Article

Investment in Life Sciences in Scotland: Challenges and Opportunities

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joined Scottish Enterprise’s Life Science Industry team in May 2008. Prior to this, Andrew was Programme Leader for Scottish Enterprise’s flagship Life Science project – the Edinburgh BioQuarter. In over 10 years at SE, he has been responsible for developing the Scottish Centre for Regenerative Medicine and the development of a national strategy for stem cell development with Scottish Enterprise, Scottish Government and industry stakeholders. Andrew is currently a director of Roslin Cells Ltd, and formerly a founder and Director of the Scottish Stem Cell Network; and a former Director of Scottish Health Innovations Ltd – which works in partnership with NHS Scotland to protect and develop new innovations which come from NHS Scotland’s Health professionals. Prior to SE, Andrew spent over 10 years working for high-profile Scottish medical device startups, including Optos and Voxar (now Toshiba Medical Visualisation Systems), in a variety of engineering, product development, marketing and management roles – working with some of the world’s biggest medical companies including GE and Toshiba. Andrew has a Bachelor of Engineering degree in electronics & software engineering from Edinburgh’s Heriot-Watt University, and an MBA from the University of Edinburgh’s Business School.

ABSTRACT

As the global life sciences industry changes, the most successful regions in attracting inward investment will be those that evolve and adapt to provide the most attractive offer. In Scotland, the government is developing an environment to “push” its life sciences sector to complement the strong “pull” that these changes in the global life sciences industry and in investor sentiment have created.

The Scottish Government and the life sciences industry have developed a strategy that aims to anchor in Scotland those businesses that provide vital skills and market access; increase the number of more resilient companies and comprehensive supply chains; and attract new inward investment and talent that will build on Scotland’s existing capabilities.

The Scottish Government is improving on the country’s existing strengths and aims to capitalise on prior investment in Scotland’s research excellence, particularly in areas such as stem cells and regenerative medicine and “precision medicine”, where there are significant current and emerging commercial opportunities.


Keywords: inward investment, life sciences, strategy, government support

Regions around the world are competing in life sciences investment and trade—you only have to look at the number of regional booths at a BIO convention to see the extent of this competition. However, as the global life sciences industry changes, the most successful regions will be those that evolve and adapt to provide the most attractive offer.

In Scotland, the government is developing an environment to “push” its life sciences sector to complement the strong “pull” that these changes in the global life sciences industry and in investor sentiment have created.

The Scottish Government is building on its strong heritage in life sciences to create an environment where the new breed of Scottish life sciences companies can thrive. The life sciences industry in Scotland worked closely with the government to develop a strategy both to double turnover within the sector to £6.2 billion and to double the sector’s annual contribution to the Scottish economy from £1.5 billion to £3 billion Gross Value-Added by 2020.

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The key strands to this strategy aim to anchor in Scotland those businesses that provide vital skills and market access; increase the number of more resilient companies and comprehensive supply chains; and attract new inward investment and talent that will build on Scotland’s existing capabilities. Not only is the Scottish Government improving on the country’s existing strengths, in areas such as medical technologies and pharma services where there is already a substantial company base, ranging from innovative start-ups to global multinationals, but also it aims to capitalise on prior investment in Scotland’s research excellence, particularly in areas such as stem cells and regenerative medicine and “precision medicine”, where there are significant current and远景d commercial opportunities.

Scotland’s dynamic and progressive life sciences sector, widely recognised as a leader in Europe, is home to more than 600 organisations, employing over 30,000 staff in total. Life sciences companies in Scotland have an annual turnover of around £3.3 billion (2012) and have a staff in total. Life sciences companies in Scotland have an annual turnover of around £3.3 billion (2012) and have a staff in total.

Pharma companies have also looked at other ways to change their business models. There is greater focus on specific disease areas, with non-core assets being sold, exchanged or spun-off. There is a greater reliance on outsourcing from early stage development, through to formulation and manufacturing. There is also a move to locating new facilities, or moving facilities, closer to academic and clinical centres of excellence.

Scotland’s life sciences sector is well positioned to benefit from these changes: there are companies developing innovative new drug candidates; there is a healthy pharmaceuticals services segment offering a full range of outsourced capabilities; there are world-renowned academic research and clinical development institutions, which are all closely connected.

