The role of science parks in innovation strategies

Innovation Strategies for Wales

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THE LEARNED SOCIETY OF WALES
The Learned Society of Wales is currently convening a programme of activities to help inform and improve innovation policies and practices in Wales.

This is a timely programme given the publication of the BEIS Innovation Strategy for the UK, the Advanced Research and Invention Agency Bill, and the increasing importance of a place-based agenda. The HM Treasury's Comprehensive Spending Review 2021 makes a strong commitment to increasing R&D funding to £20 billion by 2024-25, a 35% increase on current funding levels.

The forthcoming UK Government White Paper on Levelling Up will also outline a plan to ensure that an increased proportion of government spending on R&D over the next three years is invested outside the Greater South East of the UK. If achieved, this will see several billions of additional funding outside the golden triangle and go a long way to addressing the previously identified deficit, as noted in Thomas Forth and Richard A.L. Jones's *The Missing 4 Billion: Making R&D work for the whole UK* report for Nesta, 2020. The Nurse Review of the research, development and innovation organisational landscape will also likely prompt further shifts in BEIS policy.

At the same time, the Welsh Government is reviewing its innovation policies and is currently developing a new integrated cross-governmental strategy for innovation. The Tertiary Education and Research Bill (Wales) is progressing through the Senedd, proposing reforms to the regulation and funding of post-16 education and research under a new Commission for Tertiary Education and Research (C-TER), which would supersede the Higher Education Funding Council for Wales (HEFCW).

Wales is also adapting to a funding landscape without European Structural Funds, which had been significant in developing Wales's research and innovation capacity and collaborative potential. The new Wales Innovation Network (WIN) will work to leverage the diversity of Welsh institutions through collaborative activity.

**In January 2022, the Society hosted the third in a series of closed roundtable discussions which considered the role of science parks in the innovation landscape.**

All roundtable sessions are conducted under Chatham House rules, and this is the anonymised and unattributed report of key points from the second event.
The role of science parks innovation strategy

The third roundtable in our series considered science parks and their role in innovation in Wales. The speakers included the representatives of three science parks in Wales: M-Sparc, AberInnovation and SPARK, as well as a speaker from Cambridge Enterprise – the University of Cambridge’s knowledge transfer and research impact service. The Cambridge Science Park, founded in 1970, was a pioneering project, and although the research and innovation ecosystem it operates in is very different to the Welsh R&I landscape. For example, there are 30 science and technology parks within a 7.5 mile radius of the centre of Cambridge. Nonetheless, the discussion revealed useful observations for innovation in Wales.

The recent completion of three university-led science parks in Wales (M-Sparc, AberInnovation and Spark), could be seen as a part of this wider trend. The group very much welcomed these new developments in Wales, especially as the WDA’s Technium project from the early 2000s which aimed to connect higher education and commercial opportunities did not realise its potential, and has come to be seen as an expensive failure. It was noted that the key difference in the newly developed science parks in Wales was their more grassroot-led development, unlike the largely top-down nature of the Technium scheme. The discussion also reflected on the benefits that universities bring as anchor tenants – longevity, clear purpose and vision.

- Menai Science Park (M-Sparc)

M-Sparc was the first dedicated science park developed in Wales and opened in 2018. The park is based on Ynys Mon. the island of Anglesey, and it is wholly owned by Bangor University. The main aim of the facility is to connect academic research and businesses, predominantly in the areas of ICT, low carbon, energy, and environment. M-Sparc provides both infrastructure and business support for companies of all sizes, who wish to grow and innovate.

<table>
<thead>
<tr>
<th>Cambridge Science Park</th>
<th>M-Sparc</th>
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<tr>
<td>Opened in 1970 - UK’s first science park</td>
<td>Opened in 2018</td>
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<tr>
<td>Over 140 companies on site</td>
<td>35 tenant companies, 7 further virtual tenants</td>
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<tr>
<th>AberInnovation</th>
<th>SPARK</th>
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<tr>
<td>Opened in 2021</td>
<td>Opens in Spring 2022 - the world’s first social science park</td>
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<tr>
<td>21 Tenants and members, 6 centres / facilities</td>
<td>12 confirmed centres/groups</td>
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Science Parks in Wales

The development of university-led science parks is indicative of the increasing appreciation for the importance of place in research and innovation strategy. Science parks play an important role in connecting research activities with commercial opportunities, and the UK’s leading universities are all actively engaged in providing ‘hardware’ infrastructure in their localities to facilitate innovation activities.

