Appendix 5: Creating an Innovation Cluster at Swindon Science Park (CAM-SCI)

CREATING AN INNOVATION CLUSTER AT SWINDON SCIENCE PARK

01. Swindon Science Park's Strategy to Capture and Grow a MedTech Cluster

01.1 Vision

01.2 Wasdell's vision for Swindon Science Park (SSP) is to use its leading position within the global pharma sector to develop a dynamic cluster of co-locating innovation-led companies in biopharma, medtech, health tech, informatics and other convergent technologies[1].

01.3 The importance of innovation

01.4 The emergence of innovation as a significant commodity and driver of economic development coincides with the phenomenon of industrial hollowing – the decline of an economic cycle largely reliant on manufacturing. Post-industrial nations now look to new models of wealth generation based upon next-generation industries in order to rejuvenate regional and national economies.

01.5 The dynamic of innovation is created by a continuous process of disruption that is transforming markets across almost all consumer areas by introducing new technologies, products and services and new approaches to solving global challenges.

01.6 Innovation is also a radical force for market change in other ways. Technology innovation has dramatically disrupted consumer habits, expectations and demand patterns. New platforms available to consumers allow access to a very diverse range of consumer products that exist only because of innovation in communications.

01.7 Innovation-led disruption in biopharma and medtech

01.8 The cycle of innovation, disruption and market transformation is exemplified by the commercial life science sector. This market has seen explosive growth over the last two decades caused by rapid advances in technology together with macro-economic forces accompanying significant global demographic changes, such as an ageing population, a growing middle-class and the growing burden of chronic diseases. Current projections are that the gross value of the life science market will grow from $1.6 trillion in 2020 to >$2 trillion by 2023.[2]

01.9 In addition, increasing convergence of developing technologies within the health sector means that the life sciences are no longer dominated by biopharma but joined by a huge MedTech/HealthTech SME market. In 2018, the size of the medical devices market alone was $425.5 billion and is expected to reach $612.7 billion by 2025.[3] Other emergent MedTech

[1] Convergent technologies describe the increasing overlap of science and tech disciplines to form new sectors within the life sciences such as informatics, materials, devices, packaging science
[2] Government Industrial Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650447/LifeSciencesIndustrialStrategy_acc2.pdf
[3] Fortune Business Insights, https://www.fortunebusinessinsights.com/industry-reports/medical-devices-market-100085

sectors include DigiTech, an SME-dominated sector which is transforming biopharma and revolutionising global health care systems.[4]

01.10 How innovation has restructured pharma and the life science sector

01.11 Two decades ago, the life science sector was dominated by large pharma companies with their own extensive commercial companies. The upsurge in innovation in the life sciences has caused a global restructuring of large pharma with the closure of many of the UK's pharma campuses[5]. The R&D and commercialisation function of these large companies is now undertaken by fleet of foot SMEs which also now comprise over 85% of the life science sector.

01.12 The upsurge of medtech and healthtech continues to restructure the life science sector with new and emergent technologies products and services revolutionising health care and preventive medicine.

01.13 The importance of SMEs and clustering

01.14 The emergence of innovation as an economic phenomenon is restructuring modern economies more generally with more than 85% of companies in the innovation-led sectors comprising SMEs.

01.15 The large SME innovation sector has a unique set of drivers, including the tendency of tech companies to cluster together. Additionally, the convergence of modern technologies – the increasing intersection of different fields of science and tech - means that innovation clusters increasingly comprise a wide range of cross-pollinating disciplines and technologies.

01.16 Economic Benefits of innovation clusters

01.17 Innovation clusters are an essential part of the ecosystem now driving modern economies, having become the mechanism by which scientific and technical advances are translated into novel products and services thereby accelerating the rapid pace of technological and biomedical change across the globe.

01.18 The potential of the innovation economy to create huge socioeconomic value is exemplified by the development of iconic innovation clusters such as Silicon Valley (USA), Biopolis (Singapore) and Silicon Fen in Cambridge. These and other innovation clusters across the developed world demonstrate the ability of innovation clusters to radically alter the socioeconomic landscape of post-industrial economies.

