handling etc. The sector is seen as a pyramid of a large number of small companies with a small number of large multi-national companies – the growth in the sector has been across this size range, with strong growth in new start-ups and early stage companies.

This pyramid and this clustering around Cambridge is evident in the representation of, firstly, the number of employees and, secondly, the location of smaller businesses in the sector.

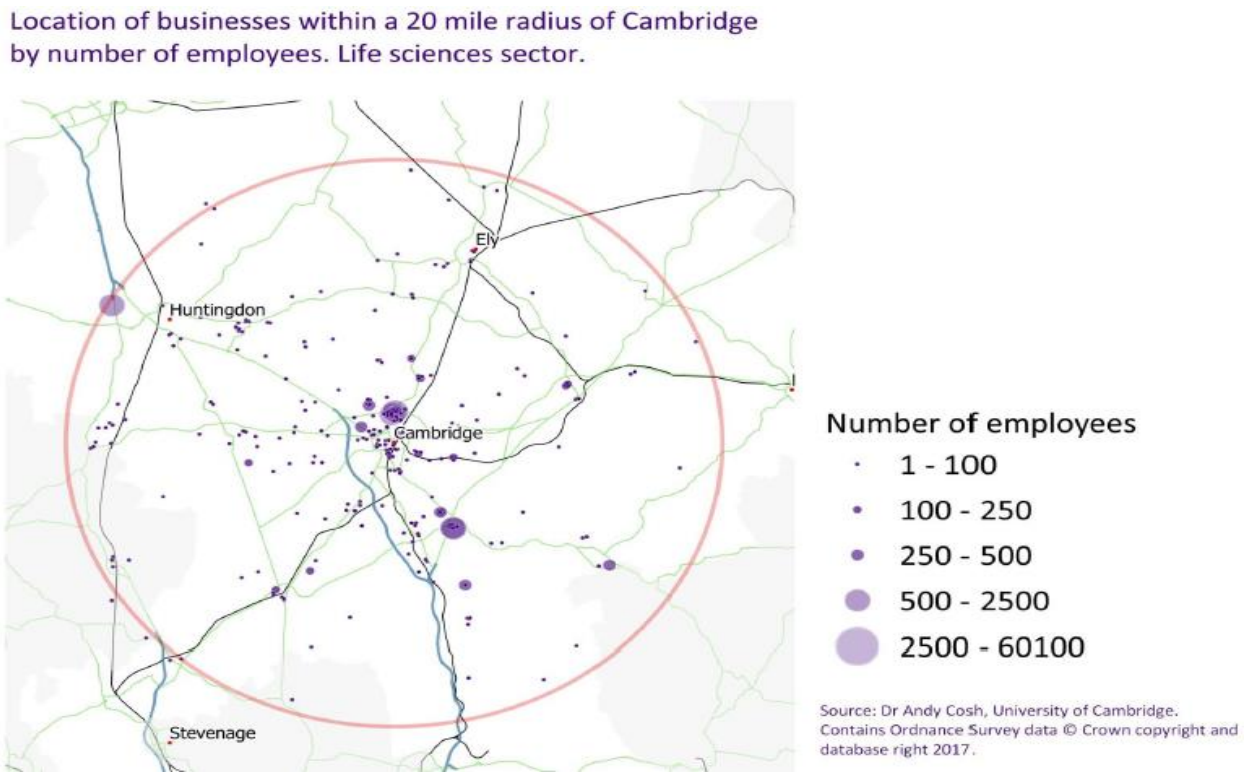


Figure 1

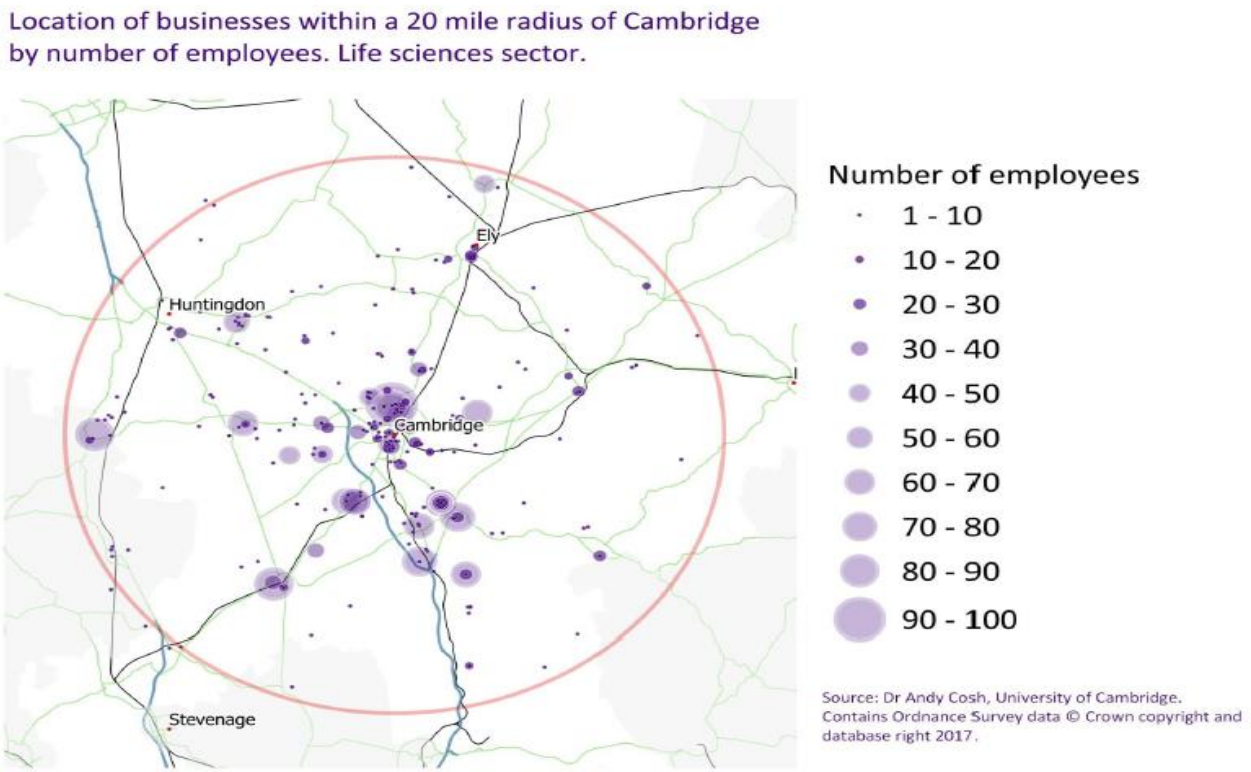


Figure 2

A further map on the cluster is included later in the report. The cluster is significant in a national and international context – with it described as the largest cluster of life science activity outside the US. The clustering appears to reflect the availability of a range of key requirements for companies in the sector and the benefits of agglomeration economies (i.e. location-specific economies). As most of the market participants described, Cambridge has everything that most companies in the sector need (especially the SMEs) – notably a broad and deep science base of individuals and companies, with associated financial and other technical expertise and support. The sense of "being part of a community" has been described as among the top priorities of all the companies of the sector, including both the start-ups and the scale-ups. This has been highlighted by both the managers of the parks and centres and the occupiers who feel safer and potentially more viable as part of a cluster/ community.

The Cambridge Bioscience Impact Assessment Study in October 2015 by Pete Tyler and colleagues highlighted that, in 2013, the Bioscience cluster provided 13,800 jobs (7.6% of the total), and around £907m of gross value added (11.4%). When indirect and induced effects are considered, these figures increase to 25,300 and £1.54bn respectively. This report identified housing, transport and the availability of lab space were all seen as potential constraints on the growth of the sector. It also discussed some of the history of the sector in Cambridge and the reasons for its success – which were in line with our expectations from the literature on clusters and our discussions with those active in the sector.

