

Business Accelerator Analysis

YORK 2020



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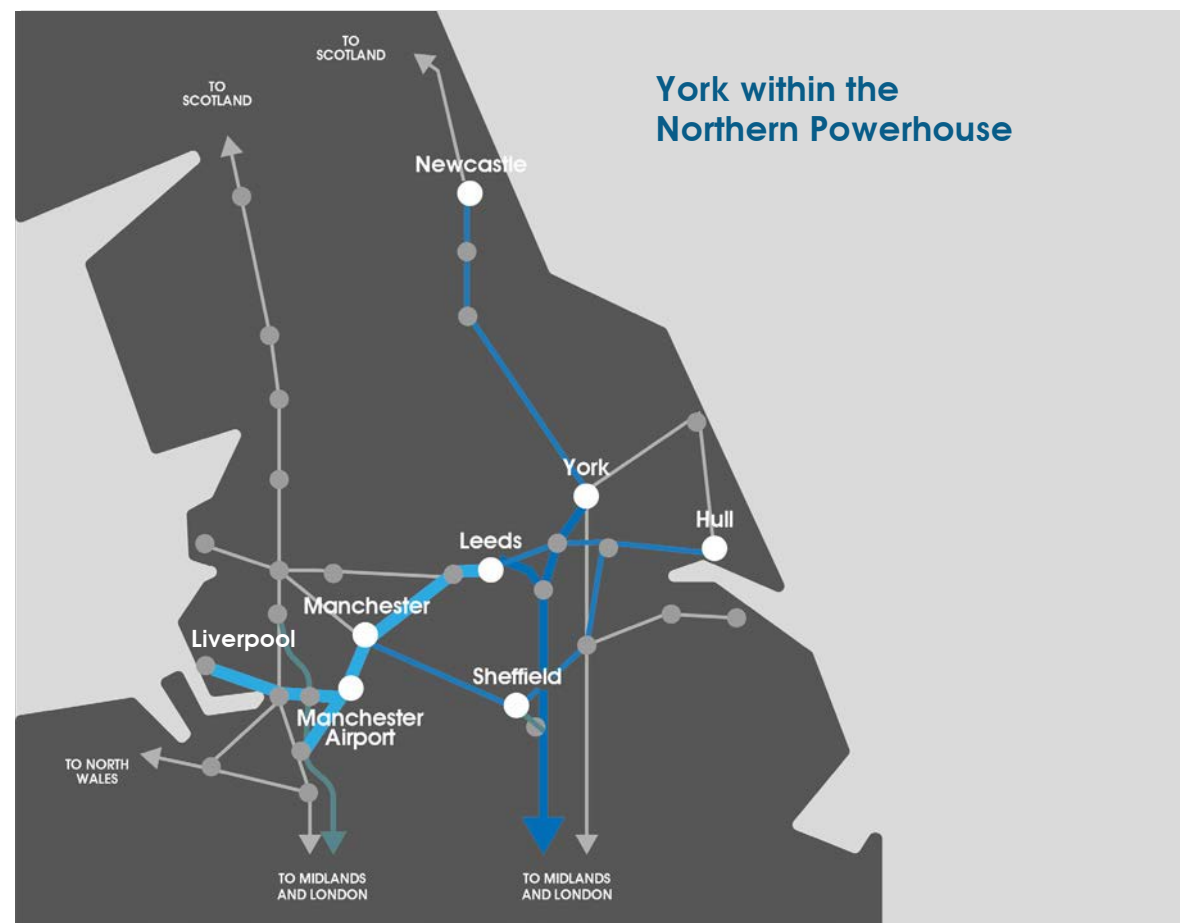
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Report Authors



Stefan Haase
Director Tech
& Innovation
Whitecap Consulting



Chloe Thompson
Junior Consultant
Whitecap Consulting

York Innovation Ecosystem

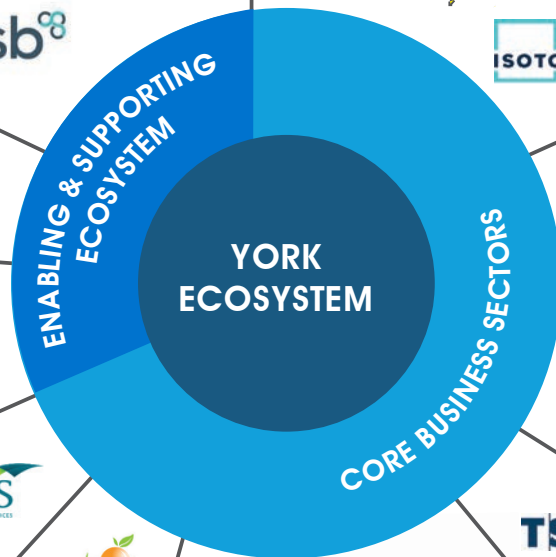
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SOFTWARE & DIGITAL

MEDIA & CREATIVE

TRANSPORT & ENGINEERING

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Forewords

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**Richard Coates, Managing Director,
Whitecap Consulting**

We are pleased to present our analysis of the York innovation ecosystem gained from a series of interviews with key York and regional stakeholders, and from extensive desk research. The project was designed to analyse whether a York Accelerator would be beneficial to York and to understand how to develop a relevant vision and operating model for such an Accelerator. This report outlines a critical but also optimistic assessment of a city with strong potential that has been widely hidden within the region and further afield.

In our role as a regionally focused strategy consultancy, we are exposed to many high growth sectors across the UK and we have been actively involved in analysing innovation ecosystems since we formed the company in 2012. Since that time, we have worked with established corporate organisations, technology providers, startups and scaleups, universities, private equity firms, the public sector and inward investment organisations on a range of innovation and technology related projects.

Over recent months, not least fuelled by the commitment from local and central government to realise the long-term transformative York Central project, several stakeholders have debated the need for a York Accelerator to provide a focal point for innovation in York.

The York Accelerator provides a material economic growth opportunity for the city of York, North Yorkshire, and for the wider Northern Powerhouse. York is a key location in the UK with strong transport links, connecting London with Scotland and with the broader Northern Powerhouse, and the city has an international reputation as an established tourism and hospitality destination. However, the dynamic is quite different to other UK cities in that York

has not yet established a structured innovation ecosystem and narrative to attract and retain entrepreneurs and innovators, tech giants or the investment community.

Our analysis shows that York, even before the Covid-19 pandemic hit, would benefit from broadening its ecosystem in which the digital and knowledge economy can develop and thrive.

York has featured in several reports, surveys and analysis over recent months which include being named best city, greenest city and best place to live in the UK; although analysis indicates that it has struggled to attract and retain innovators and entrepreneurs due to a perceived lack of vision in this area, a supporting infrastructure, community and ecosystem.

We would like to take this opportunity to thank all stakeholders in York and across the region who have helped us analyse and produce this report; which hopefully will contribute to future growth and innovation in the city.

University of York



**Charlie Jeffery, Vice-Chancellor
and President, University of York**

**Kiran Trehan, Pro-Vice-Chancellor for
Partnership and Engagement, University of York**

The UK Government has set out clearly its desire to 'level up' the UK's economy by seeking opportunities to invest in the North. It has also been clear that research and innovation is a route to economic success, that we need to harness new ideas and technologies to make the UK a R&D superpower.

Those ambitions are all the more pressing now that the economy has suffered its largest contraction in a hundred years due to the impact of the Covid-19 pandemic. We need to recover quickly and recover well. The city of York is well set to play a major role in supporting those ambitions.

In the University of York, it hosts a research powerhouse, driving on innovation in new communications technologies, robotics and autonomous systems, and 'digital creativity', where digital technology, the creative arts and cultural heritage intersect.

The University of York is also at the heart of a powerful regional partnership on the bioeconomy that will play a key role in delivering York and North Yorkshire Enterprise Partnership's ambition to be the UK's first carbon-negative region by supporting innovation in AgriTech, biorenewables and the circular economy.

The city plays host also to York St John University, York College and Askham Bryan College. The two universities and two colleges have joined together to lead work on a city skills strategy designed to tailor skills supply to local and regional economic strengths - opening up opportunity, combatting disadvantage, retaining our talent, and driving up productivity and competitiveness.

The challenge now is to build a flourishing ecosystem that integrates our capabilities in innovation and skills with a changing economy. York and North Yorkshire hosts major companies working at the forefront of new digital technologies, the creative industries and the bioeconomy: Network Rail, Screen Yorkshire, Nestle, FERA Science, Drax, Yorkshire Water among many others.

It also has a dynamic small business sector increasingly focused on these growth areas and the extraordinary potential of the York Central business development site right next to the railway station to host and develop new companies and industries.

What we need to mesh this ecosystem together is the capacity to nurture more early stage ideas into businesses of potential, to showcase their innovation, to scale them up through venture funding and other inward investment, and to embed them in the supply chains of major companies across the region.

This is where the York Accelerator will be so important, offering facilities, advice and mentorship, drawing on the supply of innovation and skills produced by our universities and colleges, building connections and markets within and beyond the region, raising awareness and attracting funding. Let's move, and move quickly, to put it in place.

City of York Council



Cllr Andrew Waller
Executive Member for Economy & Strategic Planning
City of York Council

York is world-renowned for its historic importance and built heritage assets. The city's exceptional cultural offer and beautiful heritage attracts 8.4m visitors a year and York can be regularly found amongst UK best places to live lists.

What perhaps is less known about our city is its world-leading innovation strengths, both past and present. Once the centre for UK railway expansion during the 19th century and the birthplace of pioneering social reformers, today York is at the forefront of innovation in rail, agri-tech, bioscience, and immersive screen industries. Our two universities are central to the city's strong knowledge-based economy, and York College is leading a consortium of further education institutions across Yorkshire and the Humber to provide high-level technical skills through the Institute of Technology. These assets will be crucial in enhancing local employment opportunities and driving the success of our region.

While York already benefits from a broad range of economic assets, as a city there is more we can do to nurture our innovation ecosystem and support start-ups and early stage business to grow and prosper. Entrepreneurship needs to be an opportunity that is open to all, not limited to those with the financial means and/or a university degree. It is therefore pleasing to see such a thorough stakeholder analysis of York's innovation ecosystem, and the steps required to unlock the city's latent economic potential. A Business Accelerator is only one part of the jigsaw; there are other challenges relating to business space, the translation of cutting-edge academic research into technologies and the retention of talent that need to be addressed if York is to become a key driver of growth across the North.

What is clear as we plot our way through a Covid-19 impacted world is that start-ups will play a key role in kick starting our economic recovery, creating jobs and providing employment whilst at the same time spurring innovation and enhancing local supply chains. Ensuring that York remains a great place to start, develop and grow a business is paramount to the city's future economic success, and I look forward to working with city leaders and the business community to achieve this vision for our city.



Lendal Bridge over the River Ouse, York

York Accelerator Research 2020

York Accelerator Research 2020

York is one of the UK's most desirable and historically important cities. The city has been a meeting point for ideas and creativity for at least two millennia, showcased through its Roman, Viking and Medieval heritage. In recognition of this, in 2014 York was awarded the status of a worldwide UNESCO Creative City of Media Arts. Today the city is a globally recognised tourism centre, offering its visitors a unique and exciting user experience and its citizens an attractive and well-connected place to live and work.

The vibrant York economy continually seeks to enhance its heritage by embracing opportunities for innovation and development in exciting and vibrant sectors where the city can make a distinctive contribution. Hence, this initiative assesses the appetite and opportunity for a business accelerator to deliver real job growth, attract new inward investment and to support the expansion of York's innovation and technology ecosystem.

Key Challenges

- York would benefit from strengthening its reputation as an exciting and vibrant city for entrepreneurs and tech startups.
- There is a tangible desire in the city to create sufficient numbers of high-value and high-skilled jobs aligned to key growth sectors and national and international trends.
- Businesses in York have recognised the need to benefit from local innovation capabilities and collaboration opportunities with startups and the universities.
- York needs to improve its attraction for investors and drive high-value inward investments similar to other successful northern cities.

Key Drivers

- Create new high-value jobs in key growth sectors aligned to local strengths and regional, national and international trends.
- Attract, grow and retain tech talent coming out of the universities.
- Help startups to scale up quickly and achieve their growth potential.
- Ensure the city is not missing out on 'grass roots' economic growth as new tech SMEs locate elsewhere.
- Enable both York universities to become even more attractive by establishing a route for students to rapidly convert their ideas and innovation into sustainable businesses.
- Provide investors with easy access to qualified, York based companies seeking investment.
- Facilitate a coherent co-ordinating 'hub' for startup innovation services.
- The Covid-19 crisis has highlighted the need for R&D driven innovation and solutions as well as for collaboration between corporations and innovators, R&D specialists and public sector bodies. The proposed York Accelerator would be aligned to the premise of cross sector collaboration and as such can be a vital contributor of leading-edge technologies and innovation in 'normal' times, as well in periods of crisis.

York Ecosystem Stakeholder Engagement

Key York stakeholders have identified that the development of a business accelerator could promote York as an exciting and vibrant entrepreneurial city in the North and could enable and support tech startups to succeed in the city and attract additional high-value inward investment.

Whitecap Consulting has undertaken a detailed stakeholder engagement to:

- Validate the York Accelerator proposition and obtain insights and feedback as to the need for and value of such accelerator for key employers and stakeholders in the city.
- Ideate, conceptualise, shape and support the York Accelerator initiative.
- Develop requirements, proposition, key themes, relevant growth opportunities and areas of interest for the accelerator.
- Understand the key innovation and growth trends the York Accelerator could be aligned to both regionally and nationally.
- Articulate, qualify and quantify the joint capabilities of the ecosystem.

Over the course of recent months, Whitecap has conducted an analysis of the innovation activity in the city, which has included interviews, an online survey, desk research, and insights gathered across various meetings in and around York.

Whitecap engaged with ca. 100 stakeholders to be able to put forward a considered, well informed and insightful report which can serve as a building block in the evolution of the innovation ecosystem in York. This has included interviewing 50 stakeholders from 40 different York stakeholder organisations, (the vast majority of which were conducted via video conferencing) and contacting / researching ca. 20 successful accelerators and innovation hubs in the UK and internationally.

Nearly 90% of the stakeholders contacted took part in the consultation process, which, as it took part during the Covid-19 pandemic and organisations had to deal with its impact, was very remarkable and showed the willingness and desire for organisations to be engaged and consulted when it comes to driving innovation and a tech startup culture in York.

Whitecap is grateful to everyone who has contributed, and in particular, to the sponsors and partners of this report who have made this work possible as it was not centrally funded or commissioned.



Executive summary

Based on the constructive and insightful feedback from key stakeholders across the York economy, this report has analysed the merits of a potential York Accelerator which would be closely aligned to York's key strengths and key innovation activities in the Northern Powerhouse and the UK. While there is a healthy debate between stakeholders over certain aspects of York's innovation ecosystem, there is an overriding passion and commitment by all stakeholders to drive innovation in the city. The key findings and recommendations of the report are as follows:

	Key Findings	Key Recommendations
Ecosystem	<ul style="list-style-type: none"> Many stakeholders perceive the need for York's economy to be more focused on tech and innovation rather than on tourism or hospitality. 	<ul style="list-style-type: none"> York needs to build on the recent York Narrative Project and articulate its aspirations with an ambitious vision that strengthens the innovation ecosystem.
Sector focus	<ul style="list-style-type: none"> York has multiple key sector strengths with regards to tech and innovation, most notably RailTech, digital/creative and BioTech. 	<ul style="list-style-type: none"> The desired York Accelerator needs to be aligned to York's key sectors, build on local success stories and collaborate with regional innovation hubs.
York Central	<ul style="list-style-type: none"> York Central is a key growth opportunity with the provision of high-quality commercial space and the proposed York Accelerator at its heart. 	<ul style="list-style-type: none"> York Central should be the long-term home for the York Accelerator and provide collaborative spaces in order to create an attractive ecosystem.
Start-ups / scaleups	<ul style="list-style-type: none"> York has considerable potential for development of a strong startup community and facilitating incubation / acceleration of entrepreneurs. 	<ul style="list-style-type: none"> York needs to map out entrepreneurial journeys and provide the relevant infrastructure from ideation to incubation and acceleration.
Talent	<ul style="list-style-type: none"> The availability of talent and skills in York is regarded as sufficient or good, however, graduate retention rates can be considerably improved. 	<ul style="list-style-type: none"> There needs to be a focus on retaining graduates and ensuring they have attractive local career opportunities in exciting growth sectors.
Tech collaboration	<ul style="list-style-type: none"> The relationship between startups and established businesses warrants increased focus and requires strong collaboration opportunities. 	<ul style="list-style-type: none"> Key employers need to further enable and improve collaboration in the city. Use success stories such as Anaplan as the city's poster child.
Funding	<ul style="list-style-type: none"> There needs to be a significant focus on raising awareness and knowledge levels regarding private investors and available public sector funding. 	<ul style="list-style-type: none"> York needs to establish a supporting infrastructure that offers expert advice to make startups investment ready and enable them to access funding.
Physical spaces/hubs	<ul style="list-style-type: none"> There is a significant and unmet demand for innovation hubs, such as incubators or accelerators. 	<ul style="list-style-type: none"> Create more suitable physical spaces and catalysts for innovation and collaboration, including incubators, accelerators and innovation hubs.
Role of the universities	<ul style="list-style-type: none"> The level of interaction of York universities with both startups and established businesses has considerable potential for development. 	<ul style="list-style-type: none"> The universities should be encouraged to be more collaborative and establish a dialogue and tech transfer with young startups, SMEs and corporates.
Regional innovation	<ul style="list-style-type: none"> There are key innovation activities in the Yorkshire and Humber region and wider Northern Powerhouse that York needs to be aligned with. 	<ul style="list-style-type: none"> York needs to build stronger and lasting partnerships with surrounding innovation regions to drive local investment.
Covid-19 recovery	<ul style="list-style-type: none"> An accelerator programme is perceived to be impactful for startups in the current climate and very timely to accelerate the productivity shift in York. 	<ul style="list-style-type: none"> Create an accelerator to provide startups with the support they need and to maximise opportunities for disruptive technologies.

