

**‘Ambitions and aspirations for University-Investor links in R&D in  
Yorkshire and the Humber’**

**A Yorkshire Universities Roundtable in collaboration with the National Centre for  
Universities and Business**

**Background and purpose of the roundtable**

In September 2020, Yorkshire Universities (YU), in collaboration with the National Centre for Universities and Business (NCUB), held a virtual roundtable to explore the findings and recommendations from the Research England-commissioned Rees Review<sup>1</sup> and what they mean in practice for Yorkshire.

One of the aims of the meeting was to discuss the specific ways in which universities outside the ‘Golden Triangle’ could increase access to funding and finance to support business development and growth. The government has given a commitment to increase spending nationally on research and development (R&D), and to pursue a ‘levelling up’ agenda. Alongside efforts to tackle COVID-19 and its related socio-economic challenges, the importance of examining the basis and mechanisms by which universities and public and private sectors could work together to support Yorkshire to become a more resilient, prosperous and inclusive region, has become even more important.

**Welcome and introduction, Dr Peter O’Brien, Executive Director, YU**

Peter O’Brien outlined that the rationale for the roundtable was to reflect upon two key questions. First, how could Yorkshire repair, rebuild and reinvent the region’s economy? Second, what is the role of universities in this process? In thinking about attracting and embedding more R&D and business growth, the connections between universities, private finance, investors and government need to be strengthened at different spatial levels. One of the key questions facing higher education institutions in Yorkshire is how best to leverage more from public and private investment? And how might existing and emergent devolution deals improve regional R&D ecosystems and drive productivity growth?

Yorkshire is home to a wide range of leading R&D assets, such as the AMRC in Sheffield, 3MBIC in Huddersfield, Nexus in Leeds, AURA in the Humber, the Bio-renewables Centre in York and the Wolfson Centre in Bradford. Furthermore, programmes, including MIT REAP in Leeds City Region and MIT REAP (LITE) in Sheffield City Region, have also begun to shed further light upon, and provide routes to impart, the value of innovation-led entrepreneurial growth, whilst Research England Connecting Capability Fund (CCF) resource is supporting the new Northern Gritstone investment vehicle set up by the universities of Leeds, Manchester and Sheffield.<sup>2</sup>

**Setting the scene, Dr Joe Marshall, Chief Executive, NCUB**

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<sup>1</sup> <https://www.ncub.co.uk/reports/independent-advice-on-university-investor-links-mike-rees-report>

<sup>2</sup> [https://www.leeds.ac.uk/news/article/4808/northern\\_universities\\_launch\\_new\\_investment\\_company](https://www.leeds.ac.uk/news/article/4808/northern_universities_launch_new_investment_company)

## **‘What are the opportunities and challenges for Yorkshire in terms of access to finance and university-spin outs?’:**

Joe Marshall welcomed Mike Rees to the roundtable, and outlined some reflections from the Rees Review and the key trends in spinout activity examined by Tomas Coates Ulrichsen.<sup>3</sup>

### **Current position**

- There has been significant debate on the need to rebalance the UK’s economy, both sectorally and spatially.
- There is a clear steer from the government that R&D has a central role in the future of the UK – this is emphasized in the R&D Roadmap that sets out a vision of the UK as an “innovative economy”.
- Concurrently, there has been a commitment by the Government to increase public investment in R&D, with a target to increase the UK gross domestic spending on R&D (public and private) to 2.4% by 2027. Note that:
  - these were set pre Covid-19 and the current economic crisis, and have also been reiterated by the Chancellor.
- The challenge now is to leverage private investment from companies to do (more) R&D, and increase the UK’s competitive offer to attract more access to capital. However, significant questions remain as to how to encourage more private sector and overseas investment in R&D, especially in regions like Yorkshire.

***“R&D will be particularly pertinent in the recovery from COVID and in rejuvenating the economy.”***

At the request of UK Research and Innovation (UKRI), NCUB had been asked to set up a Taskforce, specifically to:

- Provide UKRI, and in particular Research England, with evidence and insights on the progress of universities and businesses in working through their stability toward greater contribution to the nation’s recovery; and
- Advise on how we should tackle key challenges as set out in the government’s R&D Roadmap, in relation to university-business linkages.