The literature e.g. Marshall (1890, 1920) discussed by McCann (2013, p.51-54) highlights three main reasons why companies cluster successfully in the same locations: i) knowledge spill-overs; ii) local non-traded inputs (local supplier base), and; iii) local skilled labour pool. Types of location-focused

economies of scale share one or more of the above sources / reasons for agglomeration economies. In the case of the Cambridge life science sector, as we discuss here, it is all of them.

Knowledge Spill-overs: When firms of the same industry are clustered together in the same location or in a very close proximity, employees of any particular Medical, Biomedical, Biological, Pharmaceutical, Chemical, etc. firm have relatively easy access to employees from other local firms. This communication can be either direct and formal with face-to-face contacts and meetings or rather informal with lunch meetings, "corridor" discussions, campus / research centre / science park meet-ups or any other social activities and occasions. This communication is important for the life science sector and helps to support more efficient and effective working, with a better understanding of the market environment. The more companies are clustered together, the greater the benefits they gain from these knowledge spill-overs.

Local Supplier Base: When companies of the same industry as those of life science are clustered together in the same area, there are particular inputs that can be provided to the clustered firms in a much more efficient way than if the companies were dispersed. These types of input, in the case of the Cambridge life science sector, include a range of suppliers to the sector, including specific technology, venture capital and other specialist services firms, in addition to the organised research campuses / centres / parks that provide the life science companies with a range of additional support. For any single firm, these inputs would be very expensive but, as they are spread over many local firms (based in the same campus / research centre / science park), makes these services accessible and economic. The more companies that are in the cluster or on a specific campus then more services become viable or the costs of particular functions can be shared over more businesses.

