

Maximising local economic impacts of R&D investment in the West of England

Unattributed summary of CaSE and the University of Bristol's roundtable discussion held on Friday 12th July 2019.

This roundtable discussion with participants from across the West of England's diverse research and innovation community, including industry and academia, as well as central Government, was convened to explore the distinctive role the West of England can play in meeting the Government's ambition to support prosperous communities across the UK through the Place agenda. The strengths of the West of England in meeting this target and the enablers and barriers on the path to meeting this goal were discussed.

This summary is not CaSE policy but will form part of our ongoing programme of work on the Government's Place agenda. CaSE are leading discussions in the regions to collect an evidence base on place-based R&D interventions and how different sectors collaborate to facilitate local economic growth. This roundtable part of a series focusing on the Place agenda, to understand how best to support the delivery of local benefits and growth from R&D investment and inform delivery of the 2.4% target.

Agenda

This roundtable was chaired by Dr Daniel Rathbone, Assistant Director of CaSE. Opening statements were made by Professor Ian Bond, Dean of the Faculty of Engineering, University of Bristol and Mark Howard, Head of R&D Business Development UK, Airbus.

Topics that were considered included how partnerships and collaborations are formed in the region, how start-ups and SMEs are supported to innovate and how research and innovation investment can be maximised to benefit the West of England.

Summary of enablers and barriers of the West of England in the Place agenda

ENABLERS	BARRIERS
<ul style="list-style-type: none">• Strong talent pool and good ability to attract and retain talent	<ul style="list-style-type: none">• Greater collaboration on a larger scale is required to have national and global impact
<ul style="list-style-type: none">• Strong expertise in aerospace and advanced engineering	<ul style="list-style-type: none">• Lack of coordination of activities
<ul style="list-style-type: none">• Research-intensive universities and industries	<ul style="list-style-type: none">• There is a need to focus and build on the region's strengths to maximise economic impact
<ul style="list-style-type: none">• Growing university spin-out successes	<ul style="list-style-type: none">• Research ecosystem is complex and fragmented, which hinders SMEs from accessing finance easily and collaborating with universities
<ul style="list-style-type: none">• Successful collaborations between universities and big businesses	<ul style="list-style-type: none">• Harder for SMEs to develop and acquire new skills at pace

Proposed solutions

- Upskill all of the supply chain and simplify processes for SMEs to access finance to improve efficiency of the research ecosystem
- Manage creation of start-ups by designing them to deliver solutions to business needs
- Universities and businesses could be more inclusive in their ways of working to enable more cross-sectoral collaboration
- Build on the region's strengths to maximise economic impact of R&D, whilst also allowing innovation in other areas to grow
- More coordination of the region's R&D and innovation strengths on a larger scale to enhance the region's competitiveness and national and global impact

1. Introduction to the session

The West of England has a thriving innovation ecosystem owing to its high-performing companies, top research-led universities and highly skilled people. The South West Science and Innovation Audit shed light on research capabilities in many different areas, with advanced engineering and digital skills being highlighted as two prime features of the region. It also stated that Bristol and Bath as a combined grouping housed the second largest digital sector outside of London.

The region has successfully been awarded seedcorn funding for 3 bids in Wave 1 of the Strength in Places Fund, two of which are led by the University of Bristol.

The West of England has strong expertise in aerospace and engineering and it is recognised across the region that science and engineering skills and investment are core to the success of these fields. However, current evidence suggests that level of R&D investment in the West of England are starting to plateau. The West of England has a strong foundation for research and innovation and this must be built on to maximise the economic benefits for the whole region.

2. The role of the West of England in the Place Agenda

The distinctive strengths, barriers and enablers of the West of England in this effort

People and skills

The West of England has a strong talent pool, both within industry and the academic base. The region's universities produce a continuous flow of high-skilled graduates with high graduate retention rates. Within Bristol, half of the population is educated to degree-level and 42% of graduates stay in the city. Moreover, the skills agenda forms a key part of the Bristol Temple Quarter development plans. Centres for Doctoral Training have also achieved wide ranging successes for the West of England. Science and engineering skills are core to the region's research ecosystem and this provides a good basis to create a thriving and innovative region.

It was felt that in the current climate, industries are under increased pressure to produce next-generation products much faster. Therefore, there is a need to develop and acquire new skills and understand emerging technologies at pace to deliver products to market quickly. This will ultimately enhance productivity and provide socioeconomic benefits for the region. However, attendees felt that whilst industry and academia are under increased pressure to deliver products to market quicker, policies and funding mechanisms are not being developed at the same speed. This disconnect was said to be creating problems for the future.

However, it was said that that small companies may be disadvantaged as they may not have the capacity to acquire new skills at pace. Attendees felt that for the research system to work efficiently, all elements of the supply chain should be upskilled, and SMEs should be provided with support to understand and develop future skills so that capabilities are delivered for all.

Access to funding opportunities

It was felt that the region's research ecosystem is complex and fragmented and that this was reflective of other parts of the country as well. As a result, small companies with limited resources face difficulties in navigating the research landscape, which is hindering all businesses in the supply

chain from benefiting from R&D investment. It was noted that the process for grant applications to larger businesses is inefficient and difficult particularly for small companies.

To address this, an example was provided from the National Composites Centre (NCC) which launched NCC Connect in March 2019 which provides a single access point for a wide range of business support services. This includes SME support through access to funding opportunities, strategic business advice and networking. This was driven by a growing understanding that small companies were not aware of support they could receive from the NCC.

