



STEVENAGE BIOSCIENCE
CATALYST
Open Innovation Campus



FIVE YEARS OF Innovation with **Impact**

Stevenage Bioscience Catalyst Five Year Review 2012 - 2017



SBC 2017 Facts and Figures

46

Current
Tenants

12

Alumni

£220M

Raised
to Date

30

IP-Based
Companies

374

Employees

“A flourishing and forward-thinking innovation ecosystem is a vital part of the UK remaining a world leader in science and technology. Our mission at Wellcome is to support great ideas with potential to improve health – and the Stevenage Bioscience Catalyst offers the collaborative environment essential for innovator-entrepreneurs to transform discoveries into treatments and products to improve our lives. When Wellcome helped support its foundation there was a need for new infrastructure to help innovation thrive. Today, after five years of operation, it is clear that UK innovation is benefitting enormously from the diverse, vibrant hub that the Stevenage Bioscience Catalyst has established.”

Dr Jeremy Farrar - Director, Wellcome

Five years of Innovation with Impact

“Continually focused on delivering the Stevenage Bioscience Catalyst vision”

When plans to establish Stevenage Bioscience Catalyst were announced in 2009, the vision was clear - even if the route needed to achieve that was perhaps less mapped out. The press releases from that time promised that SBC would ‘stimulate innovation’, be a ‘world-leading hub for early-stage biotechnology companies’, competing with those in ‘Boston, California and North Carolina’ and catalysing ‘the development of new healthcare products.’ Even a cursory glance at this review shows just how successfully the vision has become reality. This unique partnership of industry, academia and Government has created a campus to which companies are lining up to locate.

Many people and organisations have played a role in this success. Our founding stakeholders GSK, Wellcome, Department of Business, Innovation and Skills (now BEIS) and Innovate UK provided the idea and the initial funding, with guidance and expertise along the way. The drive and focus of SBC’s first CEO, Martino Picardo, and my predecessors as Chairman, John Cooper of Wellcome and the late Allan Baxter, created the unique science-focused and open collaborative ethos of SBC. Our tenants and corporate partners played a big role in that as well. Thanks are due to you all, as well as the staff and everyone in our network.

Stevenage Bioscience Catalyst is not just a place - it is a mindset, a way of working, a network of collaboration and support. It has a bright future and I am sure its next five years will be as successful as its first five.



Dr Ian Tomlinson
Independent Chairman, SBC

“Since being established five years ago, the Stevenage Bioscience Catalyst and the many scientists involved have created a vibrant scientific community at Stevenage, which has been a key part of a growing open innovation network. The proximity to GSK’s UK Science Hub and access to our capabilities has already made a tangible difference to a broad range of biotech companies as they pursue their novel programs. The benefits have taken many forms: access to a set of compounds in our collection, use of specialist equipment and expert consultation on topics such as computational biology, protein purification, statistics, safety assessment and drug metabolism. It is clear that GSK scientists value these interactions and relish the opportunity to be involved with the SBC scientists so that they can contribute to these emerging areas of science whilst developing their own skills and networks. GSK values its links with biotechs and start-up companies and the rich network of innovation that the SBC has helped foster.”

Patrick Vallance - President R&D, GSK

2011

ace



As 2011 progressed, SBC took shape across all fronts. The Incubator and Accelerator buildings started to take shape on the GSK site, which for so long had been the home of just one company. Our inaugural CEO Martino Picardo joined and started to develop

SBC's strategy, as well as initiating discussions with potential tenants and partners. When Rt Hon David Willetts MP, Minister for Universities and Science, performed the topping-out ceremony in July, it was clear that SBC would soon become a reality.

2011

JANUARY

Construction underway

JULY

'Topping out' Ceremony

MARCH

CEO Martino Picardo joins

University of Cambridge project benefits from location in academic hub at SBC

Chronic inflammatory disease project located at SBC

In 2012 the establishment of a centre of innovation for the University of Cambridge at SBC was announced, whereby the incubator complements the activities of Cambridge Enterprise, the commercialization arm of the University. In 2013 as part of this initiative, a chronic inflammatory disease project led by Professor Clare Bryant of the Department of Veterinary Medicine, working with Professor David Klenerman was established with funding awarded primarily from the Higher Education Funding Council for England (HEFCE). Given its therapeutic potential in a range of chronic diseases from diabetes to asthma, Professor Bryant's research on antagonists of lipid binding toll-like receptor 4 was selected for further development at the incubator in order to benefit from

the drug discovery expertise accessible through SBC's open innovation environment. Cambridge Enterprise is leading on the commercialisation of this project.