Local Skilled Labour Pool: This third source of agglomeration economies for the Cambridge life science industry comes with the fact that Cambridge area has a high concentration of life scientists, driven by the University of Cambridge and its various collaborations and spin-out business. Location in the Cambridge area provides access to leading life scientists and a pool of specialist skills. Given the costs involved in the training, re-training and the skill acquisition of the labour force, (which are extremely high – especially for small firms in the life science sector), the benefit of firms clustering together in an area with existing high-skilled labour force can reduce these costs substantially.

The Cambridge life science sector appears to benefit from all these agglomeration economies. The Cambridge Bioscience Impact Assessment Study in 2015 included a survey of occupiers. This asked companies to identify the key reasons driving their location decision – local contacts and networks was the most important factor, with the quality and availability of labour also one of the top three factors. This resonates with the factors raised by the companies and operators we had discussions with during our research for this study. In a national context, Cambridge has exceptionally strong networks and contacts and a strong local labour pool. Cambridge is internationally / globally a highly competitive location in life sciences. People are a key consideration and it was highlighted that the Cambridge area is 40% cheaper than the main US life science clusters (Boston, the Bay Area) for people, whilst has comparable talent / science – top quality university, patents and other measures of science. From a property perspective, it is also cheap compared to the main life science clusters in the US – £30-£35/sq. ft. Cambridge versus $75/sq. ft. (£59) in the Bay Area and Boston). The potential constraints we worry about in a UK context apply to these main US markets but, in the UK, infrastructure in terms of power and broadband could be constraints (the former could affect a big inward mover).

Cambridge would appear to have some key benefits in terms of location and is likely to continue to show a high number of start-ups and rapidly growing companies. In addition, AstraZeneca's increased presence and the potential inward movement of other multi-nationals is likely to further reinforce the dynamism of the sector. Providing space for these start-ups and to accommodate the growth of small businesses is a key challenge for the area.

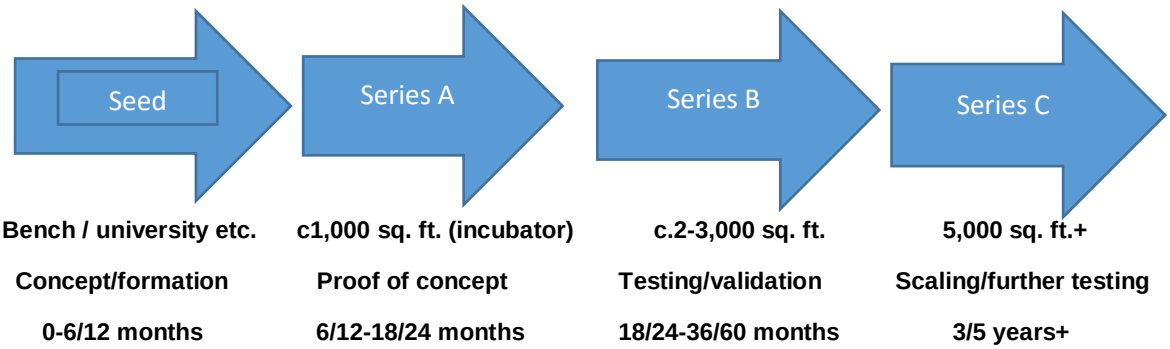


Figure 3

The evolution of companies through funding rounds, property requirements and time is illustrated above. Once founders have set up their business, their initial requirement is likely to be for fully fitted wet lab space of c.1,000-1,500 sq. ft. (benches, shelves and air extractors included). Then, as the business progresses, they may look to expand to 2-3,000 sq. ft. Businesses may expand into their own buildings or be able to enter a conventional lease by the series C stage. Clearly, not all companies will follow this path – some will fail, some will expand more slowly, some will stay smaller. However, it is likely that for, many businesses, their requirements will change significantly over a 5-year time frame making a longer-term commitment to a building inappropriate. In addition, most companies will not be generating sales revenues and operating profits for many years, making them look high-risk to potential landlords. The rapid change in property requirements means that space in larger units for companies to expand into is important to release smaller units of space for younger companies to expand into.