Next Steps

- Promote the findings of this report and raise awareness among the wider York business community and its key stakeholders and thought leaders.
- Carry out further stakeholder engagement, meetings and workshops to gauge the level of support from key stakeholders for the York Accelerator in regard to funding, resourcing and a suitable accelerator business model.
- Provide clear recommendations, which can then be used as a basis for a future funding and operating model.
- Carry out an analysis as to the validity of the potential operating models such as neutral and independently run; in partnership with an existing accelerator; as a corporate accelerator.

Business Accelerator - definition

Nesta, a leading UK innovation foundation, defines accelerators as follows:

“Accelerators provide intensive and time-limited business support for cohorts of startups, aiming to get them ready for investment more quickly than traditional incubators.”

According to the British Business Bank, business accelerators support early-stage and startup businesses through investment, short-term mentoring and training.

A business accelerator’s long-term goals are to help the businesses it supports to grow and become profitable quickly and to make a return on its investment.

Business accelerators all offer slightly different support and training opportunities. However, they tend to follow a similar format and structure.

Generally, business accelerator programmes last between three and six months. Some look to support participants for up to 12 months.

Business accelerators provide a variety of services, including:

- **Support from mentors**, other programme participants, the accelerator’s wider network.
- **Opportunity to develop startup skills** by working alongside businesses at a similar stage of development and under the guidance of experienced business professionals.
- **Exposure to potential customers** and investors.
- **Intensive learning over a short period** — accelerators cram a lot of learning into a relatively short space of time, giving access to ideas and opportunities that could otherwise take years to acquire.

In the UK, business accelerators range from privately run schemes to government-funded programmes to corporate-backed schemes. Most accelerators, particularly privately-backed ones, accept all types of businesses - regardless of sector or region. However, some specialise in and focus on specific areas. There are business accelerators whose programmes only accept tech companies, while corporate-backed schemes may be more interested in businesses that benefit their broader corporate needs. Likewise, government-backed schemes typically focus on businesses that will help achieve their wider policy aims.

Typically, three different accelerator operating models can be observed:

	Workspace	Workspace/ Mentoring/ Coaching	Workspace/ Mentoring/ Coaching / Funding
Workspace offered free of charge (office, lab, research space).	YES	YES	YES
Collaborative working environment provided to meet other startups and share ideas to promote continuous learning.	YES	YES	YES
Mentoring with selected mentors at least once a week to have frequent exposure to a variety of skills offered by the mentors at different stages of the process.	NO	YES	YES
Coaching will be provided through workshops and sessions which are specifically focused on each step in the process: clarifying vision of the startup, product fit analysis, target market analysis and pitch coaching.	NO	YES	YES
Seed fund available to allow for startups to pay their initial costs to enable startups to get into a position where they are attractive to investors.	NO	NO	YES

Business Accelerator - benefits articulation

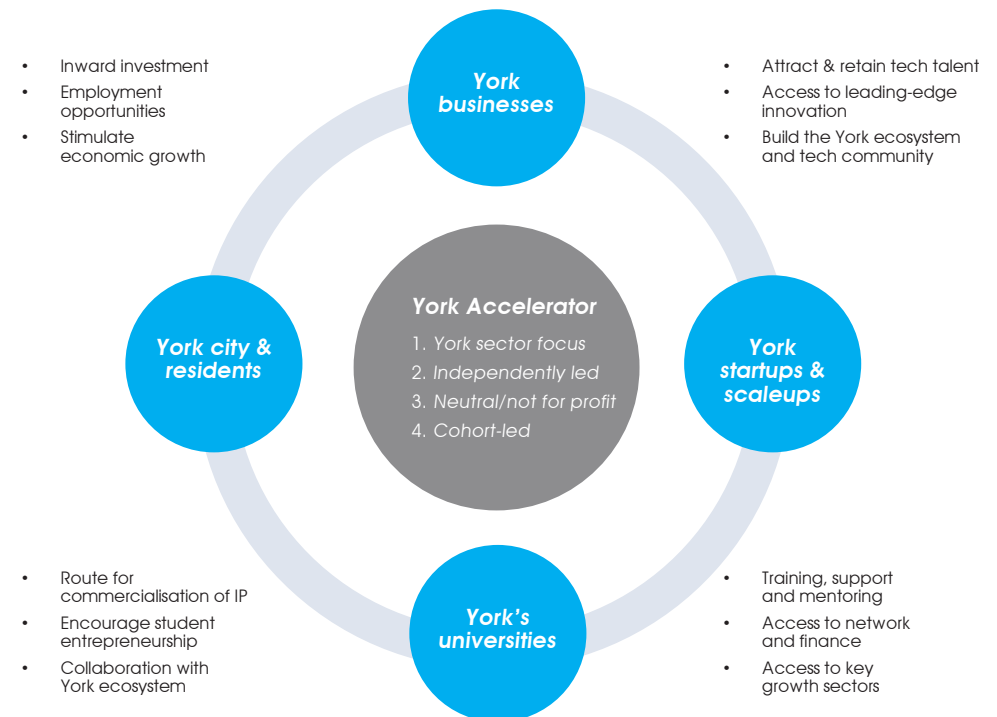
According to MassChallenge, a globally leading accelerator, there has been a surge in corporate investment in startup accelerators. Corporates recognise the vast potential of working with startups, which has led to a boom in corporate accelerators. These initiatives spur innovation, helping corporations innovate and evolve to stay competitive in a rapidly changing market. With 2020's uncertain economy, businesses need to focus on innovation more than ever. Studies showing larger companies that invested in innovation during the 2001 and 2008 economic recessions gained competitive advantages in the longer run.

Benefits for businesses engaging with accelerators and their startups

1. Build an agile reputation - Agility is paramount in modern business. If businesses are not ready to react to rapid changes in technology, market competition, or customer needs, they will struggle to survive long-term.
2. With an accelerator, corporations can work with agile startups at different growth stages, learning from them to adapt their own strategies and stay ahead of the curve. By embracing new innovative practices and technologies, they can establish a reputation as a game-changer, ultimately securing their future.
3. Gain insight into emerging markets – Corporates, in return for providing their powerful resources and access to markets, are exposed to next-generation technologies and methodologies. Furthermore, they gain access and valuable insight into emerging market trends.
4. Access a vetted pool of investment opportunities - While most businesses understand innovation is essential for future growth, many corporate executives have difficulty aligning their innovation strategy with their current practices. By investing in startups corporates open their doors to a wider talent pool while also giving them first-hand access to a vetted pool of emerging startup companies that are looking for investment.
5. Create jobs and develop talent - New companies are the primary source of new jobs. Therefore, it's not surprising to see how corporate accelerator programs have flourished. Supporting startup companies doesn't just help corporations establish a stronger investment portfolio, but it also instigates massive growth in job creation and talent development. The positive impact of this can benefit the businesses, the market, and the wider society.

Benefits of a York Accelerator

In addition to the benefits for York's businesses and startups outlined above they are also significant benefits for the city as a whole, its citizens and its universities:



Operational framework considerations for the York Accelerator

Leadership - One of the most important aspects of the operational framework for the proposed York Accelerator is regarding the people that will run it, which need to be industry experts who know how to run an accelerator, have previous experience and can provide consistent and committed support to startups on the programme. Innovators attract other innovators; thus, the future leadership team needs to consist of innovation thought leaders.

The York Accelerator needs to have a clear vision regarding what it wants to achieve, and how it can benefit from being aligned to York's research and innovation strengths such as the bioeconomy, digital creative or RailTech. This will also enable the development of strong links with key York businesses who will be able to contribute to the accelerator in terms of problems, challenges and capabilities.

Physical space - The space will be a key aspect of the operational framework as getting the appropriate work and social space right will be crucial for the accelerator's success. York may struggle with the availability of physical space, however York Central could be a key part of overcoming this obstacle in the long-term. Until York Central is available - and as a key prerequisite for a successful accelerator- there is a need to find other suitable city centre locations.

Start-up selection process / criteria - The selection process will play a key role in the potential success of the accelerator as the programme needs to attract high-potential candidates who are committed to the programme. The accelerator will have to establish strong qualifying criteria and the management team needs to be bold and challenging and only select businesses that meet the selection criteria and avoid letting businesses in as long as they can pay the rent. Startups need to have decent growth trajectories and fit York's strengths, thus enabling them to stay and grow in York. Once the accelerator's business model and its sector and technology focus have been decided the selection criteria need to be tailored accordingly.

Mentorship - Mentorship is key and mentors need to be experienced in their sector and working with startups, and make the necessary time available to support entrepreneurs. Startups should be given the option for mentorship whenever they require it as well as have mandatory sessions to ensure any business growth issues are picked up and resolved quickly.

IP protection - A further key aspect of the operational framework is the IP protection which will be hugely important to startups, especially if the universities or angel investors are involved and have stakes in the businesses. The issue surrounding IP is complicated but crucial and is often mistakenly overlooked.

Collaboration - Collaboration with York universities, businesses and innovation hubs across the city, regionally, nationally as well as internationally is key to strengthen York's recognition in the wider innovation ecosystem and key growth sectors.

Other considerations

- Support startups with structuring the business, finance, marketing, business valuation, technology.
- Ensure there is a roadmap for startups from York incubators and the universities to the proposed York Accelerator.
- Focus on a lean operating model to align with the needs of companies and how they operate in the next few years.
- Create seamless, user-friendly and startup focused commercial agreements and ensure it's not a property management contract.
- Get the infrastructure basics right so people can just 'plug in'. e.g. access to ultrafast networks, event space, social space etc.
- Enable the building of peer to peer relationship. It's not about growth coaches and accountants but to have access to synergy businesses. Thus, startups can learn from and collaborate with other startups on common problems or cross-sector challenges.
- Understand the nature of change that has been brought about by Covid-19 that can be addressed by startup innovation and acceleration.

Quotes

"It needs dedicated resources and experienced individuals with accelerator experience to run and oversee it".

Alex Green, Head of Business and Network Innovation and Inward Investment, Make It York

"There is a tendency to insist on an equity stake, which does not work for accelerators".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"The great thing about York is that, because ours is a relatively small city, we can easily ensure that initiatives such as creative industries incubators and technology accelerators complement and draw on one another's strengths, building our cross-sector capabilities".

Chris Bailey, Clerk, York Guild of Media Arts

"An accelerator needs to be specific not generic".

Jem Henderson, Entrepreneur Engagement Manager – Yorkshire, Tech Nation

"When you are applying for an accelerator the criteria should be very clear. If there are certain businesses you don't want, or you have certain inclusivity criteria or sector it should be clear from the start".

Peter White, Technical Advisor, Freelancer

"IP protection is fundamental, and this is over complicated sometimes. Data protection and cybersecurity is becoming increasingly important. We should provide a nice and simple process with very little paperwork".

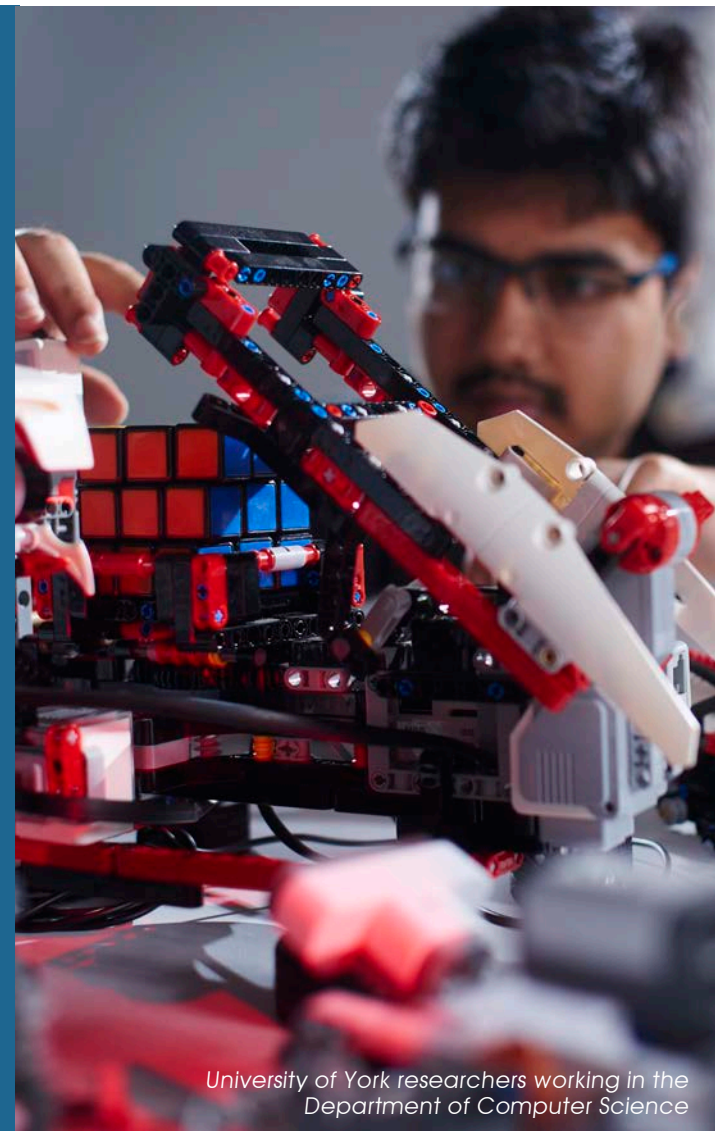
Tim Cross, Managing Partner, Langleys

"Providing a structure that leads from startup to successful business and a roadmap for each business on how to get there".

Tim Williams, Head of Strategic Partnerships & Alliances, Piksel Group

"Whereas incubators are nice and comfortable accelerators need to be tough to accelerate businesses. It needs to be a genuine accelerator and needs to be run by individuals and a group who have done this before".