01.19 Benefits of clusters to SMEs

01.20 Tech clusters give rise to complex innovation ecosystems and network formation that provides significant benefit to SMEs - including specialist professional service providers and a highly sophisticated supply chain in many other service areas.

[4] Digitech Pharma, Emergence of Digital Technologies in the Pharmaceutical Industries, 2019
[5] Pfizer closed at Sandwich, Astra Zeneca closed at Charnwood, Sanofi closed at Dagenham and Newcastle, Novartis closed at Horsham, Roche closed at Welwyn Garden City, Merck closed in Glasgow etc

01.21 The presence of like-minded enterprises in clusters, minimises risk of volatile markets since the density of expertise and resources drives entrepreneurship in the cut and thrust of commercial survival. If companies fail, staff are often absorbed by other entities or start new companies.

01.22 The brand strength and reputation of established clusters is significant to SMEs to raise profile and to provide traction especially in relation to attracting talent, trade and investment.

01.23 Difficult to manage characteristics of SMEs

01.24 The small organisational structure of SMEs means that they are flexible, adaptive and responsive to market changes and new technologies. However, these advantages also mean that SMEs have a different set of drivers to more conventional business.

a. **Short decision time-frames:** The decision time-frames of SMEs is often very short. SMEs do not have the time, resources or desire to invest in capital projects; they require turn-key facilities and specialist support services (innovation ecosystems) to succeed. They often need immediate entry into purpose-built facilities – meaning that the facilities must be ready and able to accommodate them.
b. **Challenges of rapid growth**: SMEs often experience step-growth; staged venture funding can lead to rapid SME growth which is difficult for companies to manage and requires a supportive environment to enable successful expansion at the point of need – not provided by the conventional property market.
c. **Life-cycle:** Many SMEs do not aspire to upscale, preferring to stay small and adaptive whilst seeking to be the target of merger and acquisition by blue-chip companies themselves reliant on exploitation of new emergent technologies and products.
d. **Lack of financial provenance:** Many SMEs are venture funded, do not have a trading history and may not be generating revenues. They are unable to provide landlords with parent company guarantees or the financial provenance typically required to acquire a conventional lease.

01.25 Where innovation clusters grow

a. **Co-location:** Innovation clusters often co-locate with research or commercial/tech hosts, but are not ultimately reliant upon co-location with any given organisation[6]
b. **Sympathetic landlord/hospitality culture:** To generate demand from innovation-based SMEs landlords must understand, and be sympathetic to, the needs and behaviours of the sector
c. **Specialist infrastructure:** Innovations clusters tend to develop where there is adequate infrastructure provision – provision of specialist facilities and infrastructure is able to capture and grow frontier technology markets
d. **Non-standard property offer:** Innovation companies require a non-standard commercial property value proposition i.e. specialist purpose-designed facilities rather than standard offices

[6] Some significant innovation clusters develop because of availability of supporting facilities and infrastructure without co-location to particular anchors. Examples in the UK include Silicon Roundabout in Shoreditch, London; the West Midlands MedTech cluster which is the second-largest in the UK.

e. **Innovation ecosystem, support and supply chains:** like other sectors, the innovation sector thrives where it can access the range of services it requires.

01.26 Why the science park model works

01.27 Not every science park is successful.[7] Nevertheless, in global terms, the science park model has been pivotal in enabling the growth and expansion of the worldwide innovation sector. The specialist infrastructure, facilities and services provided by science parks enable companies requiring a non-standard commercial property offer to have a sympathetic and supported growth environment.

02. SPECIALIST VALUE PROPOSITION AT SWINDON SCIENCE PARK FOR BIOPHARMA, MEDTECH/HEALTHTECH SMEs

02.1 Swindon Science Park Innovation Hub

02.2 Wasdell has accepted our advice that to capture and grow an innovation cluster at SSP, specialist turn-key facilities targeting innovation-led SMEs should be developed as a priority.