Cambridge Laboratories

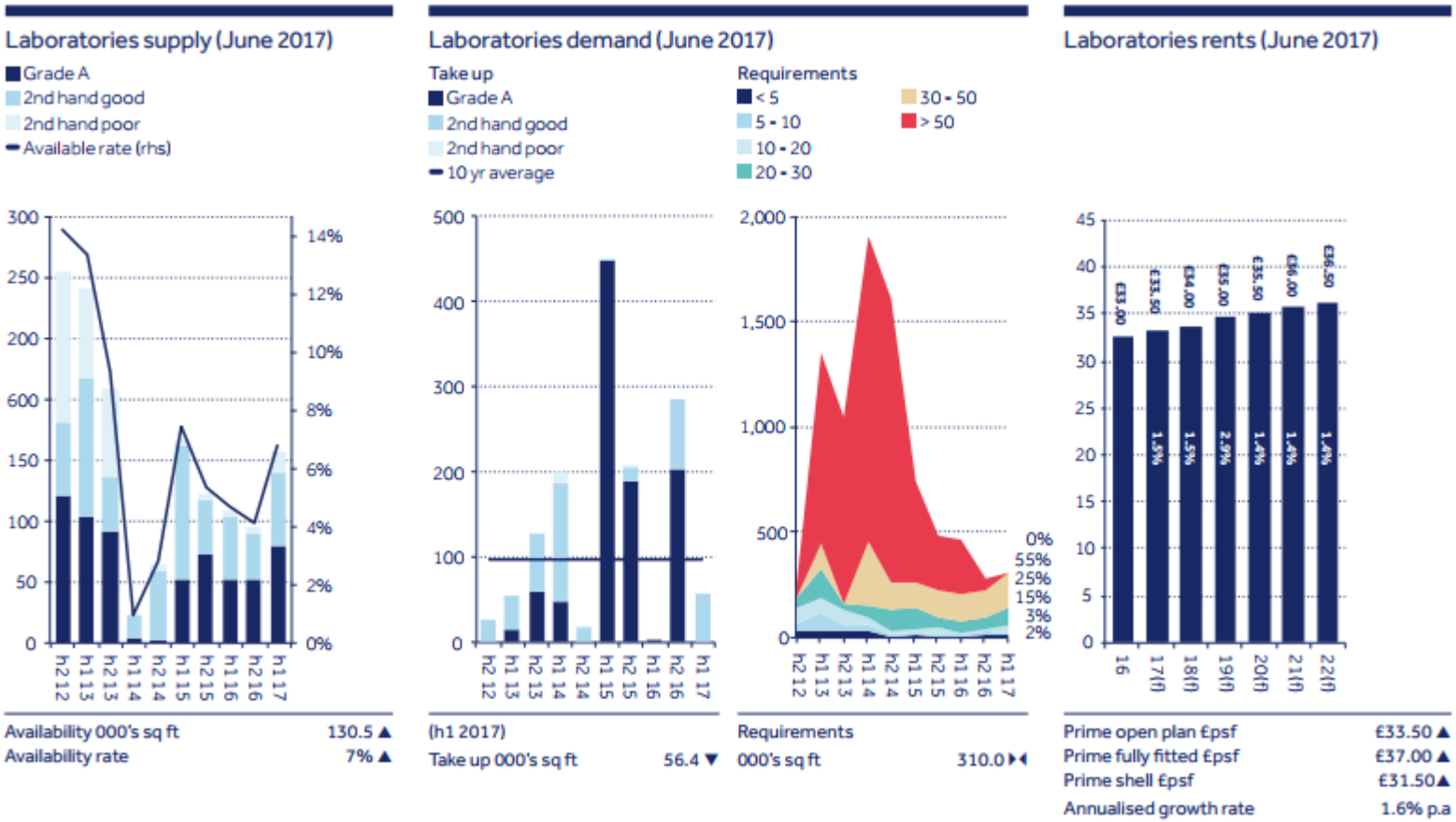


Figure 4. Cambridge Laboratories – Supply, Demand and Rents (Bidwells' Autumn 2017 Report)

3. Supply Issues

As can be seen from Figure 1, availability of laboratory space in Cambridge is at low levels. The low availability rate since the end of 2013 suggests constraints on companies looking to expand and on start-ups. Demand, on the other side, is at relatively high levels (far outstripping the available supply). Demand appears to be strongest for high quality space. Rents are increasing. In June 2017, prime open plan rents were about £33.50/sq. ft., prime fully-fitted rents were about £37/sq. ft. and prime shell rents about £31.50 /sq. ft. and Bidwells expect rents to continue to grow (annualised growth rate of 1.6% p.a.).