M-Sparc offers virtual tenancies as well as physical spaces, which has proven beneficial during the coronavirus pandemic. The Park actively engages with the local community, and key initiatives target younger generations in particular. For example, the recently launched Academy Skills programme aims to assist young people into digital careers through paid work placements and online lessons on STEM subjects are offered to secondary school pupils. M-Sparc is also keen to attract people who have left North Wales
to return to the region and set up businesses at the park. A recent example is the ongoing campaign called Dewch yn ol.

Given the expansion plans of the park, as well as active engagement with regional and local community, M-Sparc increasingly seems set to play a major role in stimulating the innovation ecosystem and the regional economy of North Wales.

- **Aberystwyth Innovation and Enterprise Campus AberInnovation**

AberInnovation is Wales’s second university-led science park and opened in 2021. The park is based on Aberystwyth University’s Gogerddan campus, and it provides world-leading facilities and expertise for translational research in biotechnology, agri-tech, and the food and drink sectors.

The main role of AberInnovation is to create a low-risk environment for companies, to test, validate and invest in their products/services. Describing themselves as a ‘development hotel’ and ‘business incubator’, AberInnovation fills the gap in translational R&I facility in biosciences in the UK. AberInnovation has already reached full capacity of its incubation facilities, with more companies awaiting. The estimated cost of the project was £43.5m, which was funded by the ERDF programme, UK Research and Innovation, as well as Aberystwyth University. Recently, AberInnovation secured £1.2m from the UK Government’s Community Renewal Fund, which aims to deliver BioAccelerate programme and MidWales Challenge Led Launch Pad series. The BioAccelerate scheme will work to attract new ideas in the areas of AberInnovation specialisation and turn them into commercially viable products.

The Challenge-led launch pad focuses on developing novel solutions to identified public sector and societal issues. This is seen as a key part of the university’s civic mission to grow the entrepreneurial base in the region.

- **Social Science Research Park Cardiff University (SPARK)**

SPARK will open in Spring 2022. It is the world’s first Social Sciences park and will create a new space at Cardiff University that will promote productive collaborations between social science research and society – including policymakers and the third sector as well as industry partners – to solve complex societal issues. One of the main activities will be production of prototypes and ideas that can be tested with citizens and end-users. The SPARK building has been designed as a hub for social science research across the University, and will host visitors, external partners as well as creative events.

The SPARC | SPARK building also features commercial units and lab space for spin-outs and start-ups, and houses facilities that support collaborators to bring ideas to life, including a RemakerSpace and visualisation centre. A key component of spark is the social and shared space to produce an environment that encourages creativity, innovation and collaboration. The building is the latest addition to the university’s Innovation Campus.
Science parks and place-based economic development

Innovation is very place-dependent, and science parks have a significant role in driving innovation and stimulating regional economic development.

The discussion emphasised that areas keen to encourage innovation through science parks need to be able to offer an attractive place proposition to attract talent, capital and global businesses. There was consensus that without a strong place-based proposition, it was difficult to deliver innovation at scale. Reflecting on what might be distinctive about places in Wales, participants highlighted the potential to offer a better quality of life and a good work-life balance than some of the largest and most successful science parks elsewhere in the UK.

Speakers agreed that both hardware and software components are crucial for the success of such developments. Facilities such as modern well-designed buildings with office and lab spaces, innovative equipment and social spaces such as good cafes, combined with the collective vision of committed individuals and good overarching programme as a driving force, were said to offer the optimal conditions for successful outcomes.

Two approaches to growth were considered in the discussion. One view prioritised a more organic development, closely working with local communities to scale up in a sustainable way. The other view saw growth as an aim in itself, to be supported by financial investment and a growing reputation. This second approach can be seen as riskier and more challenging, but the returns may be greater.

Science Parks as innovation strategy - recommendations for Wales

Given the vital role of science parks in the innovation process of the regional and national economy, the discussion generated specific suggestions for the next steps for science parks within the innovation strategy for Wales. It was suggested that a value chain analysis would help to identify the ‘sweet spots’ of the Welsh innovation landscape and help shape the future offer. Wales could decide to seek to attract and support businesses across all aspects of the value chain or target specific points of the growth curve that best fit the existing resources and infrastructure, for example might Wales be better placed to attract businesses that are looking to grow than as a location for start-ups? There was agreement that more could be done to orchestrate and collaborate across the science parks in the Welsh innovation ecosystem and the potential importance of a Welsh network and voice for the science parks here was also mentioned.

The significance of narrative emerged in the discussion once again, and the need for innovation to be expressed and understood as something that has relevance to people, society and the economy. It was agreed that science parks have a role in sharing, promoting and amplifying stories and case studies of success, to help embed awareness of innovation activity.