Tom Bridges, Leeds Office Leader and Director Cities Advisory, Arup



University of York researchers working in the Department of Computer Science

Key findings & recommendations

	Key findings	Recommendations	Stakeholders
Ecosystem	<ul style="list-style-type: none"> Many stakeholders perceive the need for York's economy to be more focused on tech and innovation rather than on tourism or hospitality. While there are several innovation activities at grassroots level in York, most larger businesses have not invested significant time and resources into York's innovation ecosystem. There is a noticeable gap between York and the wider Northern Powerhouse innovation ecosystem. 	<ul style="list-style-type: none"> York needs to articulate its aspirations with a vision that is ambitious and build a strong, tech friendly community and wider ecosystem, involving all constituent parts of the city. The proposed York Accelerator needs to be at the centre of this ecosystem and in order to make it a lasting success, it needs a coherent and joined-up strategic plan, supported by a strong narrative, ambition and use case articulation. This requires central leadership, building on the findings from the York Narrative project, and creating a vision with the council as a key enabler. 	<ul style="list-style-type: none"> Businesses Local Government LEPs Higher Education
Sector focus	<ul style="list-style-type: none"> York has multiple key sector strengths with regards to tech and innovation, most notably: Rail / RailTech Digital creative sector Sustainability tech and bioeconomy Robotics and artificial intelligence Insurance / InsurTech 	<ul style="list-style-type: none"> The desired York Accelerator needs to be aligned to York's key sectors and build on success stories such as XR Stories or York Digital Labs to benefit from a regional focus on digital creativity across film, TV, advertising, games and media arts. Build on and align to the bioeconomy incl. the Biorenewables Development Centre, the York BioTech Campus and FERA. Collaborate with regional RailTech innovation hubs such as in Huddersfield, Leeds or Sheffield. 	<ul style="list-style-type: none"> Businesses Local Government LEPs Higher Education
York Central	<ul style="list-style-type: none"> The York Central Project is a key growth opportunity for York with the provision a high-quality commercial quarter at the heart of York. York Central would be a promising location for the proposed York Accelerator and is expected to significantly strengthen York's inward investment appeal. 	<ul style="list-style-type: none"> York Central should be the long-term home for the proposed York Accelerator and needs to provide collaborative spaces where companies can come together as a community and create an attractive ecosystem. It requires flexible and affordable commercial leases for startups, as experienced in other innovation cities, which is a key prerequisite to attract successful startups in the first place. 	<ul style="list-style-type: none"> Local Government LEPs York Central Partnership
Start-ups/ scaleups	<ul style="list-style-type: none"> York has considerable potential for development of a strong startup community and facilitating incubation and acceleration of entrepreneurs. The city heavily relies on the University of York and York Science Park to create most innovation opportunities. The city does not yet host a large investor community, and the universities could create significantly more successful innovation stories which would enable York to gain a more tech focused reputation and attract sufficient numbers of startups/scale-ups. 	<ul style="list-style-type: none"> York needs to create and implement a framework for early stage entrepreneurs that allows them to develop their ideas and commercialise them so that they are seeing the benefits of staying in York. York needs to map out entrepreneurial journeys and provide the relevant infrastructure from ideation to incubation, acceleration and follow-on support space for growth. 	<ul style="list-style-type: none"> Higher Education Local Government LEPs

	Key findings	Recommendations	Stakeholders
Talent	<ul style="list-style-type: none"> The availability of talent and skills in York is rated by most stakeholders as either sufficient or good however the graduate retention rate needs to be improved. There is limited career progression for graduates in York with a heavy reliance on the hospitality and tourism sector which has more low-skilled jobs. Young and highly skilled people are attracted to cities with lower living cost and more exciting career options. York lacks some of the major skills in sectors such as digital, software development or cloud engineering. 	<ul style="list-style-type: none"> There needs to be a focus on retaining graduates and ensuring they have the same career opportunities as they would proportionally have in cities like Leeds or London. York universities need to engage in a constructive dialogue with local employers regarding skills retention and creating knowledge economy jobs. They need to ensure they are aware of the specific skill set required by the York economy and its employers, offering ongoing placements and job opportunities. The city needs to bring together universities and businesses and align them on making York a technology hub. 	<ul style="list-style-type: none"> Higher Education Further Education Local Government Businesses
Relationship between startups/ scaleups and corporates	<ul style="list-style-type: none"> The relationship between startups and established businesses warrants increased focus. There is a lack of collaboration -other than those initiated by the universities- and sharing of ideas which has created a fragmented environment. Larger corporations in Leeds or Manchester have stronger links with local startups than those in York, offering support and collaboration, thus enabling startups to stay in their cities. 	<ul style="list-style-type: none"> Key employers and stakeholders need to further enable and improve collaboration in the city. Use success stories such as Gamesparks or Anaplan, a tech unicorn which was founded in York and whose clients are Google and Amazon, as the city's poster children. Accelerate the inward investment strategy aligned to the knowledge economy. The York Accelerator -through its location and vision- needs to be the long-term, centre-piece and focal point for impactful collaboration in the city. 	<ul style="list-style-type: none"> Businesses Start-ups Local Government
Funding	<ul style="list-style-type: none"> There needs to be a significant focus on raising awareness and knowledge levels regarding private investor and public sector funding. There are sufficient funding options available however startups in York often struggle to present themselves as investable. The University of York is a good route to public sector funding as they know how to access it. Compared to Leeds and Manchester, York receives proportionally less investment and only has a small number of angel investors active in the city. 	<ul style="list-style-type: none"> York needs to establish a supporting infrastructure centred on the envisaged York Accelerator that: <ul style="list-style-type: none"> Offers expert support to make startups investment- ready and to be able to better access public sector funding. Attracts investors. Showcases current and past startup success stories. Organises regular pitching events. Involves the local ecosystem. 	<ul style="list-style-type: none"> Higher Education LEP Businesses Financial Services
Physical spaces/ hubs	<ul style="list-style-type: none"> There is a significant and unmet demand for innovation hubs, such as incubators or accelerators, with the exception of hubs operated by the universities or York Science Park. There are some potential spaces that could be redeveloped and reutilised in the city centre. Current innovation spaces mainly offer shared space rather than meet the other requirements of a tech accelerator such as mentorship or networking. York is big enough but small enough to make the York Accelerator a success and drive innovation in the city. 	<ul style="list-style-type: none"> York needs to create the York Accelerator to offer suitable physical spaces and create a catalyst, that could act as a facilitator between the corporate sector and startups to enable dialogue and collaboration. This needs to be supported by incubators, innovation hubs and co-working spaces. While York Central is a strategic long-term consideration for the York Accelerator offering both shared workspace and social space, the ecosystem needs to provide other suitable facilities in the city centre in the short to medium-term. 	<ul style="list-style-type: none"> Businesses LEP Local Government

	Key findings	Recommendations	Stakeholders
Role of the universities	<ul style="list-style-type: none"> The level of interaction with York universities has considerable potential for development. In certain sectors the collaboration with the universities is good, e.g. the bioeconomy sector, but lacking in others. There are cases where businesses have developed strong relationships with the University of York or York St John University, e.g. its degree apprenticeship partnerships with NHS, AVIVA, FERA and Hiscox. 	<ul style="list-style-type: none"> The universities need to be more proactive, collaborative and establish a dialogue and tech transfer and incentivise its academics to work with startup and established businesses. York universities need to focus on spinouts and the commercialisation of their IP and innovation. Collaboration between businesses, City of York Council and the universities need to be part of a bigger strategy of providing interesting innovation opportunities which would attract more tech startups to the city. 	<ul style="list-style-type: none"> Higher Education Businesses Local Gov
Link to regional and national innovation activity	<ul style="list-style-type: none"> Channel 4's move to Leeds is a key influence on York with regards to the digital creative sector and innovation. AgriTech and BioTech in the wider Yorkshire and Humber region offers suitable collaboration opportunities. There is a real focus on renewable and offshore energy and the clean growth / low carbon economy in the North East and Humber region, which could have a positive impact on York's bioeconomy sector. The Institute for High Speed Rail in Leeds, the Centre for Rail Innovation in Huddersfield, the Siemens Rail Innovation Centre in Goole and AMRC in Sheffield offer key collaboration engagement opportunities for York's rail and RailTech sectors. HealthTech and MedTech innovation in Leeds for the NHS and healthcare could be extended to York. 	<ul style="list-style-type: none"> York needs to build strong and lasting partnerships with regional innovation activities as they can offer positive impacts on its ecosystem. York should apply for specific HM Government funding aligned to its key strengths and growth sectors for levelling-up the local economy, which will attract inward investment. Gain the support of public sector bodies such as the LEPs in the wider Yorkshire region on maximising the city's innovation and research commercialisation capabilities is likely to put York in a stronger position for attracting startups to the city and successfully delivering a tech accelerator. York should be partnering and collaborating with other experienced organisations, innovation hubs, accelerators and programmes on a regional, national and international basis. 	<ul style="list-style-type: none"> LEPs Local Gov Higher Education
Covid-19 recovery alignment	<ul style="list-style-type: none"> An accelerator programme is perceived to be impactful giving startups the support they need in the current climate, in which York is likely to experience a large amount of job losses, especially in the hospitality or tourism sectors. The accelerator would enable startups to solve new problems that have been introduced by the pandemic such as solutions focusing on health and wellbeing. 	<ul style="list-style-type: none"> Create an accelerator to provide startups with the support they need as well as to maximise opportunities for disruptive technologies. The proposed York Accelerator could further build on existing activities to make the city's economy more diverse which will have positive effects on its long-term prosperity. 	<ul style="list-style-type: none"> Businesses Local Gov LEPs Higher Education

Areas requiring most attention over next 2-3 years

Ecosystem

Ecosystem - Creating a strong and successful ecosystem will help drive growth of tech and innovation in York. It will require communication between startups, scaleups and large organisations as well as the universities in order to facilitate peer to peer support for everyone in the tech community. This will allow for the sharing of knowledge and experiences which is likely to lead to more innovation and inward investment. An integrated ecosystem is more attractive to startups and investors which would position York strongly within the Northern Powerhouse.



Civic leadership

Civic leadership - Ensuring City of York Council shares the vision of the York Accelerator is also likely to contribute to the growth of tech and innovation as it has access to funding via the UK government and LEPs as well as the ability to influence the York Central Project. The council also has the most influence on the building of low-cost and affordable housing which would attract more startups, entrepreneurs to the city. Placing an innovation hub in the city centre would attract people from other cities who are willing to commute as the transport links in and out of York are efficient from most major UK cities.



Strategic vision

Strategic vision - In order to make the York Accelerator a lasting success, it needs a coherent and joined-up strategic plan, supported by a strong narrative, ambition and use case articulation. This requires central leadership, creating a vision with the council as a facilitator and enabler.

Building the ecosystem is not just a branding exercise but links the city to the world, showcasing its capabilities. It would require the capability to interpret the startup culture and provide a shared environment to act more innovatively, e.g. safe sandboxes, and to build a bridge between the startup and corporate world that allows large businesses in York to be involved and to embrace tech innovation.



Physical innovation hubs

Physical innovation hubs - Tech hubs, incubators and accelerators for both startups and scaleups will help to drive the growth of tech and innovation in York. It is important that startups see an opportunity for growth and see successful scaleups in the city in order to encourage them to stay.



Biggest challenges for growth of tech and innovation in York

Start-up and scaleup community - York does not have a strong startup and scaleup community. It is common in innovation focused cities to see startup incubators and accelerators backed by financial services and as York does not have the presence of big banks, this may be one of the reasons why the startup community has suffered.

There is also a lack of knowledge and awareness regarding funding availability in the city as well as limited experience on how to run an accelerator and what it needs to ensure it is successful.

Corporate collaboration - The relationship between startups and established businesses in York is weak and could be improved. Currently, there is a lack of communication and sharing of ideas which has created a fragmented environment where there are limited collaborations.

The collaborations that do occur come mostly from the universities, however some businesses in York have experienced initial exciting engagements with the universities which were then not followed through. This has resulted in businesses losing enthusiasm for projects with the universities as they do not see them as being proactive.

Innovation hubs - Collaboration offices are in increasing demand, however York is currently providing more academic centred spaces whereas Leeds or Manchester have seen the emergence of a large variety of co-working spaces, innovation hubs and commercial accelerators such as Barclays Eagle Labs.

University collaboration - Overall, the level of interaction between universities and businesses in York could be improved as there is poor communication and a lack of long-term, strategic relationships.



CGI of the finished Guildhall project. The site will be available for occupancy in December 2021, providing well-connected, flexible workspace in York city centre.

Detailed findings and recommendations

Current strengths of York: tech and innovation

Key sectors

York has multiple key sectors which could be considered as strengths with regards to tech and innovation:

1. **Rail / RailTech** - the rail sector has historical links to the city and York is a central player in the rail industry attracting technology professionals to work for or collaborate with some of the UK's key railway players, such as Network Rail. More recently the RailTech sector has seen significant innovation, such as the drive for Digital Rail which is a significant and industry-acknowledged issue. York could aim to position itself as the UK innovation hub for Digital Rail, linking to other rail innovation hubs across the North.
2. **Digital creative** – this sector has substantial and unfilled potential, and represents the fastest growing sector of York's economy with over 250 creative media arts companies employing 3,000 people. York could benefit from a regional focus on digital creativity as demonstrated by the company XR Stories that offers a programme of funding, research and collaboration across film, TV, advertising, games and media arts in the Yorkshire and Humber region. York is also home to Digital Creativity Labs, which is a world centre of excellence for impact driven research in games and interactive media. The sector is a driving force of York's social innovation and is testament to the city's inclusivity and diversity and its activities, ambitions and success stories led to York being awarded the status of a UNESCO Creative City of Media Arts in 2014.
3. **Bioeconomy** – This sector provides a good example of the city's strengths with regards to tech and innovation and York has obtained an impressive reputation for sustainability tech and bio sciences. Key success stories include the Biorenewables Development Centre, the York BioTech Campus (including FERA), BioVale -whose focus is to strengthen Yorkshire and the Humber's circular bioeconomy through its support for bio-based innovation and business- and the University of York's Green Chemistry Centre as well as multiple other science innovation centres.
4. **Robotics / AI** – this sector is considered to be one of York's tech and innovation strengths driven by the University of York which is currently leading and funding collaborative research projects across the globe to develop methods for the assurance and regulation of robotics and autonomous systems (RAS). Furthermore, there are key strengths in insurance and InsurTech fuelled by key employers such as Aviva, Hiscox etc.

York as a location

York has many location advantages that also provide strengths for the city with regards to tech and innovation. For example, York has an extremely high standard and quality of living which is attractive for people looking to relocate. The city has excellent transport links, especially to cities with major tech and innovation ecosystems such as Leeds, Manchester, Newcastle, Edinburgh and London.

Due to the heritage of York, the city and its brand is also attractive to international visitors, which could be taken advantage of to attract international businesses and investors.

Talent / Skills

York has a highly qualified workforce with 50% of its working age population having a Level 4+ qualification. A further strength of York with regards to tech and innovation is the city's two universities - University of York and York St John University - and its further education colleges such as York College and the Institute of Technology and Askham Bryan College.

The proximity to Leeds also increases the access to high quality talent as graduates from universities in York and Leeds are available to companies in the city. However, one major downfall of York -similar to other Northern cities- is that its retention rates are low which could be attributed to the high cost of living or the lack of career opportunities available for young people. Although York has the foundations to be a promising tech startup hub, the low retention rate of skilled graduates could present a major issue for the city.

Key Challenges

York's key stakeholders have identified several key challenges that could prevent York from creating a successful tech startup accelerator and would need to be addressed:

1. **Infrastructure** - There are concerns with the city's supporting infrastructure such as physical hubs, promotion, tech infrastructure and access to investors. It could be beneficial for York to engage with the current MIT REAP (MIT Regional Entrepreneurship Acceleration Program), that the Leeds City Region is part of. MIT REAP provides opportunities for communities around the world to engage with MIT in an evidence-based, practical approach to strengthen innovation-driven entrepreneurial ecosystems and York could seek alignment and unique positioning within the programme, which attracts national and global attention.

2. **Physical spaces** - There is a significant and unmet demand for innovation hubs, incubators or accelerators. There have been multiple projects to provide innovation hubs and to create a strong ecosystem which now warrant further support and investment. The Guildhall project will be one of the key innovation hub assets in York. Other examples are York St John University's tech incubator and the University of York's Phase One incubator, which have started to address an unmet demand of startups in the region for free space and support. These offerings now need to be expanded and embedded in the wider entrepreneurial activity and startup path that York needs to articulate.
3. **Tech community** - One area that York could improve upon in order to ensure new tech startups are attracted to the city is the tech ecosystem and community. Despite having some success stories such as Anaplan or GameSparks, these businesses are in the minority and unlike Manchester and Leeds, the city does not have a visible tech community. Rather, it is hidden, in pockets with a small number of companies that are well known and respected. The University of York, York Science Park and the Guild of Media Arts are good examples of York's potential for a strong tech ecosystem and community, but the city needs to focus on improving this in order to attract new tech companies and talent.
4. **Collaboration** - There also is little collaboration between the city's universities and local businesses with a low number of spinouts and collaborative research which could be significantly improved. There needs to be a re-engagement and alignment between the corporate sector and the city's startup and scaleup businesses
5. **York Central** - The York Central project needs to develop a long-term strategy that is aligned with York's strengths, create physical spaces to drive innovation in York and to attract national and international investment.

Quotes - What are York's strengths?

"We have a real opportunity to look at complementary strengths in R&D in York and Leeds to create a really compelling regional offer - for instance data analytics, cyber security and safety assurance of autonomous systems".

Joan Concannon, Director of External Relations, University of York

"York Central - we want to see City of York Council and Make It York going around the country and internationally to lease part of the site for innovation".

Andrew Digwood / Laurence Beardmore, President / Vice President, York Chamber of Commerce

"Universities and the bio-economy. They have a reasonable ecosystem for some co-working activities and it's growing which is important. There are significant opportunities to develop a regional USP in the circular-bio-economy. We have both the expertise and the assets to achieve a global recognition in this area".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"In terms of innovative ideas, we have seen very few York based startups coming forward. Most of our customers come from the South and London".

Anthony Main, Managing Director, The Distance

"York has pockets of innovation, often confined to single companies or small clusters in York Science Park. At an individual company level, it has some outstanding success stories such as Anaplan or GameSparks, but this never feels like it's driven by a wider ecosystem, just a few lucky breaks".

Brannan Coady / Bethan Vincent, CEO / Marketing Director, Netsells

"We have really good tech entrepreneurship in a range of spaces, in all things digital, connection to heritage, creativity and also, in the biotech space. But it's fragmented".