Despite strong demand for wet lab space around the Cambridge area from a range of life science companies of all sizes, the provision of such kinds of space on a commercial basis for smaller companies and start-up is problematic. From our discussions, it was clear that there is potentially significant land available for development. There is land on existing campuses e.g. The Wellcome Genome Campus, Babraham Research Campus (land for a further additional 200,000 sq. ft. beyond the current expansion of buildings on the park) and Cambridge Biomedical Campus (c.14 acres with restricted life science only planning permission). In addition to other land with broader planning, there are buildings which can potentially be redeveloped and new sites which could potentially accommodate wet lab space. However, new supply of wet lab space has been slow to come through relative to the increase in demand. This has led to general shortages, waiting lists for space in some locations, companies pursuing sub-optimal DIY solutions, constraints on growth etc. However, there is a substantial variation in the size, location and fit-out available, which makes matching demand and supply more challenging. Consequently, some space may remain available, despite widespread shortages, as the space lacks certain features or has fit-out that is not needed.

The challenges related to the supply side include:

a) Rents cannot be pushed much higher / financial viability for tenants – a rent of c.£30-35/sq. ft. and other property related costs (rates and service charge) of c.£30/sq. ft. is challenging for start-up and small companies several years away from making profits. Higher rents will lead to companies trying to convert other types of space which will have its own expenses and issues, lead to less focus on the science and growth of the company or could push companies into locating elsewhere. Small companies and start-ups have challenges raising capital and higher rents mean less money available for their research activities or a need to raise money earlier.

b) Lack of financial strength of small companies – most start-ups and early stage companies in the life science sector are not able to offer financial guarantees or have significant profits for a substantial period and struggle to meet landlord's requirements or would have an unacceptable impact on valuation.

c) Scale-ups and flexibility – in their early stages, company requirements are likely to change substantially. Longer term leases are therefore inappropriate, given these rapidly changing requirements. As companies grow, they want and need to be able to expand without major disruption and this is likely to mean they are keen to stay on or close to their existing site. The lack of availability of larger unit sizes e.g. 2.5-5k sq. ft. space becomes a constraint on their growth or on the release of smaller unit sizes.

d) Finance and funding – as noted, most small start-up companies are funded through a series of capital raisings which are intended to finance the next 18-24 months of research and development. This is not compatible with longer-term funding of property. In addition, from a property development point of view, the costs associated with the provision of space for small companies are higher than for a single occupier and higher than for office or dry lab specifications, whilst the valuation yield is higher, reflecting the low credit strength of the occupiers.

e) Need for support infrastructure – organised research centres, such as the Babraham Research Campus, provide a range of support to start-ups and small businesses that allow them to focus on their R&D, as well as providing networking and other linkages that may promote stronger growth. Enabling early stage companies to focus on R&D is part of the argument for the grant funding that has been provided to the sector.

f) Coordination – There is no organised coordination of the Cambridge area to ensure biomedical space is brought forward through complementary developments and to maximise the potential clustering benefits. To some extent, centres have naturally developed with a focus on different sub-segments of the life science sector e.g. The Wellcome Genome Campus focussing on genomics and bio-informatics / bio-data whilst Babraham Research Campus is more focussed on start-ups and scale-ups in drug discovery and other areas of biotech, while Cambridge Science Park and Cambridge Biomedical Campus are characterised as areas where individual and more independent larger companies of the sector operate. There was a suggestion that the Cambridge Life Science providers of space need to operate more as a community and that a clear representative of the industry in Cambridge is needed.

Other issues and concerns raised by the providers of space we spoke to are:

a) Planning / development of “Green Belt” land – centres and parks need to identify and secure land that is available for development around them and could be built over the medium to long term. Cambridge, like many parts of the UK, has extensive areas where building is not permitted. The expansion of existing employment centres with developed support infrastructure into adjacent Green belt areas may be needed if the sector is going to achieve its maximum potential but a more coordinated approach across the life science sector providers of space may help to mitigate this pressure.

b) Transport and access by bike / bus / train. The latest version of Cambridge Biopharma Cluster map (see Appendix 1 – an updated version will be available soon) highlights the spread across the regions of the sector both on and off campus / park locations. The key parks / campuses include, in the North: the Cambridge Science Park (Trinity College) and St Johns Innovation Centre, and, in the South: Cambridge Biomedical Campus, Babraham Research Campus, Chesterford Research Park, The Wellcome Genome Campus, Granta Park etc. Transportation and the ability of staff to commute to / from their place of work is a huge issue and concern for occupiers and campus managers alike. Funding and organising bus services to improve public transport access along with improved cycling infrastructure have been introduced but further enhancements are needed. For example, Granta Park has 65% of workers arriving by car with an aim to reduce this to 53% by 2020. The road infrastructure to the Cambridge Biomedical Campus is already clearly inadequate and, given the campus will have 20,000 employees, the problems are likely to intensity. The plans for a Cambridge South station could have a significant impact in helping reduce these problems.

c) Optimum configuration / operation – how to make parks as efficient as possible.

d) Space for scale-ups, for firms to grow into (reflecting firms are typically keen to stay in their current location or stay very close to their current location).