The YU roundtable formed part of the evidence gathering stage undertaken by NCUB to inform the work of the Taskforce.

To retain global competitiveness and seize the opportunities presented by rapid change, the government wants the UK to become a world leading, innovation-driven nation. To achieve this objective, a target has been set to increase total UK spending in R&D to 2.4% by 2027. This requires significant increases in as well as access to public funding and private investment. The Taskforce advised on the conditions and drivers for both increasing business investment in R&D in the UK and encouraging new ideas and greater innovation.<sup>4</sup>

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<sup>3</sup> <https://re.ukri.org/documents/2019/developing-university-spinouts-in-the-uk-tomas-coates-ulrichsen-v2-pdf/>

<sup>4</sup> The Taskforce reported in November 2020: <https://www.ncub.co.uk/reports/r-d-taskforce-report-research-to-recovery>

## **The Rees Review summary**

The Review, led by Mike Rees, examined how to strengthen university access to finance so that it could support spin-out company formation and university-investor relationships. It focused on universities with large-scale investor links and those seeking support through schemes, such as the CCF. The main findings were:

### ***“The UK’s model is not broken, but needs improvement”***

- The UK has consistently remained at the top of the rankings for reputation for university-industry links. In terms of US/UK comparisons, the UK typically performs comparably with the American university system in attracting research income from industry, efficiency in commercialisation and spinning out.
- Overall spin-out performance is improving, with a 76% survival rate for spin-outs formed in 2014.
- In recent years, the numbers of deals and amounts of private investment have grown.
- Government policy direction and ecosystem development, particularly in the formation of UKRI and the joined-up thinking that brings, is moving steadily in the right direction.
- Eco-systems are growing outside the Golden Triangle.
- University venture funds, private and public accelerator programmes and partnership enabling mechanisms are all active in the space. Access to capital is improving, but its source, amount and concentration is inconsistent.

### **Recommendations:**

- Better alignment between all types of initiatives is required.
- Both universities and investors need to have clear-sighted conversations about the strengths and weaknesses in their relationships.
- From an access to capital standpoint, the UK should think in broader terms about the available pools of liquidity: The potential of corporate venture funds and pensions should not be overlooked, and challenges around their deployment should be met by government and regulators where necessary.
- While certain CCF-funded projects, and groupings such as SETsquared, are effective at consolidating investable opportunities, replication and expansion of such programmes would deliver greater scale. And scale is critical to avoiding missing out on opportunities.

Next steps: towards filling the gaps in the current ecosystem.

- Long-term, outcome-focussed direction with appetite for risk.
- Alignment across government and UKRI, within universities, and with investors.
- Access to human capital.
- Better communication of success.

## **Reflections from Mike Rees**

“This report was written ahead of Brexit negotiations, before the 2019 General Election and prior to Covid-19. I don’t think I would change much, but certainly I would recommend more

urgency: ***it's easier to initiate change when there is a crisis, it is more difficult to generate change without one***".

***"The three themes that featured throughout are leadership, collaboration and coordination"***:

Recently, the TenU group of global universities was created with the aim of supporting universities to share best practice. The new group brings together ten leading research-intensive universities in the UK, US and Europe – and has been tasked with making the case for improved collaboration between technology transfer offices (TTOs), which are responsible for many aspects of research commercialisation. HM Treasury have a similar initiative in the form of the Knowledge Asset Review. SETsquared<sup>5</sup>, whose brand is strong, and is skilled at coordination, is attracting interest amongst those attempting to replicate the model, but often firms have to reinvent themselves as they lack access to pre-seed capital. This is critical for the ecosystem to move forward.

The world of corporate innovation is being accelerated by Covid and rising uncertainty. Corporate venture capital (VC) is a growing source of funds for R&D at universities. But corporate VC cannot reach everybody, which is why collaboration is important, as it makes it easier to access pools of capital. Without seed capital, access can be wasted.