Charlie Jeffery, Vice -Chancellor and President, University of York

"It does benefit from a skilled workforce, graduate workforce from both York and Leeds".

Chris Yates, CEO, Abingdon Health

"The University of York is a strong card in the hand of York, not just for its academic strengths, but forging partnerships".

Edward Humphrey, Director of Digital & Ventures, British Film Institute

"Looking from the rail sector there are number of small startup companies, that are professional, innovative and high value in terms of pay and output. There seems to be an established hub of small rail startups linking together in York who are looking at business innovation and technology".

Graham Meiklejohn, Regional Development Manager, Transpennine Express

"Interesting to see York is talking about an accelerator when MIT REAP is doing something similar in Leeds".

Helen Oldham, Founding Board Director, NorthInvest

"There is a certain strength in media and creative tech, but we can make so much more of this by collaborating and thinking innovatively. We need to better utilise the UNESCO award of Creative City status as there is a lot of unfulfilled potential in this area".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"There is a need for re-engagement between the corporate sector and universities. The strengths of the universities need to be retained in terms of skills and talents. Often people stay in universities towns if the right jobs are there".

Jeremy Oliver, Partner, Garbutt & Elliott

"There is a lot of unlocked potential. York has a lot of international attraction and there is an appeal to York, especially from the US. Anything that has heritage is attractive internationally, that York should make more of".

Nick Cowlen, CEO, Hubsoft

"Availability of good spaces is terrible and the Innovation Park is too small. Spaces are turned into housing not commercial space. Without a space for people to come into and work and create a community you will struggle to build it".

Phil Doye / Scott Cattaneo, Owner / Services Director, Software Box Limited (Boxxe)

How the York Accelerator could help with York's Covid-19 recovery and give startups the help they need in the current climate

70%

of respondents rated the availability of talent and skills in York as either sufficient or good.

In the wake of the Covid-19 pandemic, mass unemployment is inevitable, and corporations are facing decisions that could make many of their staff redundant. Every single action in response to pandemic recovery is time sensitive, thus York would benefit from investing in venture growth and reskilling at scale now, to be able to create a higher number of next-generation jobs.

York is already experiencing significant job losses, specifically in the hospitality and tourism sector. Many people who are now unemployed will be considering starting up their own businesses. These startups may also be looking for ways to solve the new problems that have been introduced by the pandemic such as solutions that focus on consumer confidence and health which the proposed York Accelerator could facilitate.

A startup ecosystem is of vital importance in times after a crisis as people will be prepared to take risks and therefore, more failures will occur. There needs to be an acceptance of failure along with the tools to try again so that startups are encouraged to persevere and grow from experience. The York Accelerator, as part of the startup ecosystem, will also lead to higher paid jobs and higher levels of productivity. Post Covid-19, there is also likely to be more of a focus on community and supporting one another which is crucial for startups as it is much harder to achieve success on your own.

From an investment perspective, it is a good time to further increase the investment in high growth sectors, to accelerate the productivity shift and increase the number of high-skilled jobs. This will also ensure that the city's economy continues its ambition to drive a

diverse economy rather than being reliant on one sector, which will have positive effects on its long-term prosperity. Increasing the agility of the city will allow York, viewed through an innovation lens, to catch up to other successful Northern cities such as Leeds, Sheffield, Newcastle and Manchester.

The York Accelerator will also help to attract more young entrepreneurs to the city. In addition, this will help towards the issue of the skills drain as more young people may be encouraged to stay in York once they graduate rather than move to Leeds or London. If there are more opportunities for graduates and more affordable accommodation, it is likely that they will want to stay in the city, especially post Covid-19 as many people will be choosing to stay local.

The pandemic has also led to more people working from home with many companies taking advantage of this and people have adapted to this new way of life. This could provide opportunities both for York's highly skilled workforce and for the proposed York Accelerator, which could conduct parts of the programme online, reducing the cost of physical space and allowing startups from anywhere in the UK or internationally to become involved.

Quotes

"We have a real opportunity to look at complementary strengths in R&D in York and Leeds to create a really compelling regional offer - for instance data analytics, cyber security and safety assurance of autonomous systems".

Joan Concannon, Director of External Relations, University of York

"There has been a consistent theme of innovation throughout Covid-19. We have the talent but need to retain it by building and accelerating startup businesses".

Graham Meiklejohn, Regional Development Manager, Transpennine Express

"Focus on activities, solutions, gaps that will help businesses overcome the challenges arisen out of the pandemic, such as consumer confidence and health is key".

Marc Bichtemann, Managing Director, First Bus York

"York will be suffering heavily post Covid-19 due to tourism. Best time to breed startup and innovation is during a crisis, like after the 2008 financial crisis".

Phil Doye / Scott Cattaneo, Owner / Services Director, Software Box Limited (Boxxe)

"It's going to be a difficult period. Now more than ever is the time for more finance and resources to be made available to create startups, incl. grant support, levy-funded skills, cheap premises. Anything that could be provided would be well received".

Richard Latham, HR Director, Persimmon Homes

"I'm sure it would, but it requires a strategy and the right people to come together".

Sally Joynson, CEO, Screen Yorkshire

"It's a great time to do this. The message to look at options outside of London is being looked at by every advisory at the moment on behalf of their clients. York has some powerful stories and examples of companies who were ahead of the game looking North".

Tony Corby, Sector Manager, Creative and Digital Industries, WYCA

"One of the things we are expecting to see is new startups and accelerators and incubators are helpful in this process. To create 5,000 jobs in growth sectors we need to build the businesses they can work in".

Simon Brereton, Head of Economic Development, City of York Council

"The market focus and funding changes. A good recession and crisis will bring out the best in entrepreneurs".

Tim Cross, Managing Partner, Langleys



University of York researchers working in the Department of Computer Science

Key growth opportunities

York Central

The York Central Project is a key growth opportunity and could be a promising location for a tech accelerator and could help to put York on the innovation cities map. A similar development can be seen at Kings Cross or in Middlesbrough where land next to the train station has been redeveloped into a new innovation hub, catering for entrepreneurs and startups.

However, it is important that the York Central Project creates a collaborative space where small and large companies can come together as a community in order to create an attractive ecosystem. Stakeholders also raised the need to ensure that the space is not favoured towards hotel chains and restaurants.

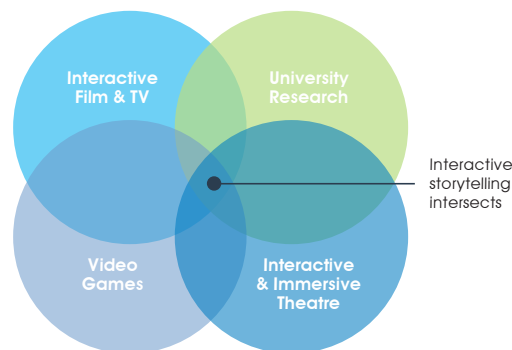
Digital creative sector

A further key growth opportunity is the digital creative sector and the potential it has with regards to position York as a leader in VR, gaming, immersive tech or interactive storytelling. In York, there are several things running in parallel which, if combined strategically, could propel York into the position of being recognised as a centre for interactive storytelling, particularly with regard to video games. These include:

- An existing, vibrant video games development scene. The global video games industry is currently buoyant and profitable and, unlike film in particular, would not require substantial funding.
- Multiple high-profile bids won by the University of York to research Interactive Storytelling - XR stories, IGGI 2 as well as Weaver (e-sports), and the Screen Industries Growth Network.
- The ambition of the city to realise the potential of its UNESCO accreditation.

In Leeds, Channel 4 is also interested in tapping into the regional appeal of York as they are looking to build relationships with higher education providers and the commercial sector across Yorkshire. York's UNESCO Creative City of Media Arts status further enhanced both the opportunity for the city and its (inter)national appeal.

Furthermore, York has a unique set of assets concerning its creative capability for digital heritage which the University of York is already capitalising on with their Digital Heritage MSc course and the Centre for Digital Heritage which brings together researchers from the several international universities



to undertake interdisciplinary research in digital heritage. With the development of HeritageTech and virtual tourism, York has the potential to show other cities how tech can allow people to appreciate a city's heritage.

BioTech and the green economy

AgriTech is a key strength for York with assets such as the York BioTech Campus and its anchor tenant FERA who are driving innovative products and techniques to identify emerging threats earlier across agri-food science. Adjacent to this sector is another key York strength in BioTech, which has seen significant investment by the University of York, including the Biorenewables Development Centre, which is an open-access R&D centre working at the interface between academia and industry to develop and commercialise bio-based products and processes. York can expand on these strengths by creating stronger links between the universities, the commercial sector and the wider North Yorkshire region.

Currently, the integrated economy is lacking due to the majority of York's assets being in the rural areas and countryside rather than the city. As part of the local industrial strategy, the local enterprise partnership (LEP) have created a low carbon strategy which could present an opportunity for collaboration in York and the wider region, especially in Hull and the Humber region and is likely to obtain government support.

RailTech / TransportTech

York is a central player in the rail industry attracting technology professionals to work for or collaborate with some of the UK's key railway companies, such as Network Rail. There is an opportunity

for York in the RailTech sector with the potential to increase efficiency by using algorithms to optimise the decision-making process. Digital Rail is a significant and industry-acknowledged issue, with a view to eliminate traditional rail signalling altogether. York as the UK rail centre could be the digital rail project innovation hub, linking to other rail innovation hubs across the North.

Other sectors

There could be an opportunity in the MedTech and HealthTech sectors as York is home to multiple diagnostic companies. Post Covid-19, health data, InsurTech, data science and AI are also predicted to grow in importance and York could be involved at the forefront of these new developments.

The role of higher education

Higher education plays an important part in York taking advantage of the potential growth opportunities, e.g. by business spinouts from university led research and by ensuring that there is alignment between graduate skills and business needs. There are opportunities for local businesses to get involved with the universities and build on the current expertise in BioTech and other emerging technologies, but these are not communicated well and therefore missed. Focusing on improving the relationship between the universities and commercial sector in York could make a significant impact on exploiting growth opportunities and attracting tech startups.

The need for a community and ecosystem

A key challenge that York needs to continue to address is to support a tech friendly community and wider ecosystem, forming key partnerships across the city. The perception of many stakeholders is that York -while it has been building a diverse economy for some time- needs to ensure that the tourism and hospitality sector, while important, will not prevent the city to develop a reputation for being a tech and innovation hub.

Despite the city having a highly skilled workforce, a high proportion of its talent gets lost to Leeds or Manchester. However, rather than copying these cities, York may benefit more from identifying what the wider region is lacking and then capitalising on it. For example, developing a niche in a specific sector may allow York to attract a unique skill set that is less likely to be lost to surrounding cities.

Quotes

"Digital innovation and bioeconomy, autonomous systems and robotics all have growth potential. Cybersecurity is another growth opportunity, which we are not as well known for yet, but there are a lot of providers in the city and region".

Amanda Selveratnam, Head of Enterprise Services, University of York

"For York bringing forward York Central and making a market for firms to locate there could have great catalytic affect. The challenge would be to draw expertise of the university to the location as well".

Tom Bridges, Leeds Office Leader and Director Cities Advisory, Arup

"Capturing the business spin-outs from the university led research such as autonomy or XR stories".

Andrew Digwood / Laurence Beardmore, President / Vice President, York Chamber of Commerce

"Our local industrial strategy and devolution work all support our ambition for York and North Yorkshire to become a carbon negative region by 2040".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"RailTech, absolutely, and decision science, big algorithms and optimising. Decisions could be made incredibly fast by decision science tools giving specialist planners a substantial boost in time and productivity".

Antony Chilton-Murphy, Head of IT, Signature Rail

"The UK is a world leader in creating video games - an industry bigger than film, and considerably more profitable. York has the opportunity to become a global centre of excellence for interactive narrative - a skill that drives the value in this rapidly growing industry".

Charles Cecil, Co-Founder, Revolution Software

"If you look more broadly you have many corporates in the space around the food chain and bio renewables. They are not located in the city but in the countryside, so we need to integrate the city and the rural economy better".

Charlie Jeffery, Vice -Chancellor and President, University of York

"There is huge potential for our creative and digital sectors, and for using York as a place of culture and heritage from where innovation can be developed. York Central is a huge opportunity to develop an equivalent to recent developments around Kings Cross and establishing a high-profile tech accelerator would help put York on the map".

Damian Murphy, University Research Champion for Creativity, Department of Electronic Engineering, University of York

"York is a sort of place that needs to consider what other cities are not doing. Don't just copy Leeds and Manchester. If you develop a niche, you can be really successful. You can't create a cluster but can only enhance what's already there. There is a lot of things that look good on the surface in York, but the business plans need developing further and to be robustly challenged to progress schemes effectively".

Ian Gray, Project Director, York Central Partnership

"Channel 4 want to tap into that regional talent base of young people and entrepreneurs' acceleration. Having that on the doorstep, we want to take advantage of that".

Kevin Blacoe, Head of Partnerships, Channel 4

"York Central, the university, FERA and the bioeconomy in Dunnington, HeritageTech and virtual tourism as well as closeness to other places, such as Leeds".

Simon Brereton, Head of Economic Development, City of York Council

"Bio-Science is one of the key opportunities. We are unique in that position. IT/ Fintech is common across many cities, whereas the Bio-Science it's only really prevalent in York that feeds into the wider Yorkshire agricultural setting".

Stirling Kimkeran, Owner, Class One Systems

"Trying to shift from an economy of consumption is a challenge for York, but it's the right conversation for York to be having".

Tom Bridges, Leeds Office Leader and Director Cities Advisory, Arup

"From both the university's and the city of York's perspective the York Accelerator presents an import moment in time opportunity to enable the city to recover in the short-term and grow its innovation ecosystem in the long term.

This requires collective and impactful collaboration to ensure a cohesive accelerator can make a real difference and from a University of York point of view we are looking to establish an Enterprise Institute which would be closely linked to the accelerator by aligning the city's established businesses and the skill and know-how from the university."

Kiran Trehan, Pro-Vice-Chancellor for Partnership and Engagement, University of York



PEASHOLME
GREEN

Long
stay



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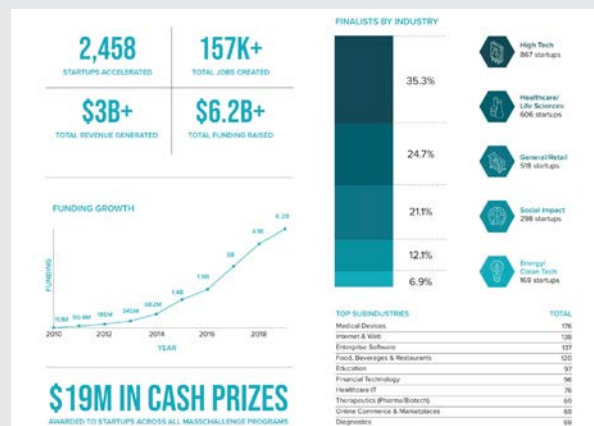


The Hiscox Building, Peasholme Green, York

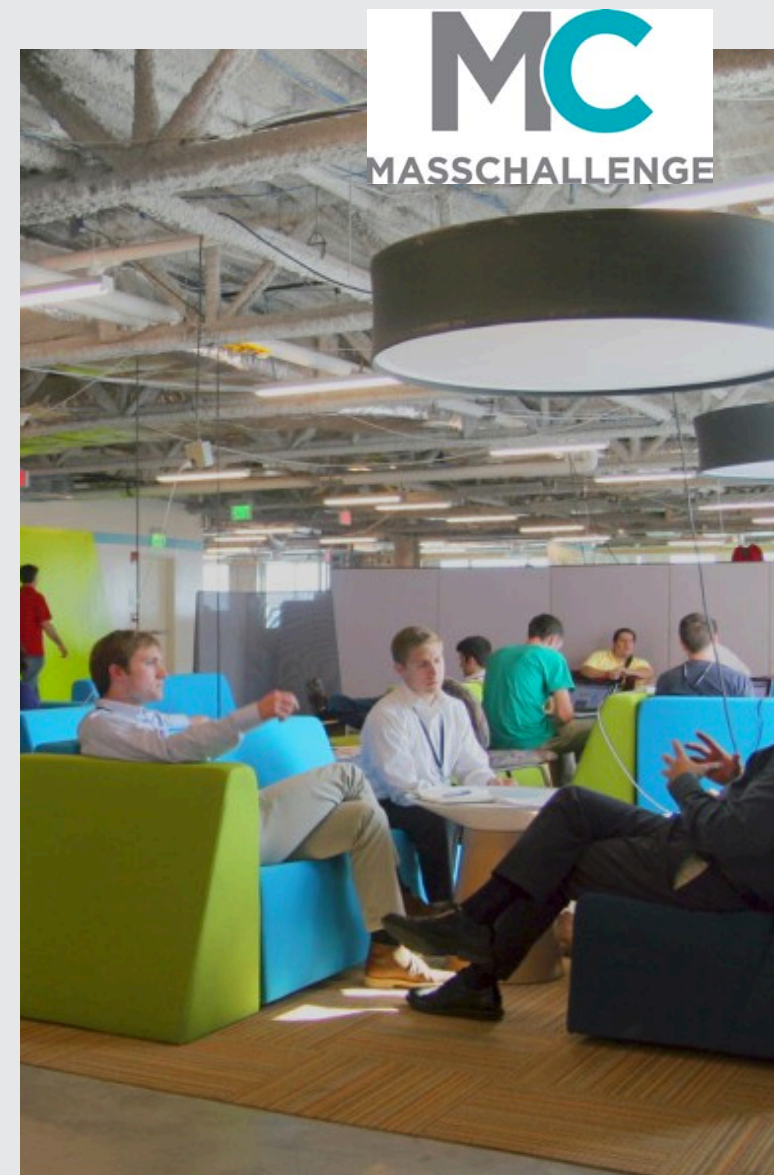
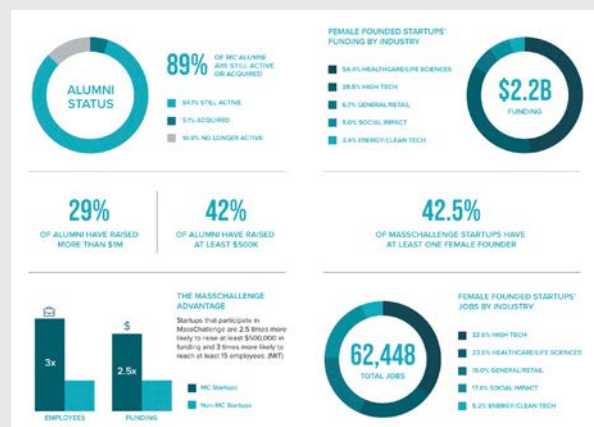
CASE STUDY: MassChallenge (Boston, USA)

Headquartered in the US with locations in Boston, Rhode Island and Texas as well as in Israel, Mexico and Switzerland, MassChallenge strengthens the global innovation ecosystem by accelerating high-potential startups across all industries, from anywhere in the world with no equity taken. Mass Challenge is one of the most successful global accelerators that has helped entrepreneurs from more than 54 countries solve some of the world's most significant problems.