Leases, Fit-out and Flexibility

As one would expect, the terms of leases vary across campuses, reflecting the size of companies on the campus. At Babraham Research Campus, even for larger tenants, leases are only 7 years (low for an institutional investor, given the specialist nature of the building) with small companies having 2-year leases. On other campuses, a 5-year lease with a 3-year break clause with a small rent-free or waived deposit are typical.

Start-ups typically need fully fitted, ready to plug-in space or space which requires very little fit-out to make it operational. Companies that are in the scale-up stage can potentially expand to a less "protective" environment but if they were previously operating within a fully fitted and fully serviced unit, this move can be challenging.

Occupiers want flexibility and so notice periods of 6 months+ can be challenging, given the rapid pace of change. Occupiers are also keen to see stability or predictable change in their outgoings (establishing credibility in managing their budgets is important to them).

4. Specifications, Services and the Economics of Wet Lab Space

The problems on the supply side for incubator space are not about the time it takes to build. If a site is available then the build / fit-out is a 12-18-month project – the challenges are about viability, given the income and the cost of the building. Given these issues, the construction of additional wet lab space for early stage companies has usually been supported by public or charitable funds etc. e.g. Biotechnoloy and Biological Sciences Research (BBSRC) constitutes the main funder of the Babraham Research Campus.

This funding is aiming to promote and accelerate the outcomes of life science and not to fund the campuses as such. In the Cambridge Science Park, there are pending European fund applications that are aiming to fund the refurbishment of existing buildings, and potential foreign investments (from China) that are aiming to provide flexible space for "clean" tech.

Part of the reason for this viability challenge is the much lower net / gross ratio. For some of the buildings we discussed that are aimed at start-ups and small businesses, the net-gross ratio was close to 50% rather than the 85% seen in other laboratory spaces. Whilst some income might be generated from shared space (cafes and meetings rooms) – this income is typically negligible or offers a very poor return relative to the building cost.

On the cost side, higher slab-to-slab heights and additional specialist equipment, including air handling, all help to drive up the costs. In some cases, the lack of supply has led occupiers to convert office space to laboratories. However, it is also evident that some attempts to provide laboratory space have not been successful. An indicative cost model is included in the appendix.

Rent / Services / Rates

Rents for wet lab space in the Cambridge area seem to be similar across the different research centres, at about £30-£35/sq. ft. plus the service charge and business rates. The service charge (covering other property-related costs) and the business rates are approximately £25-30 sq. ft. and so the overall occupancy cost is c.£60-65/sq. ft. Although most companies will have both office and lab space, the leases and rents do not differentiate the use of space rented.

The services that the centres are responsible for and which are covered by the service charges include: a) campus facilities (catering, meeting rooms, nursery, gym, etc.); b) management and disposal of general waste (excluding animal, biohazard, clinical, radioactive wastes for which the occupiers are responsible for); c) administration and operational activities; d) drainage within the centre; e) maintenance of lighting (including that of the parking areas, signs and footpaths within the centre); f) campus security and access control; g) postal delivery services, and; h) any other service that regards the communal areas or is for the benefit of the centre.

The campuses and centres that act as the landlords bear the responsibility for the costs and expenses related to the operation of the centres, including: a) professional charges, charges and any other expenses payable by the landlord; b) costs for hiring agents in supervising and managing the campus; c) costs related to employing staff (including office accommodation) to provide campus services; d) VAT payable related to all the Campus Services; e) covering the costs of all legal actions and obligations in respect to the Campus; f) the costs of maintenance, renewing, replacing and refurbishing any equipment, machinery and plant within the centre; g) insurance for the centre, the roads and access ways always in accordance with the sponsor, and; h) loss or damage of any equipment, fixtures, fittings, machinery, etc.

However, there are cost elements that may not be recoverable through services charges, including costs related to leasing of space, some of the maintenance and other costs.

Construction Quality/ Specifications for Wet Lab Space

Building specifications are demanding with higher slab-to-slab heights, advanced air handling as well as a range of other specific requirements. Chemical lab requirements are particularly demanding. There are differing views on the extent of fit-out needed with, on the one hand, a view that companies need fully fitted, flexible laboratories with hoods, benches etc. whilst others argue that a more basic fit-out is needed to enable each occupier to flex the final fit-out to their needs.

The need for an increased slab-to-slab height – c.4.5-5m means that a building height that could broadly accommodate a 3-storey office (10m) can only accommodate a 2-storey lab.