The desire to replicate the SETsquared model reveals the importance of having access to seed capital and getting research projects off the ground. It has also revealed the skills required to develop these schemes, and the need to develop them at scale to get to the next stage. Opening up membership of programmes like SETsquared increases the opportunity to scale up, and increase deal flows, but broader membership could present a strain on managing coordination.

Regional Angel investor programmes and alumni networks, with their links into business and communities, can all help to fill the funding gaps in getting products into market.

## **Statistics**

Yorkshire and the Humber is home to 12 higher education institutions (*Leeds Arts University, Leeds Beckett University, Leeds Conservatoire, Leeds Trinity University, Sheffield Hallam University, University of Bradford, University of Huddersfield, University of Hull, University of Leeds, University of Sheffield, University of York, York St John University*)

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<sup>5</sup> [www.setsquared.co.uk/](http://www.setsquared.co.uk/)

## The region

- Population: 5,502,967 (mid-2019), 7th highest of 12 NUTS1 regions in the UK
- Area: 15.405km<sup>2</sup>, 7th highest of 12 NUTS1 regions in the UK
- Population density is 8th of 12 NUTS1 regions in the UK
- GDP: £141,698m or £141.7bn (2018), 8th highest of 12 NUTS1 regions in the UK
- GDP per head: £25,859, 10th highest of 12 NUTS1 regions in the UK
- Annual GDP growth: 1.2%, 6th highest of 12 NUTS1 regions in the UK
- Annual GDP growth per head: 0.6%, 7th highest of 12 NUTS1 regions in the UK

(Office for National Statistics, 2020).

## Yorkshire's business profile

- Number of businesses: 428,740, 7th highest of 12 NUTS1 regions in the UK
- Number of businesses per head: 12.78 or 13 (to nearest whole number), 6th highest of 12 NUTS1 regions in the UK
- Number of businesses per employee: 4.903 or 5 (to nearest whole number), 6th highest of 12 NUTS1 regions in the UK

(HMG, 2019).

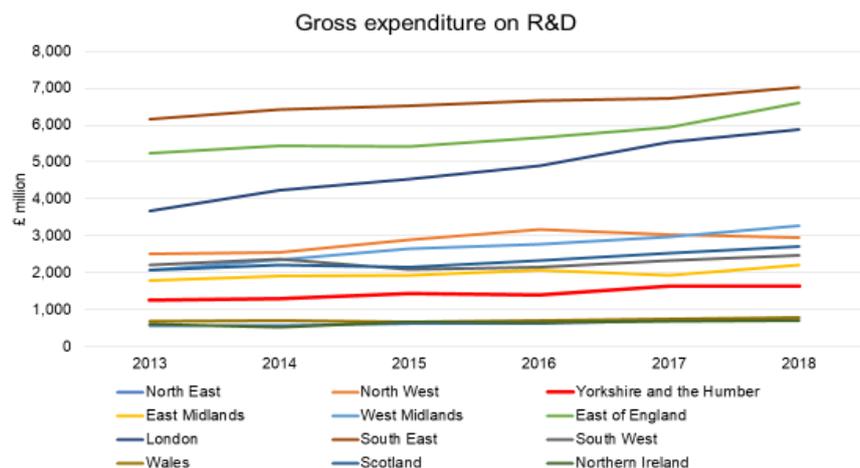
## R&D, investment and university enterprise

# 1. Access to finance



## What are the conditions and factors that (would) make R&D in Yorkshire and the Humber an attractive place for investment?

Of the nine regions in England and three devolved nations, Yorkshire & the Humber has been consistently the ninth highest region in terms of gross expenditure on R&D.