In addition to receiving advice from University of Cambridge Entrepreneurs in Residence and external drug discovery advisors, the Cambridge researchers have taken advantage of opportunities that the SBC, and its stakeholder GSK, have to offer in progressing this exciting project. Via its Scinovo team, GSK has provided invaluable expertise in protein production/purification and virtual screening, as well as allowing shadowing of some laboratory staff which has provided valuable practical guidance. The project has also benefited from SBC shared facilities and support, in particular the use of the analytical and scale-up equipment in the GE Healthcare Life Sciences Technology Laboratory, GE workshops and the SBC community lab. The project team have benefitted from participation in SBC activities such

2012

as mentoring sessions with industry experts, seminars and open innovation events; as well as contributing to some of these events as presenters.

"Being at SBC has led to a subtle but important culture change in this project, with industrial and commercial considerations now a routine part of our thinking."

Professor Clare Bryant
University of Cambridge

The TLR4 project has made significant progress since 2013. It has identified a number of hits and is focussed on development into leads. In addition, the project has attracted significant interest from a potential partner keen to provide resource and expertise for its future development - a great validation of the University of Cambridge innovation centre at SBC.

2012

JUNE

SBC to host Cambridge University innovation hub

DECEMBER

Entrepreneur-in-residence appointed

FEBRUARY

SBC opens

NOVEMBER

First Open Innovation Summit

2013

Tackling unmet medical need with open innovation - the neurodegenerative disease challenge

Neurodegenerative disease needs new approaches

Radical new approaches are needed to tackle neurodegenerative diseases such as Alzheimer's and Parkinson's as the population ages alongside a dearth of new drugs. SBC recognised that open innovation (OI) had a role to play here, bringing together the UK science base, clinicians and companies to tackle these diseases. It worked with MIMIT (Manchester) and six leading universities to understand the most urgent clinical needs and develop a research challenge for academic scientists. Neuroscience companies and charities supported the competition, which provided small amounts of funding to kick-start research.

Six exciting projects selected

With a focus on biomarkers for diagnosis and stratification, and the role of inflammation in neurodegeneration, six exciting academic research projects were selected for support. Impact potential, the level of innovation and opportunities for collaboration were among the criteria upon which they were judged in order to access a share of the £270,000 funding available.

"We had just been awarded a grant to develop new small molecule inhibitors of inflammation and the SBC award allowed us to sustain the momentum. Working with SBC helped enormously with follow on funding and we have recently struck up a partnership with MRCT (LifeArc) and the Dementia Consortium to take the project onwards."

Dr David Brough
University of Manchester



Impact of the projects

The projects have made impact in the area of neurodegenerative disease, as measured by publications (two published, one submitted) and poster/conference presentations (10), intellectual property, an agreement with a company, six follow-on grants and six jobs created. The academics are all planning to continue their research after the projects conclude. Following the success of this open innovation challenge - in identifying unmet clinical needs, collaborating on funding and kick-starting projects to tackle them - SBC will launch further challenges in the future.



Developing a cell and gene therapy hub at Stevenage Bioscience Catalyst

Allied with the interests of its stakeholders GSK, Wellcome and the Government, from the outset an area of focus for SBC was regenerative medicine - cell and gene therapy. The UK's expertise in this area of strategic importance was recognised with the establishment of the (then) Cell Therapy Catapult in 2012. SBC's aim was to establish a hub to catalyse innovation in regenerative medicine, which would play an important part of its success as the UK's first open innovation biomedical incubator.