A requirement that has been noticed as usually missing when companies occupy wet lab space is freezer farm space, which is something that companies need in the plug room, as it substantially reduces their costs. Furthermore, washing-up services have also been mentioned as something that need further attention.

Sustainability is an important consideration and as laboratories usually consume up to 10 times more energy than a typical office, designing and building a green lab can be challenging. Nevertheless, the Lab21 programme in the UK is helping to increase the awareness in sustainability and do whatever possible to mitigate the effects of these buildings which, by necessity, use very large amounts of energy (building.co.uk, 2008, issue 7).

Costs and Returns Model

The costs of building laboratory space are anticipated to vary depending on the extent of fit-out, the use of the lab and whether fees and contingencies are included and whether land and site preparation costs are included. We are grateful for Aecom for providing estimates both for recently completed projects and for the detailed breakdown of costs. Across 31 projects in the Cambridge area and elsewhere in the South East, adjusting to Q3 2017 prices (and where applicable to Cambridge pricing), most projects had a construction cost (excluding client design team fees, loose FF&E and VAT) of £3,500/sq. m to £5,500/sq. m – with significant variation depending on specification, the proportion of laboratory to office space etc. The median cost was just over £4,700 /sq. m (£440/sq. ft.).

The more detailed breakdown of costs contained in the appendix gives an indication of the construction cost of a 11,000sq. m. building constructed to a relatively high standard with an excellent BREEAM rating. This also highlights some of the key drivers of differences between wet lab space and office / dry lab space. Air handling, fixtures and equipment, specialist installations, water and drainage costs are all significantly higher for wet lab space. This gives a total cost of around £4,900/sq. m or c.450/sq. ft., broadly in line with the median project.

We used a slightly lower estimate of £400/sq. ft. (£4,300/sq. m) well within the typical range of construction costs - noting this excludes the cost of the land and is slightly below the figures quoted above. If the economics are challenging at this level then they will be even more so if the build costs are higher.

Key assumptions are:

- Rent £35/sq. ft.
- Gross to net ratios – as noted above, these can be as low as 50% in some buildings – we have assumed 65%
- Occupancy ratios – whilst buildings might generally be close to fully occupied, there will still be some churn and hence an effective occupancy rate of 85% is assumed
- Cost ratios – cost not covered by occupiers
- Negligible net income from café and meeting rooms

Indicative figures for 65,000 sq. ft. building

Maximum rental income		£1.48m
Occupancy ratio and implied rental income	85%	£1.26m
Non-recoverable cost ratio and impact	25%	£0.31m
Net operating income		£0.95m
Build cost /sq. ft.	400	£26m
NOI (Rent) as % of build cost (ignoring land)		3.6%
Value if yield on NOI = 5.5%		c£16m