Another opportunity comes from changes in investor appetites and new sources of capital which are altering the landscape for investment in the life sciences sector. But, life sciences companies across the globe continue to face a number of challenges. The Scottish Government has introduced a number of measures to address these challenges, complemented by those introduced at a national level.

Access to capital is the most significant challenge facing life sciences companies at all stages of development, regardless of location. Life sciences companies need to ensure they have sufficient funding to fully support product development, company growth and international expansion. Scotland is home to deep pools of capital and a broad range of potential investors at all stages of the life sciences lifecycle.

Angel investment is a crucial source of capital for the earliest stage companies and Scotland has active angel investors and venture capital funds dedicated to life sciences. In fact, Scotland has more business angel investment per head of population than any other country in Europe. The angel investor network in Scotland is currently active with 30 different syndicates investing in life sciences.

One of the most notable of these syndicates is Archangels. Archangels was established in 1992 specifically to invest £25,000 in Optos, which was founded by Douglas Anderson after his then five-year-old son went blind in one eye when a retinal detachment was detected too late. The company set out to commercialise a patient-friendly retinal image product that encompassed a digital wide-field image of the retina in a single capture. The company’s retinal image scanner was commercially launched in 2000. In 2006, Scottish Enterprise-supported Optos floated on the London stock Exchange for £165 million and in February this year was acquired by Nikon for £259 million.

Since that initial investment, Archangels’ syndicate members have invested in excess of £55 million into some 60 early stage companies, primarily in the life sciences and technology sectors. In 2014 Archangels arranged funding of £12.2 million for 14 companies, comprising £7.5 million of investment from Archangels’ investors, with a further £3.5 million of co-investment from Scottish Enterprise and £1.2 million from other partners. The biggest investment in 2014 was £2.5 million in Scottish biotech prosthetic upper limb producer, Touch Bionics. Touch Bionics is the first spin-out from Scottish Health Innovations Ltd, which was established by Scottish Enterprise and National Health Service (NHS) Scotland to commercialise innovation developed by healthcare professionals.

The Scottish Investment Bank (SIB), which is the investment arm of Scotland’s economic development agency, Scottish Enterprise, manages a suite of funds, through which it co-invests alongside angel networks, such as Archangels, and other investors. The Scottish Investment Bank’s investments range from seed deals of £20,000 – £250,000 through co-investments of £100,000 – £200,000 to venture deals of £500,000 for small- and medium-sized enterprises at development and expansion stages. In the past five years SIB has invested more than £40 million in life sciences companies, leveraging £90 million in private investment.

Once companies grow past angel-level investment they usually need access to venture capital. However, the life sciences venture capital environment has changed over the last few years. First, venture capital fund managers are becoming more risk adverse and the proportion of venture capital invested in later stage companies has increased.

Second, there has been a move in life sciences venture capital to project-focused, or asset-centric, funds such as those managed by Index Ventures or Atlas Venture. These funds focus on taking a particular project to a specific point where they plan to exit.

Third, there are few venture capital funds actively looking to invest in life sciences, although to some extent this has been offset by the rise in corporate venture capital such as GlaxoSmithKline’s SR One, Johnson & Johnson’s Development Corporation and Novartis Ventures. GlaxoSmithKline and Johnson & Johnson also invested in Index Ventures’ asset-centric £150 million Life Sciences Fund.

Although the environment for venture capital in life sciences has changed, it remains a significant source of potential investment. With the opening of the IPO
The combination of these new funds with venture capital, angel syndicates, government support and grant funding from the UK Research Councils and European Union established a funding platform to help companies in Scotland bring new innovations to market and to grow into globally competitive businesses. However, the challenges that have meant that there have only been a small number of successes. One of the entrepreneurs behind the growth of Bioemersion from a start-up to a global, NASDAQ-listed biopharmaceutical company and its eventual acquisition for $345 million by Genzyme, Hugh Griffith, is now chief executive officer (CEO) at Nucana Biomed and CEO of Alida Capital International, a specialist biopharmaceutical business angel syndicate. Last year Nucana Biomed closed a £33.85 million series B financing to fund the development and commercialisation of its portfolio of anti-cancer medicines. This investment is the largest ever biotechnology investment in Scotland. Another example is Collagen Bio, the company formed by the reverse merger of CollBio into Collagen Solutions Ltd and led by Stewart White, which listed on the London AIM market to drive financing for growth and acquisition.