02.3 The SSP Innovation Hub will initially offer 15,000 sq ft of purpose designed multi-occupancy facilities supported by a range of in-house services offered by a specialist team of science park practitioners. Two subsequent phases of SSP Innovation Hub development are planned with a design strategy able to quickly mobilise in response to market demand.

02.4 Target markets for Swindon Science Park Innovation Hub

02.5 Wasdell is a global leader in a range of new technologies underpinning the rapid expansion of biopharma and the medtech/healthtech sectors. Target markets for the SSP Innovation Hub includes a range of convergent technologies that comprise this sector, together with other innovation-led enterprise compliant with SSP Gateway Policy. Sectors will include:

a. Biopharma
b. Medtech
c. Healthtech
d. Digitech
e. Engineering
f. Materials
g. Informatics
h. Devices
i. Digital and cyber

[7] The failure of science park developments is usually underpinned by lack of expertise across key areas of service delivery – including commercial design, development and operations for the specialist markets they are targeting.

02.6 Sources of demand

a. Digital and cyber
b. Local occupiers looking to grow
c. Companies graduating from 'incubator' or shared workspace
d. Research arm of existing corporates requiring co-location with a regional research body or other specific purpose
e. Research arm of existing corporates requiring specialist accommodation
f. Fast growth companies looking to relocate from within the UK/Europe/globally
g. Overseas companies seeking to establish in the UK

02.7 Design Ethos

02.8 The design ethos of the innovation hub is important for expressing the aspiration of SSP and for setting the tone for subsequent development. The design ethos will be highly functional and also represent an aesthetic that appeals to a younger employment demographic.

02.9 Innovation Hub Design and Specification

02.10 The design and specification for the innovation hub is key to ensuring both its ability to create immediate commercial value for SSP and to delivering continued value as markets change and evolve. Key performance elements of design and specification for the SSP innovation hub will include:

a. Access control
b. Managed ICT service
c. Enhanced floor-to-ceiling heights
d. Provision of risers and air-handling capability
e. Raised floors for ICT and telephony connectivity
f. Variable geometry accommodation layout
g. Staffed reception
h. Meeting rooms
i. Goods lift
j. Goods entrance
k. Storage areas
l. Secure communications room
m. 24-hour operating model
n. Café
o. Car parking
p. Cycle storage

02.11 Swindon Science Park Innovation Hub Space Provision

02.12 Due to the multi-occupancy nature of the innovation hub, a range of facilities and spaces must be incorporated in the design and specification to allow for different uses – from co-working

space and office suites to meeting rooms and amenities. Innovation hub space provision will include:

a. A range of laboratories and office suite sizes and options
b. Access to co-working spaces at start-up stage
c. Access to specialist offices at grow-on stages
d. Ability for companies to grow on site
e. Category B fit-out rather than Category A or Shell and Core
f. Meeting rooms
g. Serviced reception area
h. Coffee points
i. Third spaces and shared facilities
j. Comms room
k. Storage areas

02.13 Swindon Science Park Innovation Hub Infrastructure

02.14 Creating a viable Innovation Hub able to build substantial commercial markets will rely on the provision of a number of key technical specifications that include both the ICT infrastructure and standby electrical power provision. Research shows that many companies struggle to find facilities that combine appropriate accommodation and operations with the high level of digital and continuity of service delivery that they require.

02.15 The supply of modern ICT and standby power generation will comprise a key market differentiator for the SSP innovation hub. Delivered optimally, the ICT offer will be an important factor in attracting companies to the Hub and facilitating their organic growth.