Figure 5

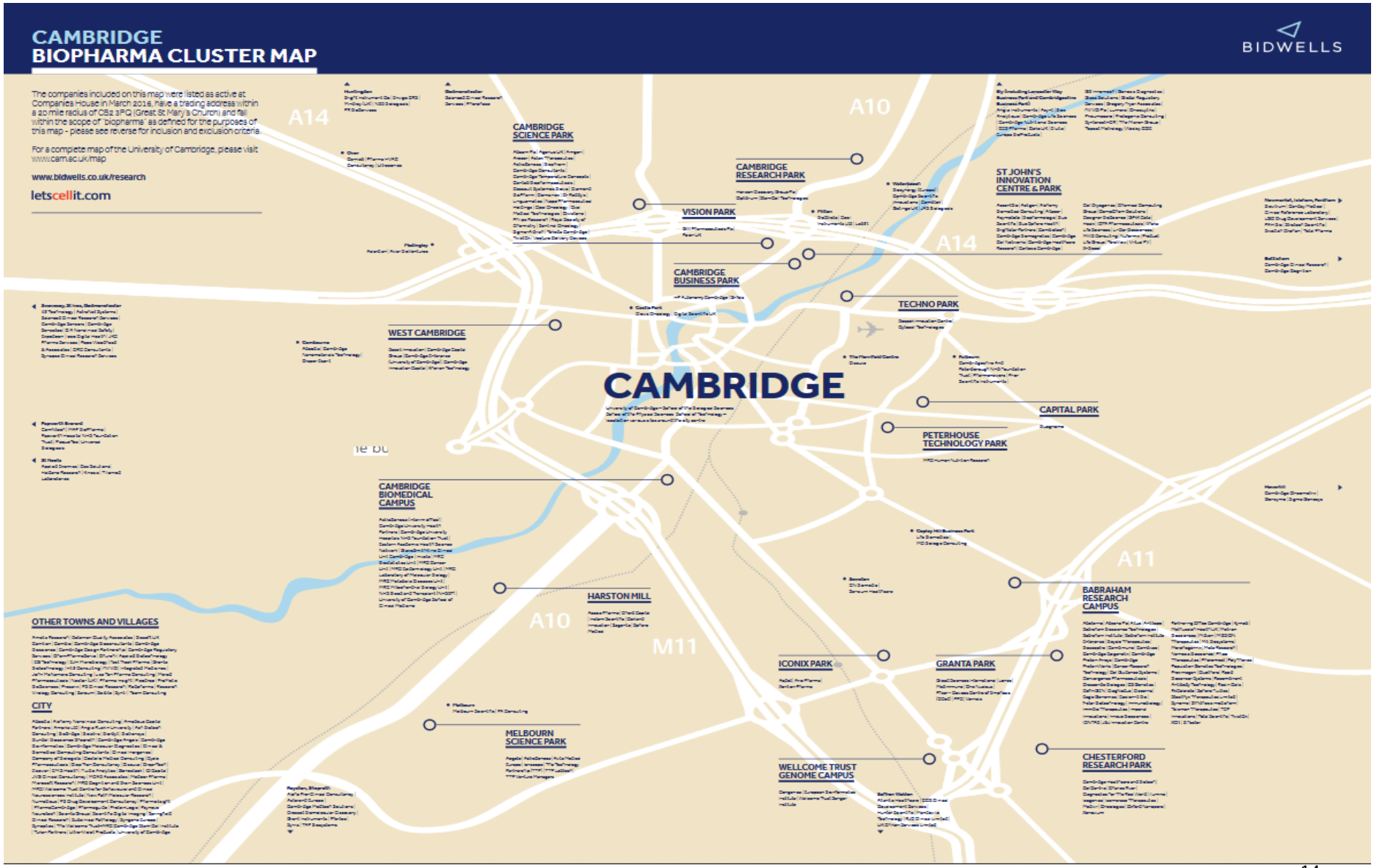
5. Conclusions

The cluster of life science activity in the Cambridge area offers a location-specific resource which cannot be easily replicated or moved elsewhere in the region, UK or Europe.

There is an issue in the supply of space for new start-ups and early stage companies and follow-on space and this is constraining the growth of businesses now.

Whilst there are longer-term issues about land and other issues relating to transport and housing, the key issue from a property point of view is that incubator space and space for companies with highly variable growth patterns (e.g. new and young companies) is not economic or well-suited to conventional commercial funding.

Appendix 1


CAMBRIDGE
BIOPHARMA CLUSTER MAP
BIDWELLS
The companies included on this map were listed as active at Companies House in March 2018, have a trading address within a 20 mile radius of CB2 3FQ (Great St Mary's Church) and fall within the scope of "biopharma" as defined for the purposes of this map - please see reverse for inclusion and exclusion criteria.
For a complete map of the University of Cambridge, please visit www.cam.ac.uk/map
www.bidwells.co.uk/research
letscellit.com
A14
A10
A11
M11
CAMBRIDGE SCIENCE PARK
CAMBRIDGE RESEARCH PARK
VISION PARK
ST JOHN'S INNOVATION CENTRE & PARK
CAMBRIDGE BUSINESS PARK
TECHNO PARK
WEST CAMBRIDGE
CAMBRIDGE
CAPITAL PARK
PETERHOUSE TECHNOLOGY PARK
CAMBRIDGE BIOMEDICAL CAMPUS
HARSTON MILL
BABRAHAM RESEARCH CAMPUS
OTHER TOWNS AND VILLAGES
CITY
ICONIX PARK
GRANTA PARK
MELBOURN SCIENCE PARK
WELLCOME TRUST GENOME CAMPUS
CHESTERFORD RESEARCH PARK

Appendix 2

Costs of laboratory space in Q3 2017

	£/sq. ft.	£/sq. m
Substructure	26	276
Frame and upper floors	25	270
Roof	14	147
Stairs and ramps	5	52
External walls, windows and doors	46	497
Internal walls and partitions	14	147
Internal doors	7	75
Wall finishes	5	54
Floor finishes	9	101
Ceiling finishes	10	105
Fixtures, furnishing and equipment	50	537
Sanitary installations	1	11
Disposal installations	2	25
Water installations	9	99
Heating and air conditioning	42	448
Ventilation systems	8	88
Electrical installations	30	322
Lift and conveyor installation	4	43
Communication, security and control systems	18	195
Specialist and other installations	11	124
Builders works for services	4	41
Preliminaries and design reserve	114	1232
Total	***454***	***4887***

Cost elements that are significantly higher for wet lab space are in bold italics.

These figures exclude land and land preparation, VAT and professional fees

Source: Aecom and author's calculations.