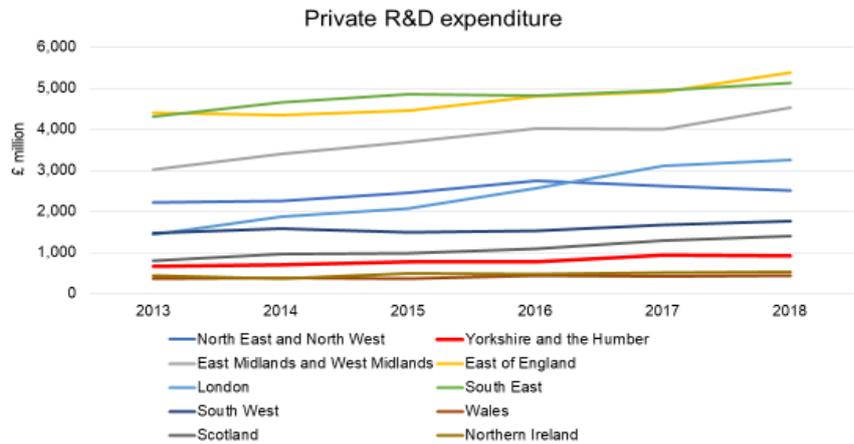
Source: ONS, 2020.

# 1. Access to finance



## What measures can be taken to increase private R&D spending in Yorkshire and the Humber?

Between 2013 and 2018, only Wales, Northern Ireland and the North East saw lower figures than Yorkshire & the Humber when it comes to private R&D expenditure (expenditure by businesses and private non-profit organisations).\*2

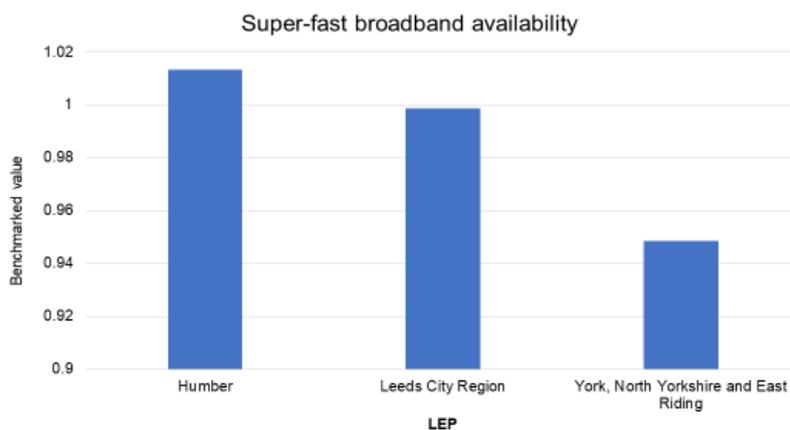


Source: ONS, 2020.

# 1. Access to finance



## To what extent is the digital infrastructure in Yorkshire and the Humber acting as a barrier to business growth and development?



An example of the digital infrastructure in the region is the percentage of premises with super fast broadband availability. According to data from OFCOM, the percentage for the Humber LEP is slightly above the average for all 38 LEPs in England, while the value for the other two LEPs is below the average.

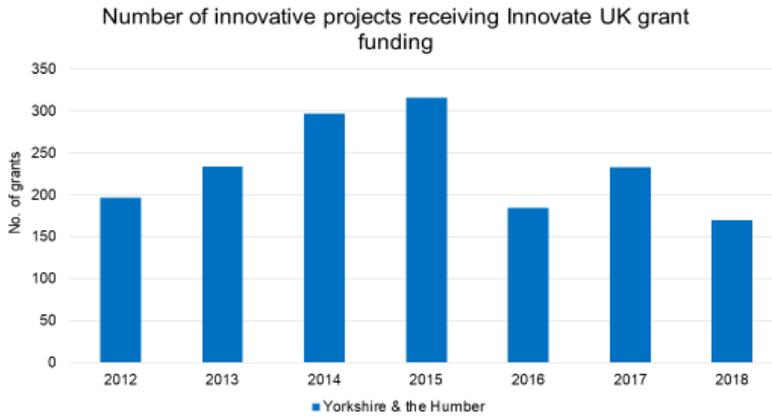
Source: OFCOM, 2020.

# 1. Access to finance



Between 2012 and 2019, Yorkshire and the Humber saw a fall in Innovate UK grants.

What actions should be taken to reverse this trend?