02.16 Targeted services

02.17 The Innovation Hub will provide a range of targeted services including:

a. **Specialist in-house management team** familiar with the innovation sector
b. **Facilitated liaison with The Wasdell Group** to provide opportunities for collaboration, research, training, expertise, contracts and services
c. **Facilitated access to Swindon's innovation ecosystem** including:
    I Tech Swindon: dedicated to helping companies unlock the innovation ecosystem in the town and assist start-ups access the support and funding needed to grow.
    II Switch on to Swindon: offers a range of business support to growing companies and companies relocating to Swindon
    III Swindon and Wiltshire Growth Hub: provides comprehensive business support information, networks and information for young and growing companies:
    IV Innovate to Succeed: provides a unique blend of mentoring, know-how, finance and expertise to assist tech-based SMEs grow and prosper, access grants and investment, develop their internal capability and explore and exploit new markets.
    V SETsquared is part of a new programme for Swindon and Wiltshire to provide a new business support programme spanning the region's entrepreneurial community from pre start-up to SMEs.

d. **Events and networks**: In-house events, networks and facilitated business support using local and regional expert advisers
e. **Specialist operations support**: including
   I Lease advice and flexible leases
   II Easy-in-easy-out terms
   III Supported in-situ growth strategy planning
   IV Space planning
   V Facilitated access
   VI High-level ICT infrastructure with plug and play service
   VII Enhanced continuous power
   VIII Front of house services and hospitality
   IX Shared facilities, coffee points and meeting rooms
   X 24-hour security
   XI 24-hour access

02.18 Restrictive user clause/gateway policy

02.19 To retain the integrity of the SSP vision, and to build a unique cluster of like-minded companies over time, a user restriction clause will be in place that reflects the vision and aims of the SSP. SSP companies will need to comply with one or more of the following user restriction clauses:

a. Technology and knowledge-based companies
b. Companies requiring innovation space and innovation support
c. Technology and knowledge-based companies wishing to co-locate with Wasdell or other SSP company
d. Companies undertaking R&D
e. Ancillary activities that are appropriate to support the operation of a leading Science Park

02.20 Swindon Science Park Innovation Hub take-up and occupancy

02.21 Based on our experience of innovation hub development across the UK, together with our assessment of the SSP development model hosted by Wasdell, we anticipate that the SSP Innovation Hub will experience strong take-up and full occupation within a three year period.

02.22 A list of recently developed innovation hubs in the UK is attached at Appendix A providing an overview of take-up and occupation levels.

02.23 Grow-on space provision

02.24 A key part of capturing SME innovation-markets and supporting their growth is planning for expanding companies and increasing demand levels catalysed by the cluster.

02.25 In anticipation of the early success of the SSP Innovation Hub, we are advising Wasdell on a design and delivery strategy for follow-on development to accommodate growing companies and inward investors attracted to the SSP cluster.

APPENDIX A

NEWEST UK INNOVATION HUBS DEVELOPED WITH NO PRE-LETTINGS OR EXISTING DEMAND

OCCUPANCY AND TAKE-UP

Developments CAM-SCI has advised are in blue.

LOCATION	DATE DEVELOPED	SIZE IN SQ FT	OCCUPANCY	RATE OF OCCUPANCY
Newcastle Helix Biosphere	2019	75,000	Full	2-years to full occupancy
Babraham Research Campus B940 and B950	2019	100,000	Full	18-months to full occupancy
Thames Valley Science Park Gateway Building	2018	74,000	Full	2-years to full occupancy
Nottingham Bioscience Facility	2017	72,180	Full	2-years to full occupancy
Birmingham Research Park BioHub	2016	5,000	Full	18 months to full occupancy
Newcastle Helix Core	2014	57,000	Full	2-years to full occupancy
Liverpool Science Park ic3	2014	40,000	Full	2-years to full occupancy
Stevenage Bioscience Catalyst	2012	59,200	Full	3-years to full occupancy
Chesterford Research Park Science Village	2012	32,000	Full	4-years to full occupancy
Edinburgh BioQuarter Building 9 (BioInnovation Centre)	2012	90,000	Full	3-years to full occupancy
Liverpool Science Park ic2	2009	38,000	Full	2-years to full occupancy
Manchester Core Tech Facility	2005	173,000	Full	Full for over 8 years
Liverpool Science Park ic1	2005	42,000	High/full	3-years to full occupancy