It was felt that to invest more efficiently and strategically, the processes for small companies accessing finance from large businesses should be made simpler.

Supporting start-ups and spin-outs

A strength highlighted of the West of England was that there are close connections with the investment community across the region. This funding and finance are key to realise the potential of start-ups and spin-outs. The region presents many examples of growing university spin-out successes, such as the University of Bristol's spin-out company Ziylo which was bought by global healthcare company Novo Nordisk.

One of the challenges identified was specifying how industry and universities can leverage co-funding and attract finance to create start-ups and develop the means by which knowledge exchange takes place. Attendees explored some existing initiatives which encourage investment for start-ups in the region. An example presented was of SETsquared which is an enterprise partnership between Bath, Bristol, Exeter, Southampton and Surrey universities. This Business Incubator provides a wide range of support programmes to develop ideas into thriving businesses. For investors, SETsquared provides a simple platform for them to view and interact with a range of start-ups. It was felt that this was a good model which could be scaled-up to encourage R&D investment in the region. Additionally, some universities in the region were also said to provide tokens/vouchers to support smaller businesses and bring innovation into practice. However, it was noted that a lot of these schemes are funded through the European Regional Development Fund which poses issues in light of Brexit.

Attendees discussed further how to attract external investors into the region. It was noted that often emerging businesses fail as they're not driven by wider business needs. It was felt that businesses should challenge supply chains to develop innovative solutions to address their gaps. Support should be provided for start-ups to design them to deliver those solutions to business needs. This will manage the creation of start-ups and will have the potential to enable more businesses to be successful.

Forming collaborations and partnerships

Universities in the West of England have good working relationships with business and the strong skills and capabilities across the region enable cross-sectoral collaborations. Despite this, it was highlighted that to get the best of the region's strengths, there needs to be more collaboration of a higher scale.

The West of England presents strong examples of successful partnerships which showcase the strengths of the region. The Engine Shed was formed from a collaboration between Bristol City Council, the University of Bristol and the West of England Local Enterprise Partnership (LEP) and is growing to Engine Shed 2 and 3. Additionally, SETsquared which is a long-standing enterprise partnership between five of the UK's leading research-led universities has been successful. It was

noted that Airbus and NCC work closely to access different ideas, as well as skills which are not in-house.

It was said that existing UK Research and Innovation (UKRI) funding schemes enable universities to work with large companies more easily. It was felt that start-ups face difficulties in understanding how to work with universities and what facilities and support are available to them. There is therefore a need to connect all the supply chain and coordinate skills to work more efficiently. It was suggested that universities could communicate with businesses better to advertise their activities in a more accessible manner.

It was felt that universities and businesses could be more inclusive in their ways of working. There should be more proactive engagement and collaboration with communities who they have not previously connected with, to better showcase the support that could be provided to them. It was noted that more effort should be focused towards upskilling people in disadvantaged communities.

Building on the West of England's R&D strengths

The region offers a rich amount of strengths, particularly in advanced engineering, creative industries and the financial sector. However, it was felt that there is a need to clarify the core strengths, and maximise and power those areas to get the best value out of them, whilst also allowing innovation in other areas to grow. There is also a need to coordinate cross-sectoral efforts on these strengths to allow more join-up and avoid duplication. It was noted that the recently launched Great Western Powerhouse could be a starting point to showcase the region's key strengths.

Housing was considered an issue and it was felt that more infrastructure will be required to prepare for growing research activity.

The role of civic leadership

The West of England has strong foundations for innovation, however it was noted that there is a lack of coordination to bring activities together. It was thought that there needs to be a strategic joined-up approach on a local and national level to ensure the benefits of R&D investment to the local community.

Attendees noted that the West of England Combined Authority (WECA) is growing and progress is being made. It was felt that there could be secondments in and out of WECA to provide more opportunities for universities and businesses to regularly interface with local government. This will enable WECA to have a greater understanding of the challenges and strengths of the local communities, so that relevant investments can be made, and tailored initiatives can be designed.

Working towards a challenge

It was felt that the region performs well in a range of small, niche areas. However, to have national and global impact, the West of England will need to coordinate activities and work on a far greater scale.

It was suggested that the region has consistently had a stable economy and has not faced economic challenges to the extent of other places in the UK. Therefore, it was argued that a driver or catalyst will be needed to accelerate progress. There were suggestions that efforts should be concentrated towards a goal or challenge to maximise strengths in a particular area and bring sectors together. This will enable the West of England to have greater impact on a larger scale.

3. Conclusions

The West of England has the essential elements for high levels of innovation. It is home to world-class universities, a critical base of industry and is successful in retaining and attracting talent.

The West of England has a strong talent pool and these skills are key in terms of the region's ability to innovate. However, adaptability is as important as capability – a degree of agility will be essential to enable the region to work at pace and ensure the workforce is prepared for future R&D needs. Moreover, all parts of the supply chain must be upskilled to ensure that products are delivered to market quicker as this will enhance the productivity and economic value of the region.

Aerospace and advanced engineering are key strengths of the West of England. However, to capture the economic benefits of increased research intensity, the region must focus and build on its strengths and work towards solutions that address the major business challenges. Greater cross-sectoral collaboration and coordination of the West of England's R&D and innovation strengths on a larger scale will be essential to enhance the region's competitiveness and national and global impact.