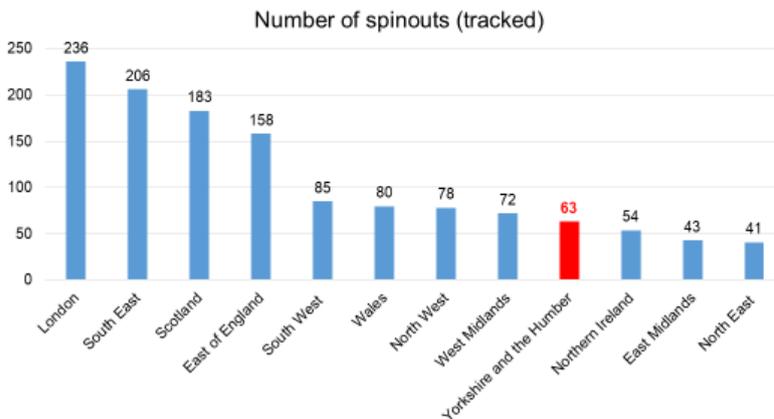
The number of innovative projects in Yorkshire & the Humber granted funding from Innovate UK in 2019 was 190. The figure has fluctuated since 2015, after increasing every year from 2012-2015.

Source: Innovate UK, 2020.

# 2. University spin-outs



Which factors contribute to a healthy ecosystem for university spin-outs and what are the reasons for Yorkshire & the Humber's lower levels of spin-outs?



63 spin-outs have come out of Universities in the Yorkshire and the Humber region.\*1

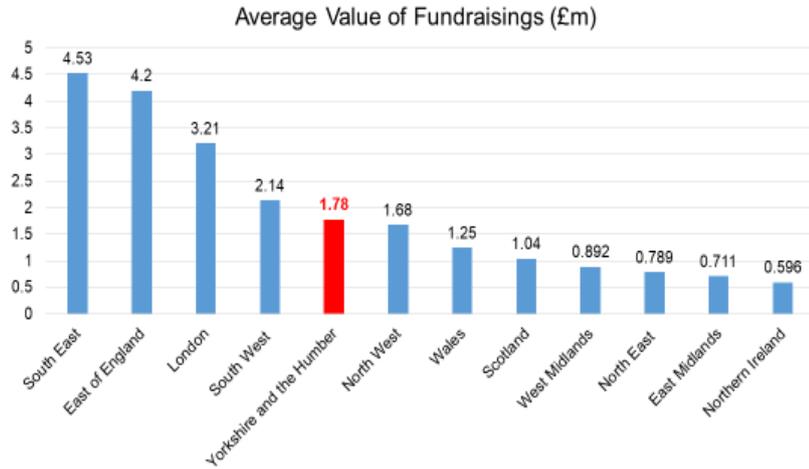
Source: Beauhurst, as of 27.08.2020

## 2. University spin-outs



What are the factors behind Yorkshire & the Humber having a higher average value of fundraisings compared to its neighbouring regions?

Yorkshire and the Humber is performing relatively well compared to its geographical neighbours in the North East (£0.789m) and East Midlands (£0.711m). However, it is to be noted that the average value of fundraisings is of limited use, as the gaps in monetary value from one fundraising to another can be significant.