In 2009, MassChallenge came from a startup founded in Boston during the height of the global economic recession by two idealistic entrepreneurs and has since expanded to a network of nine accelerators in seven locations around the globe. In 2012, MassChallenge alumni raised \$100M in cumulative funding and in 2015, they raised \$1B. In 2016, MassChallenge accelerated its 1,000th startup and by 2017, its alumni have created a total of 100,000 jobs across the world. MassChallenge and its 2,458 startups continue to have a transformative impact on the world.



MassChallenge is funded through corporates and philanthropic activity and over the past decade, it has played a vital role in strengthening local and global innovation economies.



The most important factors to drive growth and innovation in York

Building the ecosystem

Creating a strong and successful ecosystem will also help drive growth of tech and innovation in York. It will require communication between startups, scaleups and large organisations as well as the universities in order to facilitate peer to peer support for everyone in the community. This will allow for the sharing of knowledge and experiences which is likely to lead to more innovation and inward investment. An integrated ecosystem is more attractive to startups and investors which would position York strongly within the Northern Powerhouse.

Civic leadership support

Ensuring City of York Council shares the vision is also likely to contribute to the growth of tech and innovation as they have more access to public funding as well as the ability to influence the York Central Project. They also have the most influence on building low-cost and affordable housing which could attract more startups to the city. Placing an innovation hub in the city centre would attract people from other cities who are willing to commute as the transport links in and out of York are efficient from most major UK cities.

Strategic planning and leadership

In order to make the York Accelerator a lasting success, it needs a coherent and joined-up strategic plan, supported by a strong narrative, ambition and use case articulation. This requires central leadership, creating a vision where the council is there to deliver but not to own the vision. Building the ecosystem is not just a branding exercise but links the city to the world, showcasing its capabilities.

It would require the capability to interpret the startup culture and to provide a shared environment to act more innovatively, e.g. safe sandboxes, and to build a bridge between the startup and corporate world that allows large businesses in York to be involved and to embrace tech innovation.

There are lessons to be learnt from initiatives that are already in place such as Innovate UK ICURE which gives people £20 000 to travel the world and engage with their supply chain in order to open people up to thinking that is not solely academic. In the US, there is more of a fail-fast and learn-fast culture which York could benefit from in order to drive the growth of tech and innovation in the city. The entrepreneurial culture is often missing as is visible aspiration and motivation.

Innovation hubs

Tech hubs and accelerators for both startups and scaleups may also help to drive the growth of tech and innovation in York. It is important that startups see an opportunity for growth and see successful scaleups in the city in order to encourage them to come and stay.

Measuring economic impact

A key learning can be taken from Edinburgh as they are measuring the impact on the economy in terms of what the university attracts to the city through looking at the graduates it produces, how many stay nearby, what investments they bring and what businesses they start. By looking at these factors in York and focusing on how to improve them, it is likely that tech and innovation will grow as a result.

Other key factors

- Provide appropriate physical space, social space, event space.
- Establish York Accelerator cohort through a strict selection criteria and processes.
- Enable close mentorship and encouragement of the ideation process.
- Provide access to commercial and public sector funding, such as Innovate UK funding.

45%

of respondents state that the most important factor to help drive growth of technology and innovation activity is attracting and retaining talent & skills.

Quotes

"We need to find the type of knowledge-based business to come to York aligned with our R&D strengths. We need to scale up the level of ambition of what the art of the possible is".

Joan Concannon, Director of External Relations, University of York

"Without a strong community, incubators and accelerators are going to have a harder time. From a funding perspective, an integrated ecosystem is more attractive."

Brannan Coady / Bethan Vincent, CEO / Marketing Director, Netsells

"Any project to create a global centre of excellence for interactive narrative would need the support of City of York Council, the University of York and other key stakeholders - but the vision would have to be defined and driven by the creative industry companies themselves".

Charles Cecil, Co-Founder, Revolution Software

"From science point of view, it's the ability to closely collaborate with industry, academia and healthcare. Ongoing dialogue and collaboration will create value".

Chris Yates, CEO, Abingdon Health

"It needs space, a community, a team, a connectivity of opportunities - strong links between higher education institutions, building an ecosystem and connecting the city to the world. It's not just a branding exercise - there is breadth and depth beneath what we can offer".

Damian Murphy, University Research Champion for Creativity, Department of Electronic Engineering, University of York

"We would require the capability to interpret the startup culture and to give a shared environment to act more innovatively, e.g. safe sandboxes. A bridge between startups and the corporate world that allows businesses such as Aviva to be involved and to embrace tech innovation".

Kevin Moss, Chief Operating Officer for UK Life and Pensions, Aviva

"You need people with experience, who have done this before".

Phil Doye / Scott Cattaneo, Owner / Services Director, Software Box Limited (Boxxe)

"Having a robust and clear local plan for the city and one that is supported, has some longevity and isn't slave to the changing political leadership every few years. York requires a clear vision".

Marc Bichtemann, Managing Director, First Bus York

"First thing is buildings and financial support with reduced rents for startups. Then when it comes to scaleup it's about accessing the skills and talents".

Sally Joynson, CEO, Screen Yorkshire

"For a bioeconomy accelerator to work well it needs to straggle sectors. The magic happens when sectors mix. And It needs an overarching mission to tie all the businesses together. Here it should be about bioeconomy, future proofing, circularity and alignment to the UN's Sustainable Development Goals. By adopting this as a mission you can include AI, bioeconomy, creative DigiTech, food, materials, agriculture, AgriTech, energy, fuels and align the accelerator's vision and mission with York's civic history. There is even scope for bioeconomy tourism and public engagement to drive uptake of new technologies as well as grassroots support".

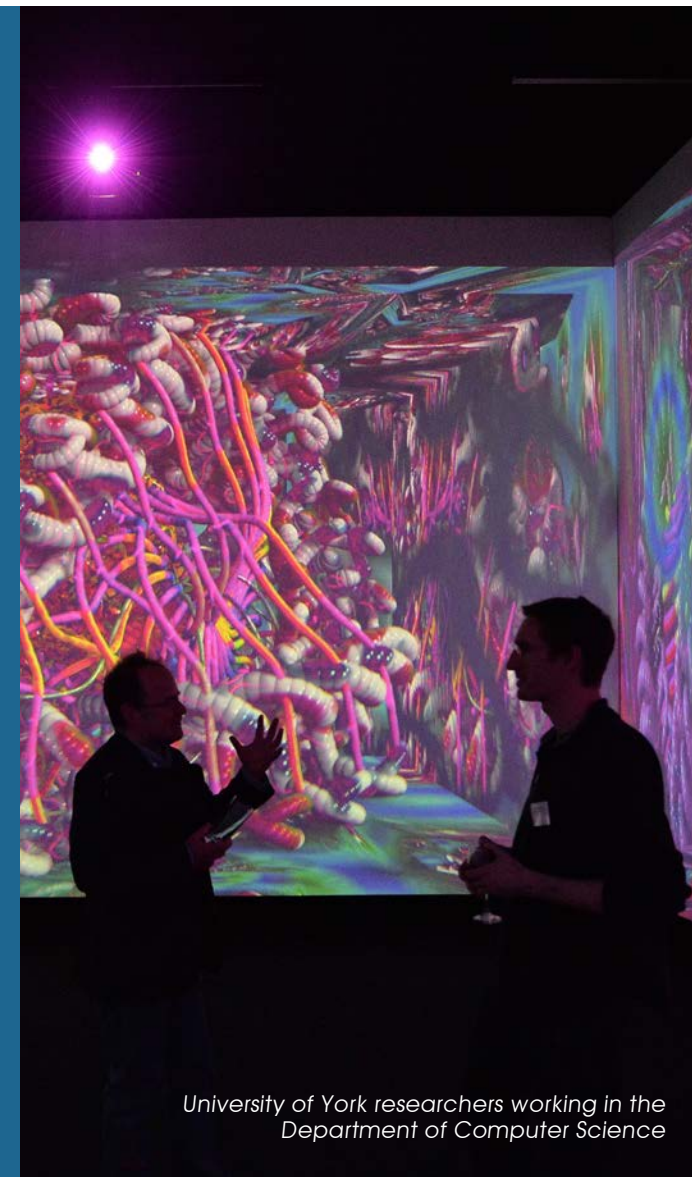
Sarah Hickingbottom, CEO, BioVale

"We have talent, academics, ideas but the challenge is the cost of living and the availability of space, both office and affordable living space".

Simon Brereton, Head of Economic Development, City of York Council

"People. We either have to make it easier and affordable for people to travel to York, park in York and to live in York. Keeping the talent here is key and what makes us successful is talent".

Tim Williams, Head of Strategic Partnerships & Alliances, Piksel Group



University of York researchers working in the Department of Computer Science

CASE STUDY: CodeBase

CodeBase started by offering startups and scaleups a large, affordable space in Edinburgh city centre to enable them to focus on building and developing their businesses while not having to worry about negotiating long-term leases and property arrangements. Since 2014, CodeBase has grown exponentially increasing their size five-fold in Edinburgh, Stirling and Aberdeen.

It has also built strategic partnerships with Barclays and PWC, which involves CodeBase delivering mentorship and business support to 21 Barclays Eagle Labs throughout the whole of the UK. Now, CodeBase helps startups and scaleups by connecting them with high quality mentorship, business support and investment, ensuring that they match the right investor with the right company at the right stage. CodeBase also helps corporates that want to network with new innovative startups and scaleups, creating a tech cluster community.

CodeBase also works extremely closely with a number of different stakeholders including universities, local and national government, corporates, VCs or angels.

CodeBase offers accelerator programmes in 4 key areas:

- **Creative Accelerator** - The programme runs over 10 weeks with cohorts of 25 participants. Places are fully funded for qualifying applicants by the Creative Industries Clusters Programme managed by the Arts and Humanities Research Council as part of the Industrial Strategy.
- **LawTech** - LawTech Bridge is a series of meetups for law firms who want to innovate more effectively. It's a unique setting which brings together experts from CodeBase, Barclays Ventures, and guest speakers from a global network.
- **EnergyTech** – The programme will be starting in 2020 and applications have now closed. Targeted at startups working in the field or an established business interested in the future of energy.
- **HealthTech** – The programme will be starting in 2020 and applications have now closed. There are series of meetups for firms in the sector as well as exposure to experts in the field who deliver guest talks.

CODEBASE



Importance of tech and innovation in the context of York as a location

York as part of the wider innovation ecosystem across the north

The importance of York as a location for tech and innovation is key to attract investments and put York on the innovation cities map, especially as the widely held perception of York's key stakeholders is that the city is too heavily reliant on heritage and tourism. There are already tech and innovation expertise and capabilities in York and the city is home to a number of hubs and centres, however these are not communicated to other cities across the North resulting in York not being considered as a significant partner of Leeds or contributor to the Northern Powerhouse.

Talent and skills

From a talent perspective, York has a key location advantage as the graduate and professional skills available in the city are of high quality. Unfortunately, due to York being well connected to cities such as London and Leeds, the city suffers from a skills drain among the graduates it produces each year. Despite York having much to offer and being an ideal place to develop and grow partnerships, many tech firms feel as though there is little to encourage them to relocate and stay in the city.

Funding

There is also an issue regarding the availability of funding as startups in York find it difficult to get past the initial ideas stage. The same cannot be said for other UK cities such as London, Manchester and Leeds which have proportionally more opportunities for funding at various stages of the startup process. The successes of London's FinTech sector or Leeds' HealthTech and MedTech sectors attract both commercial and public sector investment.

Office space

Compared to other innovation cities there is a lack of appropriate office space and despite York offering a great story, the city is lacking some fundamental aspects that a strong tech ecosystem requires. Companies that are looking to innovate often bypass York as a location as the offer from other cities is more varied and affordable.

Collaboration

Despite the current picture, there is potential for York to facilitate some interesting collaborations between key partners within the city. York needs to build on its BioTech sector strength, capitalise on the city's UNESCO Creative City of Media Arts status, align innovation with the UN's Sustainable Development Goals and strengthen its partnership with Leeds in order to ensure the needs of the wider Northern Powerhouse are aligned and that real acceleration for businesses is provided by creating a successful pathway from R&D to commercialisation in order to contribute to wider national needs.

Quotes

"York needs to have something other than tourism and heritage to attract economic investment and it's important that we utilise our tech and innovation expertise to grow the regional economy". **Amanda Selveratnam, Head of Enterprise Services, University of York**

"York's micro-climate has great universities, which in theory are great candidates, but the connection between universities and local community is poor. The University of York is happy to send people off to great tech businesses rather than finding local businesses". **Anthony Main, Managing Director, The Distance**

"Since the Northern Powerhouse idea was first floated the apparent determination to 'level up', both in terms of regional economic performance and in terms of diversity and opportunity, has only strengthened. The odd thing is that York has felt removed from that, as if our strengths and achievements are not well enough known, even in neighbouring cities like Leeds. There's a real need for us to share and collaborate more within our region and across the North". **Chris Bailey, Clerk, York Guild of Media Arts**

"From a broader point of view – being able to tap into the talent pool across the region and York was one reason why we chose Leeds as a hub. We want to enable the path from study to startup to accelerator as without it talent would be sucked away to London or Manchester". **Kevin Blacoe, Head of Partnerships, Channel 4**

"The things we are looking at is about digitising customer services, automation, driving efficiencies. Most of the providers are at a national level not in York". **Phil Thorn, Head of Propositions, Hiscox**

"Bio-economy, that's where York's USP is. What we are lacking is engineering skills, but Leeds is strong on this. Thus, a partnership would be of great benefit". **Sarah Hickingbottom, CEO, BioVale**

The level of importance of tech and innovation in terms of employees and revenue contribution

Productivity

The majority of stakeholders interviewed value the importance of tech and innovation in terms of employees as significant and vital, and as important to continue York's journey away from low productivity sectors. If York is looking to achieve its economic ambition, the city needs to further unlock its existing local intellectual property and improve the value creation for its companies. The tech sector is profitable and contributing ca. 8% of GDP, however, the focus needs to be on attracting more successful tech companies and highly skilled talents. This would increase the value that York can offer tech startups and increase inward investment and GDP. Many of York's stakeholders perceive the city as a tourist destination whose attraction is based on its history and culture. In order to change this perception and to attract tech startups, while ensuring that York does not lose its heritage, there needs to be a drive for more innovation in the city.