Providing the right environment

Through its 'Incubator+' model and highly networked environment, including advisors on its Experts Panel, SBC built an attractive environment for cell and gene therapy companies. Reflecting this, Plasticell Ltd and its drug discovery spin-off Progenitor Therapeutics co-located to SBC in 2013 as its first stem cell tenants. For Progenitor this was accompanied by a £4m investment from GSK corporate venture fund SR One and an agreement with its Scinovo

consultancy. Next, there was inward investment from Japanese company Tokyo Electron in 2014 as it chose to locate its open innovation stem cell technology centre at SBC. This was followed by the exciting news at the end of 2014 that the Cell and Gene Therapy Catapult would be locating its large scale manufacturing centre at SBC, with Stevenage meeting all of the criteria for site selection. Spanish company Aglaris moved to SBC in 2016, followed by Crick Institute spin-out Achilles Therapeutics and LiFT Biosciences in 2017. Other cell and gene therapy companies are expected to follow.

"Achilles Therapeutics is impressed by the vibrancy of the cell and gene therapy community here"

Chris Ashton
CEO, Achilles Therapeutics

Positive outcomes - establishment of cell and gene therapy hub at SBC

The cell and gene therapy hub which has been established at Stevenage is expected to bring positive benefits to the UK over the long-term, in terms of both improved health for its citizens

2014

and economic prosperity. Local benefits include job creation and training. US company Fisher BioServices announced in March 2017 the co-location of its CryoHub activity, part of the supply chain, with the Cell and Gene Therapy Catapult manufacturing centre. This is one of the first examples of inward investment driven by the Stevenage cell therapy hub. Based on its technological focus, tenant offering, open innovation ethos, stakeholders and location, SBC has catalysed the development of a cell and gene therapy hub at Stevenage. Cell and gene therapy is expected to be a major focus of SBC in Phase 2, allowing the hub to continue to thrive.



2014

MARCH

UCL joins academic hub

DECEMBER

Cell & Gene Therapy Catapult manufacturing centre to be located at SBC

FEBRUARY

BEIS funding for bioscience mentoring awarded

2015

How SBC provided the right conditions for scientific success - and a fund raising - at Avacta



Background

Following several years at our campus neighbour GSK, Amrik Basran was undertaking consultancy work based at SBC. He was approached by AIM-listed Avacta Life Sciences to assess the potential of its Affimer technology in medicine, joining the company as CSO

to take the therapeutic work further after positive results. From the start, SBC was keen to see Avacta's growing therapeutics business flourish.

Providing the right environment

Using the installed equipment base and services at SBC enabled Avacta to carry out its work in a way that was exceptionally cost-effective, bringing a 'massive impact on the bottom line'. The company also took advantage of the Experts Panel and large tenant community which provide a source of people with whom to bounce ideas around and share expertise. Using GE equipment in the on-site Technical Lab enabled the company to build strong relationships with GE, thereby generating a clear idea of what was needed in Avacta's new facilities.

Positive outcomes - financing and expansion

Based on the work undertaken, plus the validation of an Innovate UK grant and a deal with Moderna Therapeutics of the US, in 2015 Avacta raised £22m

"We couldn't have done it without you."

Amrik Basran
CSO



to build on the therapeutic potential of Affimer technology, especially in immuno-oncology. As a result of its exponential growth Avacta has moved to new facilities - 5,500 sq ft of laboratory and office space - just outside Cambridge and a few miles down the road from SBC, becoming the incubator's first 'graduate' company.

SBC's impact

Being located at SBC is believed to have been key to the fundraise, as well as the support and flexibility of the SBC team, which was always 'rooting for (the company's) success', according to Amrik.

2015

JANUARY

Six projects chosen in OI challenge

JUNE

Australian company Auspherix establishes UK base

JULY

Avacta Life Sciences raises £22m



Creating a life sciences hub drives inward investment - the Aglaris story

A fast-growing company looking for capital and space

Aglaris Limited is focused on removing the cell culture bottleneck in advanced manufacturing, increasing speed, yield and cost-effectiveness. Set up in Spain in 2012, it believes its innovative, automated cell culture platform bioreactors will remove this brake on the use of cell-based therapies within regenerative medicine. The company

has its roots in a collaboration between researchers at two leading research institutions in Barcelona and Madrid. With the business needing to access the right environment for its future growth, in 2016 Aglaris was seeking a new home.