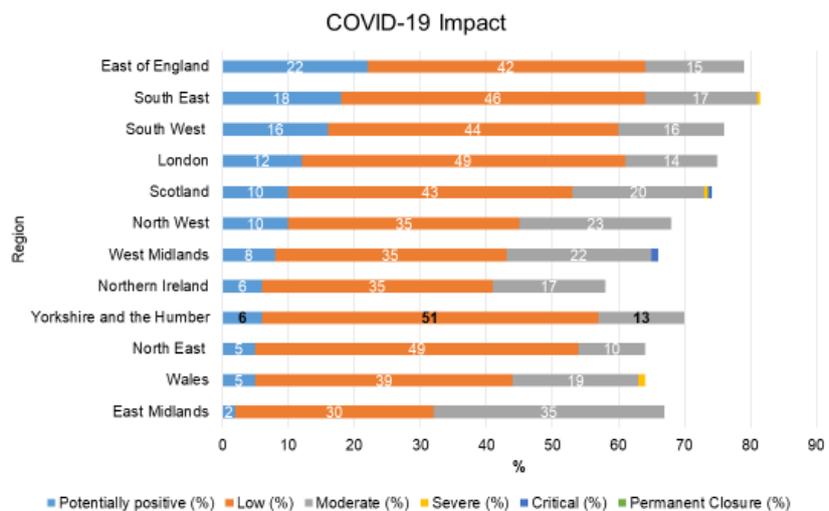
Source: Beauhurst, as of 27.08.2020

## 2. University spin-outs



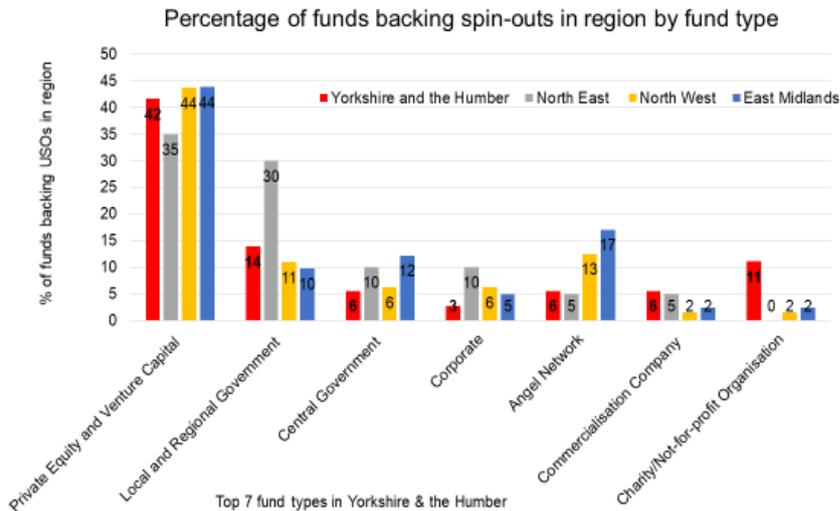
Whilst the impact of COVID on spin-outs in Yorkshire and the Humber has been limited to date, what challenges are we seeing the pandemic and economic contraction posing to business start-ups and scale-ups?

What role is there for universities and businesses to address these challenges?



Source: Beauhurst, as of 27.08.2020

## 2. University spin-outs



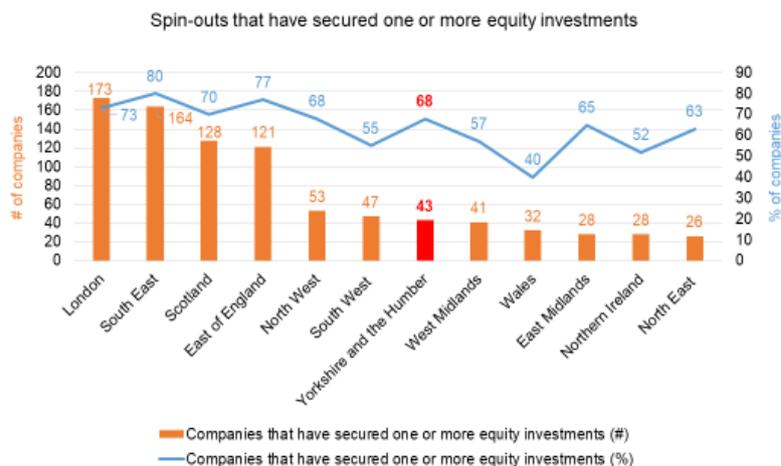
Why have Yorkshire and the Humber spin-outs been relatively successful in attracting charity and not-for-profit investment, compared to its neighbours, and can we build on this?

Source: Beauhurst, as of 27.08.2020

## 2. University spin-outs



### How can Yorkshire and the Humber attract more equity investment into spin-outs?



68% of spin-outs have secured one or more equity investment in Yorkshire and the Humber and the North West. In the North East and East Midlands, fewer spin-outs have secured equity investments (26, or 63% and 28 or 65% of spin-outs in the region respectively).

This is compared to the South East, where 80% of spin-outs in the region have secured one or more equity investments, followed by the East of England with 77%.