Employment and job creation

Looking forward, it is predicted that York will lose a significant number of jobs within the hospitality sector and these employees may need reskilling to ideally find high-skilled jobs in the city and to ensure that unemployment in the city does not rise too significantly. 50% of the workforce are graduates thus highly skilled, however their skillsets may not cater to the current requirements of the city. Ensuring there is alignment between education providers and the skills gaps in the city as well as the planned upskilling and reskilling the existing workforce would attract more interest in York as companies know that they will have access to the appropriate talent. City of York Council has applied for £10m central government funding to reskill / retrain up to 5,000 workers with a focus on growth sectors.

Covid-19 impact and recovery

Developing a skills agenda that has an online focus would increase the reach to people further afield that want to be reskilled or upskilled. Using digital tech will allow for more innovation, communication and collaboration. This is particularly relevant now due to the Covid-19 pandemic as people who work in sectors such as hospitality have been significantly affected by job losses thus are looking to reskill through online training courses. As York is likely to be hit hard, due to the large tourism, hospitality and retail sectors, it is essential the city utilises its opportunity to help its residents by creating and promoting employment opportunities in key growth sectors. As seen after the 2008 financial crisis, this may be one of the best times to breed startups and innovation as people are looking to develop solutions to new problems.

Focus on tech and innovation

A further area for long-term growth in the city is automation as businesses may benefit from looking for ways to improve their customer engagement through digitisation. Rather than keeping the same traditional processes, employees could be given the freedom to innovate in order to improve efficiency and increase employee engagement. The current crisis has already changed the ways in which businesses are operating as there is more remote working which may have a long-term beneficial impact on companies. York will need to continue to adapt and grow with the changing world if it does not want to be left behind.

Quotes

"It's key. We are riding a wave of everything coming online, using the subscription model with data above anything else. Everyone needs to keep up with trends and it's vital for long-term survival".

David Brandon, Founder, Rotacloud

Across the board it is hugely important to develop the [workforce] skills to address the needs of the wider world and to enable and build companies that emerge locally or that are attracted to relocate to York".

Damian Murphy, University Research Champion for Creativity, Department of Electronic Engineering, University of York

"Innovation is a key need for York as otherwise it will maintain its image as the tourist destination".

Anthony Main, Managing Director, The Distance

"We have a significant level of employment in B2C sectors, such as hospitality and tourism. Whilst these jobs are traditionally viewed as low productivity, they do form a significant contribution to our cultural assets and the opportunities we have to develop our region's profile as the best place to live, work and visit. To achieve our economic ambition, we need a two-fold approach – to use innovation to support the development of better paid jobs in these traditional sectors of low productivity. We also need to create new, higher productivity, higher paid jobs, primarily in green technologies".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"We need to move to a point where we have high levels of automation, digitise and engage differently with our customers, engage with WellbeingTech, HealthTech. We need think about doing things in a different way, we are a traditional company and know we need to change".

Kevin Moss, Chief Operating Officer for UK Life and Pensions, Aviva

CASE STUDY: AMRC, Sheffield

The University of Sheffield Advanced Manufacturing Research Centre (AMRC) is a network of world-leading research and innovation centres working with manufacturing companies of any size from around the globe. AMRC employs over 500 highly qualified researchers and engineers and specialises in carrying out research into advanced machining, manufacturing and materials.

AMRC transforms industrial and economic performance by making step changes in productivity, increasing competitiveness, developing new products and processes and training new talent / skills. AMRC has over 125 industrial partners including Boeing, Rolls-Royce, BAE Systems and Airbus.

AMRC offers 3 types of research projects:

- Generic research which is carried out on behalf of the AMRC partnership, with results distributed to all members.
- Specific research for individual companies who invest directly in the research and have exclusive access to any resulting IP.
- Collaborative projects into technologies and processes at earlier development stage.

These projects are usually funded by EPSRC, Innovate UK, or other external bodies and may collaborate with external research and industrial partners and are a mixture of one-off projects and long-term collaborations.

AMRC has had success due to their deep understanding of the challenges global manufacturers face as well as their focus on university spin-out businesses. Often startups don't realise they can enter difficult sectors such as manufacturing and AMRC bridges that gap by offering opportunities for manufacturers to meet digital startups. AMRC has developed a strong reputation which enables it to expand its network of manufacturers who are interested in getting involved.



Growth opportunity for the York tech sector over the next 2-3 years

Growth sectors

Over the next 2-3 years, the sectors that have the most potential for growth are RailTech, robotics and AI, BioTech and digital creative. Digital creative media is likely to see growth over the coming years and with Leeds and Manchester leading with traditional TV and film, this could present a growing niche opportunity for innovation in York. However, if York does not drive and facilitate more innovation in these sectors, they will grow more slowly and may become fragmented. Public sector funding and grants need to be better accessed by companies in these sectors, e.g. Innovate UK funding. In addition, commercial or not-for-profit operators of spaces that encourage collaboration and partnerships need to be attracted to ensure that a community is created and to prevent isolated pockets of tech innovation.

The future potential for the tech sector in York is promising and the universities could play a key role in connecting businesses to innovation opportunities. The city may benefit from a focus on increasing the number of spinouts from university research as well as better alignment between the graduate skills and the needs of local growth sectors.

Partnerships

There are opportunities for growth but there is a need for various stakeholders to be far better connected. Leeds is also crucial in York's tech growth over the coming years as currently, there is a lack of dynamic energy and collaboration. However, building strong partnerships with surrounding cities such as Leeds, Sheffield, Newcastle and Manchester may strengthen partnerships and collaboration across the Northern Powerhouse.

Talent retention

Post Covid-19, there may be an opportunity for York to retain some of the graduate talent it creates each year as people may be more encouraged to stay local. However, the issue surrounding the high cost of living still remains which may make it impractical for graduates to stay. There need to be more incentives for young people to stay in York which should be a focus for the city as the talent drain is likely to deter tech companies and startups.

York Central

York needs inward investment to grow. However, there is a danger that without a new, meaningful and impactful innovation project, the city will be overlooked by tech startups and innovation levels will be low. York will lose out to cities such as Oxford, Cambridge, Bristol, London, Manchester, Scotland and abroad.

Thus, York Central offers a great opportunity for tech sector growth as the space could be used for an innovation hub where the proposed York Accelerator could be based. Other collaboration and workspaces are key ingredients to facilitate innovation at York Central and would contribute towards the creation of a tech ecosystem.

Quotes

"There are opportunities for growth, but there is a need for the various stakeholders to be far better connected. It's not very joined up".

Chris Yates, CEO, Abingdon Health

"York Central is an exciting location for mainstream companies, but creative companies need a different structure. I imagine York city centre being an eclectic hub housing companies with complementary skills that come together to collaborate on specific projects. Like in London's Soho - smaller companies inhabit vacant office spaces, or rooms tucked away in garrets, whilst larger ones might take over shopfronts".

Charles Cecil, Co-Founder, Revolution Software

"We have the potential for growth. The encouragement of where you are targeting support packages, how you create facilities and link the various parts together is key. Business support, mentoring, expertise is important. Don't just create space. The important thing is the social space".

Ian Gray, Project Director, York Central Partnership

CASE STUDY: OpenCell

OpenCell was founded in June 2018 to provide early stage BioTech startups with affordable space. Many BioTech startups are just emerging from universities and often are shocked at the difficulty and logistics of running their first lab. OpenCell was founded with the aim of making the process for startups of running their own lab easier so that they can focus on the science. OpenCell has grown from 3 to 70 shipping containers in White City, London.

OpenCell hosts core facilities that are shared by all including a lab store, waste management, refrigeration, microscopy and shared lab spaces for molecular biology and microbiology. Members take modular private labs where they develop their specialism or IP and then can access any of those core facilities at any time. There is an importance placed on the combination of privacy and community. Much like a university OpenCell also has interactions and collaborations between groups but a healthy respect of IP boundaries.

Memberships include virtual, shared or private labs.

OpenCell can then help source any extra equipment that is needed by the startups as well as put them in contact with their partners.

In light of the Covid-19 pandemic, OpenCell has also created a mobile Covid-19 testing laboratory from a shipping container which is capable of delivering 2,400 tests a day using lab automation.



Strength of York's startup and scaleup community

York has considerable potential for development of a strong startup community and facilitating incubation and acceleration of entrepreneurial activity. Innovation focused cities see startup incubators and accelerators backed by financial services and York needs to enable large UK banks to extend their presence in the city and extend their accelerator network to York. Other areas for improvement are to raise knowledge and awareness regarding the availability of funding and a lack of experience in the city in regard to supporting and growing startups.

Tech community

There has been a real desire to grow the tech community in York as many people have ideas but there are fragmented communities and not yet a coherent approach. Community drivers and people who live and breathe tech innovation and entrepreneurship, who would be catalysts for change, need to be better connected in York.

The city needs to create and implement a framework for early stage entrepreneurs that allows them to develop their ideas and commercialise them so that they are seeing the benefits of staying in York. Furthermore, it would be helpful to enable graduates to have access to startup funding which they can use to develop and grow their ideas resulting in more young tech startups in the city. The University of York and York Science Park create significant opportunities in terms of innovation, though more needs to be done to unlock existing and newly created intellectual property and attract both commercial and public sector funding.

Funding

York has significant growth potential when it comes to securing both commercial sector investments and public sector funding and the city needs to strengthen its bridges to the wider Northern Powerhouse ecosystem to benefit from investment in other Northern innovation ecosystems. The city does not yet attract the investors that other innovation cities have, however the potential investment opportunity is significant, not least originating from the innovation / IP assets being generated by the city's universities which would improve York from strengthening its reputation of successfully growing tech startup and scaleup businesses.

Innovation and office space

Office and lab spaces is available in York though both variety of offer and affordability need to be improved to enable more startups to consider the city as their base. Cities like Manchester or Bristol offer a model that York could emulate by offering a good selection of affordable accommodation and office space and an energetic tech ecosystem.

Support and collaboration

York needs to strengthen its support and collaboration for startups as starting and growing a business is much more difficult to achieve on your own. There are a large number of mentors, entrepreneurs and thought leaders but there needs to be improved leadership, coordination and cohesion of these resources to tap into York's tech community. An increase of entrepreneurial activity in the city is likely to be a catalyst for change.

Quotes

It's not very strong. We get people with ideas, but they have nowhere to go".

**Andrew Digwood / Laurence Beardmore, President / Vice President,
York Chamber of Commerce**

"We are one of them, so the potential is there. The investment opportunity isn't localised to York. How do you ensure the ecosystem is there? There is a lot of support, but beyond startup mode there is not a lot of support in place".

Nick Cowlen, CEO, Hublsoft

"Always thought it's very fragmented, lots of little pockets, everything is on a small scale. There is the opportunity to pull it all together, do fewer events but on a big scale".

Phil Thorn, Head of Propositions, Hiscox

CASE STUDY: Ignite

Ignite is a funded, 6-month accelerator for MVP-stage founders or teams, looking to scale their business and potentially raise further investment. The accelerator has been running for 9 years and in the initial stages, the programme charged startups an up-front fee to fund the process. The concept of the accelerator was to validate business concepts and gain some early traction so they could raise 200-500k of further investment.

Ignite has been able to empathise with the startups on the programme and has credibility as they have been through the startup process themselves. In 2015, it expanded into other areas of the UK including London and Manchester and increased the number of programmes available. Ignite did not turn a profit until 2017.

With regards to the operating model, each programme costs £300k as Ignite takes on 10 startups per programme at 30k each (20k to the startup business, 10k to Ignite). 5% equity is then given to the angel investor as EIS (Enterprise Investment Scheme) investment and 1% is given to Ignite.

The 6-month programme requires six in-person events which in 2017, switched to a virtual model so that they could take applicants from anywhere in the UK without needing them to relocate but still maintain the monthly meetings. Mentorship is a key part of the programme and startups can request to see their mentors as much as they require throughout the process. This is crucial to the success of the startups as mentors play an important role in guiding them through the decision-making process as well as providing them with advice and support through any issues that they face.

Ignite remains focused on the initial premise of the concept by targeting entrepreneurs who cannot access the support and resources available in London. They focus on high-potential startups and place a large emphasis on ensuring the businesses match-fit is right.

The accelerator now has a strong network of mentors and experts and a good reputation for producing high quality businesses. This reputation has played a big part in their success as corporates are encouraged to engage with them and are interested in the opportunities Ignite can provide.



Relationship between startups / scaleups and corporates in York

There is significant potential for startups and corporates to collaborate, as evidenced by the fact that two thirds of people surveyed perceive that the current relationship requires more focus and mutual engagement and collaboration opportunities.

There is a real desire for improved communication and sharing of ideas to overcome a fragmented environment and drive wide-spread collaboration. The collaborations that do occur come mostly from the universities, however, businesses in York would benefit from more agility, proactivity and follow-up activity, to ensure there is continued enthusiasm for collaboration projects with the universities.

While Hiscox is a source of collaborations with startups in the city, there is an unmet demand for scaling up these collaborations. Also, in a joined effort by all key ecosystem players, York needs to consider how to make it easier for larger (inter)national businesses such as Nestle to build more relationships with startups in the city.

There are numerous opportunities for both larger businesses and startups to collaborate however the challenge of knowledge sharing needs to be addressed. York could learn from surrounding cities such as Leeds, Manchester or Sheffield, where corporates have strong links with the local startup community, inviting them to corporate challenges and offering them support and collaboration, driving tech-for-good agendas or corporate social responsibility initiatives which would all enable startups to stay in the city.

The University of York is very proactive in regard to the digital creative sector and BioTech, though it needs to be much more proactive and collaborative in other key growth sectors. It furthermore needs to establish a bi-directional dialogue and tech transfer and incentivise its academics to work with local industry and startups.

The overwhelming majority of stakeholders in York emphasise the need for constructive and supporting civic leadership, facilitating but not driving local collaboration. The question is raised whether an existing tech and innovation success story such as Gamesparks or Anaplan, a tech unicorn, founded in York whose clients are Google and Amazon, could be used as the city's poster child. This would undoubtedly support an innovation and startup oriented inward investment strategy to grow York's knowledge economy.

Other key challenges that need to be overcome are the fact that some corporates have large framework supplier agreement as well as strict security and compliance restrictions, which makes it more difficult for smaller business to engage and collaborate with them. Though the 'new approach' that has emerged during the Covid-19 crisis suggests that many of these barriers have come down and are likely to remain down.

Founders Factory in London or other successful accelerator programmes in Cambridge and Leeds provide good examples of bringing together different startup innovators and corporates. These could present learning opportunities for York in how to improve the relationships between startups and businesses within the city.

Quotes

"Interesting that Leeds made a land grab on an HS2 innovation centre. Why not York? RailTech seems a prime opportunity where something could be done".

Helen Oldham, Founding Board Director, NorthInvest

"We find it quite difficult to build a relationship with startups. You can have high-level of innovation which can be stifled due to regulation, risk management, data and brand".

Kevin Moss, Chief Operating Officer for UK Life and Pensions, Aviva

"BioVale and the Biorenewables Development Centre are excellent at connecting with startups and SMEs. We are University of York initiatives and our experience and relationship building of the past decade means when we create an accelerator, we can hit the ground running".

Sarah Hickingbottom, CEO, BioVale



As part of the Weavr consortium, Digital Creativity Labs is helping to transform the way fans experience e-sports.

CASE STUDY: Founders Factory

Based in London, Founders Factory provides a number of options for startups who are looking to develop their idea but do not have the knowledge or resources allowing them to do so. The Founders Factory team consists of industry experts, entrepreneurs and investors who guide the startups through the process and help them to make key decisions in order to take their business forward. They have relationships with multiple global investors in a range of different sectors including EasyJet, M&S, L'Oréal, Aviva and many more well-known brands. The spaces on programmes are competitive and startups have to complete an online application form in order to be considered for a spot.

Options available to startups are:

Venture Studio:

- Enabling startups to apply with an existing idea or choose a concept that Founders Factory are already working on.
- Offering startups £100k to start building the business. Founders Factory will invest the capital and offer support from a team of experts helping to build the idea, test it and acquire customers.
- Offering an additional £150k investment. When the founders are at the end of their initial investment, Founders Factory will determine whether they have proved enough to further their startup. If they offer more capital, they will at this point assign the appropriate IP. Once ready to scale, the startup has the option to join the accelerator.

Accelerator:

- 6-month programme for founders. Once through the application stage, the startups will have the opportunity to pitch to the investment committee.
- There are no cohorts so once startups have been accepted, they can start the course. Founders Factory works with them to understand their business needs and creates a bespoke programme tailored to them.
- The team of experts are available to support the startups whenever they need it. There are frequent progress assessments so that any problems are spotted and resolved quickly.
- The startups are coached and given life-long access to a powerful network of global alumni that will benefit their business in the long-term and have a lasting impact.



Innovation Space – existing vs needed

65%

of respondents think there is a definite **need for more physical innovation spaces**, such as incubators, accelerators or innovation hubs as the current options do not meet the needs of startups.