"Being here gives us a kind of 'quality seal' that increases the trust in what we are doing."

Dr Miquel Costa
Co-founder



Attracted by cell and gene therapy hub at SBC

In its search for a growth location, Aglaris reviewed countries across the world, considering a range of factors such as access to finance and expertise. The cell and gene therapy hub at Stevenage Bioscience Catalyst, particularly the Cell and Gene Therapy Catapult Manufacturing Centre, made it a very compelling location – Aglaris has

2016

described the Catapult as a 'magnet'. It was also attracted by the incubator's collaborative open innovation ethos, access to research facilities, industry leaders and investors. In addition, five of the world's leading universities (in regenerative medicine) are based in the East of England, London and the South East. Good transport links mean that staying in contact with its home office and other Spanish partners is easy as well.

Thriving in new environment

Aglaris is thriving in its new home at SBC, where it focuses on business development, automation engineering and biologics. Since moving in to SBC, Aglaris has doubled its headcount, started five new R&D projects and generated new intellectual property for patenting. In addition, a beta testing programme for its technologies has begun with two companies and a hospital.

2016

JANUARY

SBC starts year with 50 tenants

APRIL

Sanofi opens partnering office

AUGUST

Aglaris Ltd moves in

JANUARY

Launch of Apollo Therapeutics

APRIL

MRCT (LifeArc) completes move to SBC

2017

A stem cell success story - Plasticell flourishes at SBC

2013 move to SBC to access innovative environment

Regenerative medicine company Plasticell and its sister company Progenitor moved to SBC in 2013, with the aim of benefitting from grouping their complementary stem



cell technologies in a innovative environment. The opportunity to access expertise at GSK, SBC's other stakeholders and tenants was also compelling for a company focused on rapid growth and using its funds efficiently. Plasticell and Progenitor were SBC's first tenants active in cell therapy, an area the incubator was keen to develop.

GSK collaboration facilitated by co-location

Over the four years since it has moved to SBC, Plasticell has grown and developed considerably. As a developer of stem cell technologies and cell-based therapies, it has partnered with big pharma companies such as GSK, JCR Pharma and Pierre Fabre Laboratories; technology providers such as Merck Millipore; public research institutions such as NHS Blood and Transplant and the Cell and Gene Therapy Catapult; and leading academic centres. Its collaboration with SBC stakeholder GSK was facilitated by co-location of the two parties on the Stevenage campus.

Plasticell has raised over £2.5m in equity funding over this time period, and benefited from multiple non-dilutive grants to fund project costs of over £3m.

"We learned from GSK, and the GSK researchers enjoyed working with us at SBC."

Dr Yen Choo
Executive Chairman



Innovation and expertise recognised

Plasticell has flourished at SBC and the company has played a significant role in the development of the cell therapy hub there. External recognition of its progress and excellence includes the award in 2016 of a Queen's Award for Enterprise in Innovation. In 2017, its founder Yen Choo was named 'Best CEO in the stem cell industry' by European CEO magazine.

2017

JANUARY

Award for Plasticell Executive Chairman

FEBRUARY

SBC is five years old

FEBRUARY

East of England Science and Innovation Audit

What will we be saying about SBC in five years' time, on its tenth birthday?

While the details of the future are impossible to predict, one thing we can be sure of is that SBC will be focusing on driving life sciences innovation in the region and the UK. Building on the mindset developed since 2012, we will be open, agile and opportunistic, taking advantage of exciting developments in science and technology. Collaboration, early academic/industrial engagement, skills development and helping our tenants grow will continue to be a focus. In addition, there will be invigorating developments on campus as it continues to expand, led by the opening of the Cell and Gene Therapy Catapult Manufacturing Centre at the end of 2017.

The ongoing support of our stakeholders, for which we thank them, makes this exciting future possible. Collaborate with us and be part of it!



Innovate UK



"Stevenage Bioscience Catalyst has proven to be an exciting scientific and commercially successful world class open innovation pharma campus. Tenants within SBC have realised considerable success with regards to international and domestic investment of £220m. SBC would make a perfect case study on the benefits of medium term investment showing an impressive return."

Chris Sawyer - Innovation Lead, Innovate UK



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