Source: Beauhurst, as of 27.08.2020

***What profile does Y&H have at present and how should the region promote itself to investors?***

**Identifying strengths:** It is beneficial to compare and link previous Science and Innovation Audits and Local Industrial Strategies to highlight hotspots and specialisms, and to understand what different data points are telling us about the strengths and weaknesses of business and university start-ups in the region and their access to finance.

Employing a sector focus for the analysis reveals that the majority of university spin outs in the area are mostly in technology and IP, based in pharmaceuticals and chemicals, as well as professional services. Both the lens of the investor (the sophistication of their thinking), as well as the lens of a place, is thereby important: ***“understanding the branding (of Yorkshire as a place) and its strengths and bundling these up to tell a convincing story”***.

**Three themes of sector focus:** In terms of access to finance, it is not only the region’s own or regional industrial strategy’s perspective on its strengths that matter, but those strengths as perceived by investors. The three main themes of sector focus include the region’s sectoral strength as advertised by the region, the investor’s perspective on these sectoral strengths from an investment standpoint, and the importance of universities in identifying with a strong brand that can reach investors. **From national to local:** For example, the case of NHS Digital Therapeutics and embedding a national institute in a local geography by building on existing local strengths. Creating a hub or incubator that connects existing strengths, the research base, universities, and the buyer / consumer will act as a foundation to attract both domestic and international investors, as well as additional R&D activity & skills.

**Specific actors:** The relationships between research-intensive universities and top technology scouting companies does matter. Since the latter are also used by corporations, they can act as a vehicle and a broker in the investor space. However, they are not a silver bullet. What a region will ultimately rely upon is its strengths and brand, rather than a specific actor, such as technology scouting companies, within the ecosystem.

**Public agencies:** While increasing the engagement of universities in the region with Innovate UK is beneficial, it is not just about increasing the volume of grants into the region, but also about strategic engagement – i.e. to understand what role Innovate UK plays in that landscape, what role other parts of UKRI play, and to understand how regional bodies can participate in this. The goal is to work in strategic collaboration with national agencies such as Innovate UK, rather than strive for an increase in public funding only.

**Types of investors:** There is a distinction to be made amongst investors, whether they are financial (who want to see returns) or corporate investors (who bring sector and industry knowledge), the latter of which look to invest into venture funds rather than R&D. ***“There is a shift in behaviour among corporates”***: they are spending less on R&D because it goes through quarterly earnings (profit and loss) and instead are focusing more on venture capital and funds that go through the balance sheet, allowing them to deploy longer term investment. Knowing what an investor is looking for is important to understand in order to attract the right forms of capital. Different investors lend themselves to different parts of an

emerging business' journey. Human and financial capital are also equally important to attracting and embedding investment.

***“There isn't a shortage of capital, it is about access”.***

**Signpost access to finance:** In Yorkshire, any information for businesses about where to access new finance would be helpful. One of the region-specific challenges is that parts of Yorkshire, such as Leeds City Region, have a very high concentration of SMEs, very few large original equipment manufacturers (OEMs) and the type of experience that comes with it that SMEs do not have, especially when it comes to working with universities. Anything that helps scale up the challenges of accessing finance for businesses in Yorkshire would be welcome.

**Enabling access:** Capacity building skills and knowledge about how to engage and work with investors is critical. Clubs and modules for students and broader community about 'blocking and tackling' are important. The Innovate UK-funded mechanism – I-cure – is a tool that universities in Yorkshire can borrow and use, rather than reinventing the wheel and recreating.

Diversity is a big issue. People at different levels require various types of help and support. Anyone from any background could and should be able to be an entrepreneur, and those with or without a degree should be able to do so.

Access to pre-seed and seed capital is vital in accessing later-stage capital provided by public funds and private investors. Without the right seed capital, start-ups and spinouts will not have access to a lot of public and private capital, initiatives, and funds in the first place. Access to finances therefore needs to be enabled at multiple stages. Universities can play a role in providing early-stage funding and other support.