Collaboration space is increasingly in demand and while there have been individual projects such as Hungate or Guildhall, these have been slow to be realised and a more proactive approach is required. Key York stakeholders perceive the city's approach to innovation space comparable to the Regus model -which offers fixed and siloed office space in more conservative building environments- as this is not aligned to the requirements of young, modern businesses.

Additionally, York is very academically centred with innovation space, mainly situated in and around the universities whereas Leeds or Manchester have seen the emergence of Barclays Eagle Labs and other commercial accelerators in the heart of the cities, connecting collaboration space, tech infrastructure, funding, networking or events.

The wider York ecosystem has realised that it is of vital importance to have a physical space, a focus, a catalyst, an accelerator, that could act as a facilitator between the corporate sector and startups and to enable dialogue and collaboration. York is big enough but small enough at the same time to make this a success.

There are some existing innovation spaces in York such as York Science Park, but these examples are limited. Current innovation spaces mainly offer shared space rather than fulfil the other requirements of a tech accelerator such as mentorship and networking. There are some potential spaces that could be reutilised in the city centre, but these would need to be redeveloped.

The University of York have their own physical innovation spaces but not a successful next stage accelerator. Also, the majority of the current innovation spaces are on the outskirts of the city rather than in the city centre which York would benefit from. City of York Council could potentially help with this however this may not fit with its current commercial development agenda.

York Central could be a consideration for a city centre innovation space which has both shared workspace and social space however it may be unattainable for startups given the high cost. What startups would benefit from is an offering in the city centre of 1-year free or very low-cost physical spaces, mixed with virtual workspace and social spaces, as incentives to relocate to York. York still tells the Hiscox story of inward investment support and collaboration, which happened a few years ago, however, new initiatives are desperately needed.

Although York does not have the typically modern skyscraper buildings that are often seen in tech focused cities such as London and Manchester, York does have buildings filled with character which provide unique assets to the city. There needs to be a balance between historic and modern in York so that startups have the facilities they need but the city does not lose its heritage.

Quotes

"York station should be a hub, incredible network, marketed as a source of science".

Antony Chilton-Murphy, Head of IT, Signature Rail

"We have a great experience with York Science Park, not just the services, but networking and events as well. We need more of the same". **David Brandon, Founder, Rotacloud**

"They can definitely play a role, but it's just one part of the jigsaw. You need to build a critical mass as it's not a commercial or tech centre, until you build the critical mass. It needs more than just attracting startups, you need some larger corporates involved in this".

Phil Thorn, Head of Propositions, Hiscox

"My impression is that there is a significant lack of them. One of the key shortcomings of the local market. There is no space, it's expensive, or at the edge of town. Especially for startups there is a lack of it".

Rob Hickey, Chief Operating Officer, York St John University

"There is a gap, business space, co-working incubation and accelerators. We need to be clear of what the problem is before we decide what we need and build it to match industry problems".

Sarah Bowes, Innovation & Digital Policy Manager, WYCA

"There are some amazing spaces that could be reutilised".

Amanda Selveratnam, Head of Enterprise Services, University of York

CASE STUDY: Plexal

Plexal started in 2012, when the Olympic Games created an opportunity to build a new technology hub for East London. The vision for “Here East” was to enable creatives, universities and technology-led businesses of all sizes to not just sit side by side but create and innovate together, a diverse innovation ecosystem where differences are taken advantage of.

Plexal prides itself on being an innovation centre and coworking space that believes in the power of collaboration when tackling some of the biggest challenges facing society – starting with cybersecurity, mobility and inclusion.

Coworking space options include hot desks, fixed desks or private offices. The campus is now home to everyone from University College London to Ford’s Smart Mobility Innovation Office, while its physical space is enabling new mobility solutions to be trialled in a uniquely diverse and controlled environment.

The Plexal team delivers programmes for clients like Innovate UK and Transport for London, and specialises in forging connections between industry, academia, investors, startups and scaleups. They are also delivering LORCA: an innovation programme that scales the cybersecurity solutions needed most by industry and society to make the internet safer. LORCA delivers 12-month accelerators for cybersecurity scaleups that are designed to help them connect with industry and investors, break into international markets and grow their businesses.

In the inclusion space, Plexal runs the OpenDoor accelerator and is working with partners like UCL and Disability Rights UK to optimise its workspace for accessibility and champion disability-led innovation. As well as hosting events like meetups and large conferences, Plexal houses over 900 innovators who are working in areas like mobility, AI, HealthTech, cybersecurity, FinTech, the Internet of Things, VR and more.

Plexal is also running “The Plexal startup Tracker” in partnership with Beauhurst, which tracks metrics week-by-week and is designed to monitor and analyse the effects of Covid-19 on startups.



Availability of talent

70%

of respondents rated the availability of talent and skills in York as either sufficient or good.

45% also stated that the issue regarding talent and skills in York is the retention of newly developed talent and graduates as the cost of living in York is too high for young people and the career prospects are limited.

York has high quality graduates coming out of its universities however many key stakeholders perceive that the city suffers from low graduate retention rates as:

- The high cost of housing in York, driven by quality of life and the very high reputation of York as a great place to live, makes it hard for early-stage professionals to afford to live here.
- There is limited career progression for graduates in York with a perceived heavy reliance on the hospitality and tourism sector which has more low-skilled and low-paid jobs.
- York is an exporter of talent from its high-quality universities, but there is potential to enable more graduates to stay by creating more jobs.

The link between universities and businesses is not strong enough which causes a misalignment between the skills needed by the local growth sectors and the skills that the universities prioritise. From the universities' perspectives, they are delivering high quality graduates, but they struggle to show their students what opportunities are on offer. As a result, graduates are attracted to other cities and it is unlikely that they return.

The reported work placement scheme by the Computer Science Department provides a good example of the minor attention that York receives in that 95% of people that go on work placements return to the same place for permanent work but only 3% of these placements were based in York.

York has a reputation for people coming to live in the city rather than to work. In comparison to other cities, York lacks some of the major skills in sectors such as digital, software development or cloud engineering which needs to be addressed.

This could be an agenda that the universities can support by offering courses based on plugging these skills gaps as well as City of York Council who could create initiatives in coordination with key employers in the city to further develop key technical skills, e.g. in sectors such as rail, digital creative or BioTech, and to better match York graduates with national growth sectors.

If York aligns its capabilities in the city with two universities that don't compete and two further education colleges that don't compete, the supply line of skills for the new sectors can be provided. Thus, if the University of York is a world leader in digital, Askham Bryan College can lead on the AgriTech and BioTech skills of the future.

Quotes

"If we align our capabilities in the city -we have two universities that don't compete and two FE colleges that don't compete - they can help with the supply line of skills for the new sectors".

Charlie Jeffery, Vice -Chancellor and President, University of York

"We know there is a real talent pool and skills set but they all jump on a train to Leeds to work. The companies to take advantage are not in York".

Paul Henshaw, Co-Founder, Infinity Works

"We have an IT department in York, but when we looked to recruit skills on the digital side, we struggled in York / Yorkshire and ended up with our digital team based in Manchester. If there is going to be an advance it's about making employers aware of what's available in York, what they can tap into and develop the skills that are relevant".

Richard Latham, HR Director, Persimmon Homes

"York has an educated workforce and it's an attractive place to live. In many ways its quite an easy sell, though for young people starting their careers it's more difficult due to the cost of living".

Rob Hickey, Chief Operating Officer, York St John University

CASE STUDY:

Royal Academy of Engineering Enterprise Hub

The Royal Academy of Engineering Enterprise Hub seeks to help the brightest engineering and tech entrepreneurs, turn their ideas into reality and become exceptional business leaders by providing funding, training, networking and mentoring from leading engineers, with no charge or equity stake.

There are three programmes for entrepreneurial engineers at different career stages. Each one offers equity-free funding, an extended programme of mentorship and coaching, a lifetime of support through connection to an exceptional community of engineers and innovators and lasts between 6 - 12 months.

The Hub's vision is to be a key driver of sustainable wealth creation in the UK by supporting the formation of a robust ecosystem that fosters a culture of entrepreneurship, innovation and success amongst UK-based engineers. Success will be evidenced by:

- UK engineering and technology entrepreneurs with global vision creating substantial wealth and associated social and societal benefits;
- A society in which talented engineers are inspired to become entrepreneurs and entrepreneurial spirit is valued and celebrated.

The objectives of the Hub are to:

- Accelerate innovation and wealth creation for the benefit of society by supporting founders of engineering and technology enterprises with grants, bespoke training and mentoring from Academy Fellows.

- Inspire and encourage business minded UK-based engineers to pursue entrepreneurial endeavours by celebrating and promoting successes.
- Enhance the climate for engineering and technology entrepreneurs and growth of technology enterprises in the UK.

Key results to date

- 139 early stage engineering and technology entrepreneurs supported, attracted just under £150M in external funding into their companies and creating almost 700 high value jobs
- 85 SMEs awarded training grants and access to coaching and mentorship under SME Leaders Programme
- More than 150 expert mentors, Fellows of the Academy, engaged, committing over 1500 hours per annum

Regional Enterprise Hubs

As the UK's national academy of engineering, the Academy is looking to develop the Hub into a truly national resource, fully accessible and available to ambitious, high-potential entrepreneurs across the UK. Although entrepreneurs from across the UK have been supported, the majority have been from London and the South East. This reflects the Academy's Central London location (which many entrepreneurs will not have the time or resources to make the journey to) and limited staff presence as distance increases from London.



To address this the Academy seeks to establish a number of regional Hubs in collaboration with local partners by co-locating the regional Hub at the premises of the partner organisation and deploying a network of Senior Business Development Managers.

The first regional Enterprise Hub node has been set up in Belfast, Northern Ireland in partnership with Invest in Northern Ireland. Invest in Northern Ireland has provided a grant to the Academy to support the employment costs of the Regional Business Development Manager Northern Ireland.

A number of partnership opportunities are being explored for the regional Enterprise Hub nodes in other parts of the country, including Scotland and Wales.



Mutator VR exhibited at The Lowry.

Collaboration between York universities and the York ecosystem

70%

of respondents stated that the level of interaction that exists between businesses and York universities is minimal and could be improved by the universities being more proactive.

Overall, there is poor communication and a lack of long-term, strategic relationships. However, in certain sectors the picture is better. For example, in the bioeconomy sector the University of York is extremely engaged, and York St John's has previously been active with the Phoenix Centre. There are also cases where businesses have developed strong relationships with the York St John University such as the degree apprenticeship partnerships with Aviva and Nestle.

Start-ups can play a key role in developing the regional economy, and universities can play a critical role in providing these startups with the skills needed to thrive. There is huge potential at universities to equip millions with entrepreneurial, creative and technological skills. Time and again, the positive impact that the European startup ecosystem can have on

regional and national economies has been referenced. What's more, a growing number of startups are being built within university ecosystems. Graduate startups and social enterprises contributed over £822m to the UK economy alone in 2018, according to the Higher Education Statistics Agency.

York could benefit from a focus on spinouts and the commercialisation of university research which has proven to be very successful in other innovation cities. Collaborations between the two universities could also be improved as R&D activities should not just be isolated to one university. Larger businesses in York report that in their experiences of engaging with the universities, there has been a lack of proactiveness and willingness to collaborate. Therefore, both parties would benefit from university staff being incentivised to not only engage with businesses and facilitate collaborations but ensure that they are seen through.

Interactions between businesses, City of York Council and the universities need to be part of a bigger strategy of providing interesting innovation opportunities for collaborations which would attract more tech startups to the city.

Key areas of interest

- Bioeconomy agenda in North Yorkshire – levelling up agenda and carbon zero.
- Digital creative - York needs to build on programmes such as York Digital Labs within the University of York as well as its UNESCO Creative City of Media Arts status.
- York Central – drive the knowledge economy anchored in York Central and consider enhancing the collaboration opportunities with Leeds.

Quotes

"The relationships between businesses and universities have massively improved and there is great willingness that can be built upon. However, the UK is still well behind the US in terms of university business spinouts. More needs to be done to support and nurture this."

Alex Green, Head of Business and Network Innovation and Inward Investment, Make It York

"Business are unaware of the talent that is available and who to speak to at the universities."

Stirling Kimkeran, Owner, Class One Systems

"Several scaleups / startups are linked to the University of York. It's a question of scale and the university will need to do more to nurture talent and entrepreneurship in the city."

Charlie Jeffery, Vice-Chancellor and President, University of York

"The universities need to be much more proactive and collaborative"

Chris Yates, CEO, Abingdon Health

CASE STUDY: Capital Enterprise



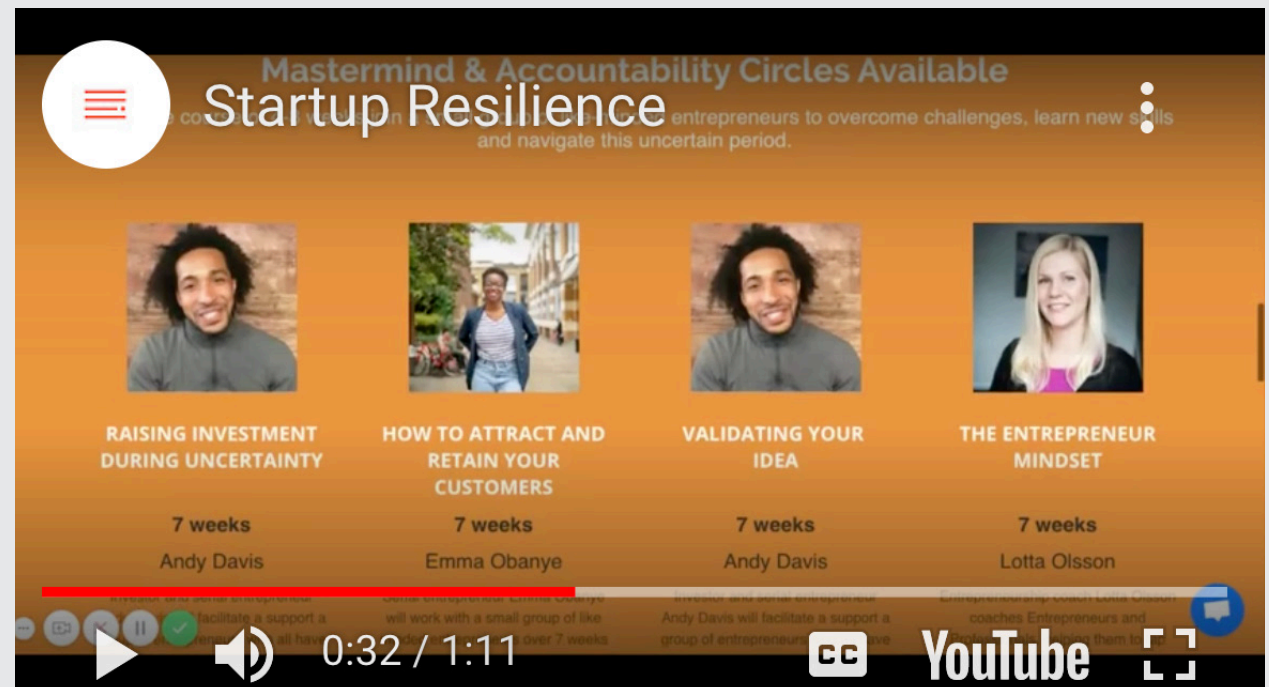
Capital Enterprise is one of London's startup accelerators, connecting and energising a world-class entrepreneurship ecosystem with the aim of making London the best place in the world to start and scale a business. The mission is to facilitate the growth and success of London's startup ecosystem and to enable its team to play a leading role in the delivery of support services to London based startups.

Capital Enterprise is a not-for-profit accelerator and membership organisation including local authorities, higher education providers, accelerators and enterprises. Capital Enterprise is run by OneTech who is positioned to form consortiums to deliver access to certain EU grants as well as the Runway Fund with BEIS and British Business Bank for helping startups.

Capital Enterprise delivers programmes for startups that:

- Boost leadership skills
- Grow teams
- Increase R&D capacity
- Get startups seed funding ready

With regards to the operating model, Capital Enterprise is now applying the learning from London to Sheffield with a 3-12-month programme which focuses on local / regional excellence, not as a government intervention but as a resource that is available in different locations. It is organic by offering the opportunity and assessing the market demand. Up until 2019, Capital Enterprise was solely London focused and comanaged by London Co-investment Fund, however, the focus is now UK-wide with the aim of developing the startup ecosystem.



In 2017, Capital Enterprise took EU funding which paid for 50% of CE operation costs and over the next 3 years it has helped £145million in corporate investment and created 900 jobs. As Capital Enterprise is still focused on creating and maintaining a good relationship with the London investment scene there is a 60% intervention rate (Capital Enterprise pays 60%, ERDF match funding of the costs and the supporting organisation will pay 40%).

Availability of funding

47%

of respondents state the main issue regarding funding for tech businesses is the lack of awareness regarding availability and how to access it.