The main source of Scotland’s innovative new companies is its universities, which are globally recognised. Four of the world’s top 100 universities for life sciences are in Scotland. Another example is Edinburgh BioQuarter. Edinburgh BioQuarter is Europe’s fastest-growing academic medical centre and brings together scientists with commercial research companies to accelerate the development of new drugs, diagnostic tools and medical devices to treat diseases. The centre has three aims: first to foster deeper links between academia, the NHS and industry through collabora-tive research, second to create new companies based on Edinburgh’s research and third to help spin-out creation. 3 This is testament to the excellence of Scottish research institutions and their collaborative partnerships with leading companies worldwide. In the UK, Scotland has emerged as one of the leading locations for life sciences start-up companies as public sector support for start-ups has held up more strongly in Scotland than the rest of the UK. The number of spin-ups in Scotland has increased while the number that didn’t emanate from a university decreased.

Another significant challenge for companies in Scotland, and the UK as a whole, is the pace of the com-mercialisation of innovative products developed by the science base. To help companies better succeed at com-mercialisation, Scottish Enterprise partnered with the University of Edinburgh and NHS Lothian to develop the world renowned Edinburgh BioQuarter, a £660 million (£1 billion) centre for biomedical commercialisation, which aims to help companies at all stages of their development. The centre has also been designated as the UK’s first Biomedical Catapult, a specialist Centre for Research Organisation focused on immunol-ogy and neuroscience. The team is also developing a pipeline of projects at the facility, which it hopes to launch as the next generation of new companies in the near future, which will provide additional jobs and contribute to the economy.

The Scottish Centre for Regenerative Medicine is also located at Edinburgh BioQuarter. The centre brings together 250 scientists, including biologists and clinical academics from the Medical Research Council (MRC) Centre for Regenerative Medicine and applied scientists working with the Scottish National Blood Transfusion Service and Roslin Cells. BioQuarter is also a pion-erising centre for data science and is a key base of the Farr Health Institute in Scotland. The Institute aims to har-ness health data for patient and public benefit by setting the international standard for the safe and secure use of data.
electronic patient records and other population-based datasets for research purposes.

As well as this, BioQuarter includes a company incubator unit which can host start-ups generated from the facility’s innovations and companies coming to collaborate with research organisations there and in Scotland.

The final significant challenge facing life science companies in Scotland is they are often only raising small levels of funding as their investors are often only based in Scotland. Scottish Enterprise recognises that there is an upside to this as it presents companies with an opportunity to reach out to the wider potential international investor base outside the country. This is what Nucana did when it raised its Series A and B rounds, bringing international investors including Sofinnova and Morningside into their syndicate alongside their angel investors and the Scottish Investment Bank. Nucana’s $57 million Series B round in 2014 was the largest ever raised in Europe and companies need both ambition and to reach beyond Scotland’s borders.

In order to support companies seeking investment from overseas, Scottish Enterprise has tailored its services and advice to companies and is focused on creating “investable” companies with ambitious, capable management teams who have a good understanding of investor requirements. Scottish Enterprise works with life sciences companies in four areas: helping the company to build a much more comprehensive overview of their short-, medium and long-term requirements; actively building relationships with relevant venture funds; organising regular company/investor meetings; and building relationships with networks of corporate financial advisors, particularly in London. An early success for this programme was the commercial partnership between Synpromics and Dow. Scottish Enterprise made the initial introductions by matching Dow’s requirements with the most fitting young companies, which allowed Synpromics to showcase its technology and secure the opportunity.

The three main challenges facing Scotland’s life sciences sector: funding, commercialisation and international profile will be familiar to companies across the globe. However, one of the reasons why Scotland is widely recognised as one of the world’s leading locations for life sciences is because of how it has addressed these challenges and created opportunities for companies.

Scotland has a dynamic and progressive life sciences sector; it has a government committed to doubling the sector’s contribution to the economy by 2020; it has world-leading research universities spinning out new start-up companies; it provides businesses with access to government grant funding schemes, active angel investors and venture capital funds dedicated to life sciences; it has globally renowned research centres and business development facilities. Many other countries claim to offer similar support for life sciences, but Scotland has all the pieces of the life sciences jigsaw, and, most importantly, in Scotland all of those pieces fit together to offer a unique opportunity for the life sciences sector.