**Better use of established and emerging initiatives:** Programmes like MIT REAP, LITE and CCF are instrumental initiatives, and have the potential to plug gaps. Northern Gritstone – launched by the universities of Leeds, Manchester and Sheffield – will see a new investment vehicle generate pre-accelerator funding and finance for investable projects.<sup>6</sup> Northern Gritstone plans to raise up to £500 million from strategic corporate partners, institutional investors, and qualifying individuals to invest companies across areas such as advanced materials and manufacturing, health and life sciences, artificial intelligence, and data sciences. Elsewhere, the Northern Powerhouse Investment Fund will require local venture capitalists to be based on the ground and for decisions to be made locally. We need to explore what steps can be taken to strengthen the financial services sector in a city such as Leeds that can finance innovation at scale.<sup>7</sup>

**Utilise established networks:** *“How can we better utilise alumni networks?”*, especially international alumni networks, and can investment be leveraged more? Affinity groups in the USA are popular, but the culture is different in the UK. An angel syndicate for university alumni is being developed in the Midlands. Knowing who they are and being able to offer

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<sup>6</sup> <https://northern-gritstone.com/>

<sup>7</sup> Since the roundtable, Leeds has been chosen as the location for the National Infrastructure Bank, a new regional hub outside London for the Bank of England, and the University of Leeds will be a partner in the £10m national green finance research centre that will advise lenders, investors and insurers.

them something is important. Can universities join these up more effectively? Utilise the student talent coming through their courses and into entrepreneurship and with it attract more investors into the region. Moving it from a transactional / beneficiaries model to one of a deep and enduring partnership. Access to capital also means tapping into private and local authority pension funds. What about a Yorkshire Global Innovation Network? A network of high value people.

Moreover, thinking about the international offer of universities, beyond Brexit, universities can be used as regional platforms to internationalise. **Creative and agile capabilities:** We need to embed design thinking and creativity as early as possible; it is also an important capacity to fill gaps and reduce risks. ***“Britain is a creative nation and is internationally recognised for it”***. Creative capabilities ought to be harnessed and leveraged into core capabilities. Coupled with another capability e.g. creative x tech, creative x digital, creative x user experience can make it even more specific and valuable.

How do you establish a reputation amongst the finance community for a particular sector when many sectors are overlapping and integrated? Establishing capabilities that are transferable are more important. Especially when companies need to pivot in the current times, due to Covid.

It is important to develop innovation packages within Yorkshire: supporting infrastructure for students as entrepreneurs (pre-seed and start-up phase), and to help businesses grow and survive. Coordination is needed across the board, and not just for finance.

## **Conclusion**

### ***Key questions:***

- ***For YU “What are the mechanisms / interventions that would allow YU institutions to work together better?”***
- ***For UKRI “How do we develop sophistication in the system to join up the ongoing initiatives and how do we achieve maturation?”***

Enterprise and entrepreneurship are key drivers of innovation and increased productivity. There are significant spatial imbalances between regions in the UK in terms of economic activity, access to finance and investment in R&D.

Yorkshire has a strong brand internationally, and has leading R&D capabilities, which if unlocked further could contribute more to deliver economic recovery post-Covid. The region, its universities and partners, need to identify new routes and mechanisms to encourage more private finance in innovation-driven entrepreneurship. National government can play a role by creating new investment mechanisms, which can also help to ‘de-risk’ markets and leverage private finance.

Building relationships between Yorkshire’s public and private actors matters. Universities are an important part of the solution, deploying research and facilitating innovation through talent and knowledge exchange activities. The approach of UKRI (and in particular Research England and Innovate UK) to place-based R&D, alongside the Office for Students, is important in this regard, not least in helping to create an environment where national

agencies encourage and incentivise greater collaboration between higher education institutions within the regions.

Working collaboratively, and at scale, and in particular through YU, presents a unique opportunity to utilise further the region's higher education complementary assets to help generate new jobs and growth, and help Yorkshire to recover and 'build back better' from Covid.

**Contact**

Dr Peter O'Brien  
Executive Director  
Yorkshire Universities

[p.obrien@yorkshireuniversities.ac.uk](mailto:p.obrien@yorkshireuniversities.ac.uk)

[www.yorkshireuniversities.ac.uk](http://www.yorkshireuniversities.ac.uk)