Previously, the council had regularly published funding options however now the information is not consistently made available. There are funding options however successfully obtaining funding is difficult as many startup businesses in York struggle to present themselves as investable. However, the University of York offers a suitable route to obtaining public sector funding as they know how to access it.

Compared to Leeds and Manchester, York receives (proportionally) minimal investment and only has a small number of angel investors, compared to a larger angel community in the wider Yorkshire region. The main consideration for angel investors is often the opportunity which is why York often gets overlooked.

Ensuring the whole funding community in the wider Yorkshire region is connected could also encourage the Northern Powerhouse Investment Fund to consider York as a serious contender for investments. Remote pitching sessions could

also provide a way for investments to be secured from other cities such as London which has the majority of funding opportunities.

Having an accelerator in the city will create a pipeline of startups and will be a focal point for investments and attract the investor community.

A further challenge for businesses in York is that they do not fully understand the extent to which public sector funding and grant funding can help them. There is no shortage of public sector funding, however there is a lack of information available and a lack of shared experiences from businesses that have been successful securing it.

The view from funding and finance specialists is that York businesses are often reluctant to give away equity, which again limits their funding options. They may benefit from considering funding alternatives e.g. from universities as they often have funds available as well as other options such as tax breaks.

The story of Anaplan

- Being a tech company in Silicon Valley gives companies a status which make it easier to attract funding.
- For investors, even in the run-up to IPO, Anaplan time and again told the story of how the business started in a barn in York
- This story and narrative resonated well with US investors but struggles to gain traction in York.
- York and its startup community should use this great success story in the same way as other locations do:
 - Estonia use Bolt, TransferWise or Skype as poster boys.
 - Durham uses Atom Bank as a great reference
 - Berlin refers to N26

Quotes

"We should really be more imaginative in terms of looking at where we can seek funding opportunities and to be bold and ambitious in doing so".

Joan Concannon, Director of External Relations, University of York

"Getting VCs and the whole funding community connected to York is pretty important, as currently funders don't have many touch points in York. The other opportunity is co-innovation, having large corporates providing either funds or customer opportunities".

Helen Oldham, Founding Board Director, NorthInvest

"Hidden. I know this from businesses in our sector who are completely oblivious as to what funding is on offer".

Sally Joynson, CEO, Screen Yorkshire



Innovation Centre

Innovation Centre, York Science Park

Regional tech and innovation activity for York to participate in

43% of respondents identify Channel 4's move to Leeds as a key influence on York with regards to tech and innovation.

mentioned AgriTech and BioTech in the wider Yorkshire and Humber region as a key influence on York.

31%

There are multiple examples of technology and innovation projects in the Northern Powerhouse that could have a positive influence on York's ecosystem.

One example of this is the AgriTech and FoodTech activities that are taking place in North Yorkshire. C4DI have recently introduced an AgriTech accelerator in Northallerton. This may be a programme that York could potentially get involved with.

There is also a large focus on renewable and offshore energy in the North East and Hull as well as clean growth / low carbon economy in Hull and the Humber region, including the creation of the Aura Innovation Centre in Hull. Teesside and Hull also have chemical clusters, all of which could have a positive impact on York's bioeconomy sector as a supply chain could be created, strategically linking the regions.

The development of Channel 4 in Leeds is likely to have a positive impact on York's digital creative sector and could enable York to be at the forefront of the creative industry, from video content in innovative studio environments to video gaming and interactive storytelling.

Surprisingly, despite York's rail heritage, the city has not yet been mentioned in reference to the Institute for High Speed Rail in Leeds, the Centre for Rail Innovation in Huddersfield, the Siemens Rail Innovation Centre in Goole or AMRC in Sheffield. This could potentially be something that York could have a major contribution to, given the city's rail assets.

York should also collaborate with the Nexus accelerator in Leeds, as there is a drive for HealthTech and MedTech innovation in the Leeds City Region for the NHS and healthcare.

All of these innovation projects and activities have the potential to have a positive impact upon York's tech ecosystem however it is advisable that York learns from these innovation activities and creates its own identity based on its current strengths, e.g. the bioeconomy or RailTech, while building lasting partnerships across the North. Also, York should apply for specific HM Government funding for levelling-up the local economy, aligned to the key strengths and growth sectors in York and the wider region, which would attract inward investment.

Gaining the support of public sector bodies such as the LEPs in the wider Yorkshire region is likely to put York in a stronger position for attracting startups to the city and successfully delivering a tech accelerator.

The key questions York has to ask itself are:

- What does the city want to be known for?
- What is the city going to throw its weight behind?
- Should the city be working with other experienced organisations, innovation hubs, accelerators regionally and nationally?

York cannot go from having limited insights and experience of working with startups to a success accelerator without partnerships and links to existing success stories.

Quotes

"Align to the Channel 4 ecosystem and be at the forefront of creative industry, video, content in a studio environment done through innovation, including video gaming and interactive storytelling".

Andrew Raby, Growth Hub Manager, York & North Yorkshire Local Enterprise Partnership

"From a creative industry perspective there is a real opportunity for Yorkshire in the next five years to win further investment as part of HM Government's plans for northern England's renewal and levelling-up. Yorkshire has a head start, also boosted by Channel 4's arrival".

Edward Humphrey, Director of Digital & Ventures, British Film Institute

"Agri-tech, as York is surrounded by countryside and the whole food and drinks sector is nicely linked to North Yorkshire and Humberside. This sets York apart from Leeds, Manchester or London".

Jeremy Oliver, Partner, Garbutt & Elliott

CASE STUDY: NEXUS

Nexus, the University of Leeds' innovation hub, enables businesses from all sectors to connect with the expertise, talent and facilities at the University of Leeds. Working together to accelerate and de-risk innovation and maximise commercial returns. The aim of the concept is to attract startups that want to work with the university and create a broader community of academics, startups and entrepreneurs.

Nexus helps to:

- Conduct research to develop and test innovative products and services.
- Improve business performance by developing new techniques or technologies.
- De-risk investment in research and innovation.
- Improve competitiveness and productivity.
- Provide access to a portfolio of patented technologies.
- Assist with research and innovation funding.
- Tap into graduate talent for the business needs of startups.
- Provide access to a range of training programmes.

Key success factors for NEXUS include being fully embedded in their ecosystem as it is not a standalone enterprise, they value connectivity and collaboration at their core. In addition, the business case for the university in terms of ROI is increased funding, consultancy, contract work, spin-out and licensing.

Their startups have access to their state-of-art, modern facilities but they have to pay rent. Thus, they need funding. Nexus market their value proposition as what they can offer over other locations and accelerators which is a consideration for York as they would need to demonstrate their own unique value proposition.

Over the last 12 months Nexus has created over 125 new highly-skilled jobs in the Leeds City Region, created 37 new products / services and secured £10.8m in grant funding.



Mapping York against (inter-) national innovation ecosystems

York can learn from other UK cities and its innovation ecosystem is perceived as comparing poorly to other innovation hot spots by nearly two thirds of respondents.

It is difficult to compare York to surrounding cities such as Leeds and Manchester as it is unique in the fact that it is globally known for heritage and culture and does not have a defined tech specialism that it is well known for. Leeds has a strong HealthTech and FinTech scene, Manchester has eCommerce, media and SmartTech, Newcastle specialises in gaming and Sheffield is becoming known for its EdTech. York is missing off this list and would benefit from finding a niche specialism that the other cities can benefit from.

Manchester has a great deal of incubation and shared workspace which York lacks as space is limited and expensive. There is also a lack of meetups and conferences based on tech that occur in York whereas in cities such as Manchester and Leeds host regular events.

In Edinburgh, the company Codebase is helping the city to build an innovation ecosystem by aiming to retain every informatics graduate in the city. Amazon also has a research centre in the city who were almost all from Edinburgh University's School of Informatics. Edinburgh also holds four large tech events every year for investment which is placing the city on the map in terms of their tech and innovation ecosystem.

There are multiple examples in London showcasing its world leading tech and innovation ecosystem, such as, Silicon Roundabout, Plexal or Founders Factory which have all contributed to creating an environment where startups can successfully develop, grow and commercialise their ideas with the help of a wide choice of investors.

Other UK and European innovation ecosystems

There are strong tech and innovation ecosystems in Scandinavian cities such as Stockholm, Helsinki, Copenhagen or Oslo, whose tech scenes are extremely advanced and heavily linked with their universities creating ideal environments for startups.

Other cities York stakeholders perceive to be great innovation ecosystem case studies are:

- Berlin, which is a thriving digital innovation hub, home to several tech unicorns.
- Brighton, Cambridge, Oxford, Bristol, who all have thriving innovation hubs.
- Maastricht, which has established its credentials in BioTech.
- Angoulême, which has long been associated with animation, illustration and the graphic arts hosting several yearly festivals

All of these examples can provide learning opportunities for York as each city has a specialism, good links with local universities and public bodies and access to funding which contribute to their strong innovation ecosystems.

York has a lot to offer and with the right guidance could become a strong member of the Northern Powerhouse. The MIT REAP are running the MIT REAP Light programme, which provides guidance on how to create a specific ecosystem which could be a potential opportunity for York.

Quotes

"York suffers by comparison with a lack of industry events, meet-ups, conferences and technical groups alongside an undefined technology specialism that attracts companies and technical skills".

Brannan Coady / Bethan Vincent, CEO / Marketing Director, Netsells

"MIT REAP also run a MIT REAP UK programme with a number of LEPs, offering guidance on how to manage specific ecosystems. There could be an opportunity for York to join this programme".

Jem Henderson, Entrepreneur Engagement Manager – Yorkshire, Tech Nation

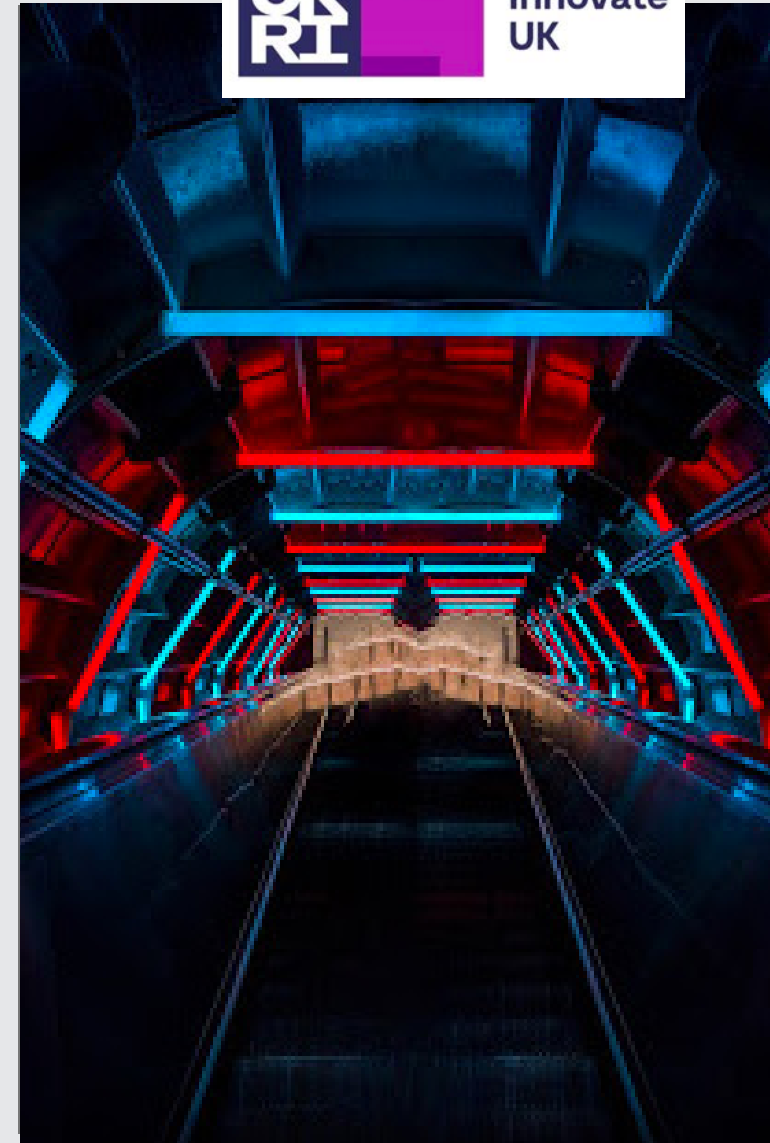
CASE STUDY: ICURe (London, UK)

ICURe is a programme of commercialisation support for teams of academic researchers wishing to explore the commercial potential of their research. It aims to improve commercial awareness amongst academic personnel, to develop and enhance the entrepreneurial skills of early career researchers, and to strengthen links between academic and industrial communities. ICURe ensures that the academic community is primed for the demands of research translation and as such, contributes to bridging the gaps between research, innovation and commercialisation.

To date, ICURe has been delivered by the SET squared Partnership and has funded 160 early career researchers creating 44 new companies and 120 jobs in the UK. The SET squared Partnership is the enterprise collaboration between the universities of Bath, Bristol, Exeter, Southampton and Surrey, and in February 2018 was ranked by UBI Global as the World's Top Business Incubator managed by a university. This year, Innovate UK will expand the ICURe programme to incorporate two additional delivery partners: Queens University Belfast and the University of Warwick. The programme accepts applications from teams based at all UK universities and from all disciplines.

Programmes Include:

- Student to Enterprise – 3-day startup event that teaches entrepreneurial skills to university students in an extreme hands-on environment.
- Researcher to Innovator – 3-day programme for early career researchers and PhD students to develop entrepreneurial thinking and business skills.
- ICURe Programme - designed to move ideas and innovation out of labs and into the marketplace where they will have the greatest impact.
- Digital Business Programme– 2-day programme designed for founders of digital businesses.
- Business Accelerator Programme – Provides startups with mentorship, working space and advice for being investor ready.
- Scale-up Programme - designed to provide support around the key challenges of R&D, raising investment and accessing new talent.



Participating organisations

Stakeholder Interviews

- Alex Green, Head of Business and Network Innovation and Inward Investment, Make It York
- Amanda Selveratnam, Head of Enterprise Services, University of York
- Andrew Digwood & Laurence Beardmore, President & Vice President, York Chamber of Commerce
- Andrew Raby & Tim Frenneaux, Growth Hub Manager & Head of Policy, York & North Yorkshire Local Enterprise Partnership
- Anthony Main, Managing Director, The Distance
- Antony Chilton-Murphy, Head of IT, Signature Rail
- Brannan Coady & Bethan Vincent, CEO & Marketing Director, Netsells
- Charles Cecil, Co-Founder, Revolution Software
- Charlie Jeffery, Vice-Chancellor and President, University of York
- Chris Bailey, Clerk, York Guild of Media Arts
- Chris Yates, CEO, Abingdon Health
- Damian Mullaney, Relationship Manager, Santander Universities Programme
- Damian Murphy, University Research Champion for Creativity, Department of Electronic Engineering, University of York
- David Brandon, Founder, Rotacloud
- Edward Humphrey, Director of Digital & Ventures, British Film Institute
- Graham Meiklejohn, Regional Development Manager, Trans Pennine Express
- Heather Niven, York tech / Innovation Expert, Freelance
- Helen Oldham & Matt Cooling, Founding Board Director and Head of Operations & Advisor, North Invest
- Ian Gray, Project Director, York Central Partnership
- Jack Whyte & Steve Prendergast, Global SVP Engineering / Product Manager, Anaplan
- Jem Henderson, Entrepreneur Engagement Manager – Yorkshire, Tech Nation
- Jeremy Oliver, Partner, Garbutt & Elliott
- Joan Concannon, Director of External Relations, University of York

- Kevin Blacoe, Head of Partnerships, Channel 4
- Kevin Moss & Paul Delamere, Chief Operating Officer for UK Life and Pensions & Chief Information Officer for UK Life, Aviva
- Marc Bichtemann, CEO, First Group
- Nick Cowlen, CEO, Hublsoft
- Paul Henshaw, Co-Founder, Infinity Works
- Paul Hodgson, Managing Director, Yordigital
- Peter White, Technical Advisor, Freelance
- Phil Doye & Scott Catteneo, Owner & Services Director, Software Box Limited (Boxxe)
- Phil Thorn, Head of Propositions, Hiscox
- Richard Latham, HR Director, Persimmon Homes
- Rob Hickey, Chief Operating Officer, York St John University
- Sally Joynson, CEO, Screen Yorkshire
- Sarah Bowes & Tony Corby, Innovation & Digital Policy Manager & Sector Manager, Creative and Digital Industries, WYCA
- Dr Sarah Hickingbottom, CEO, BioVale
- Simon Brereton, Head of Economic Development, City of York Council
- Stirling Kimkeran, Owner, Class One Systems
- Tim Cross, Managing Partner, Langleys
- Tim Williams, Head of Strategic Partnerships & Alliances, Pksel Group
- Tom Bridges, Leeds Office Leader and Director Cities Advisory, Arup

Accelerator / Innovation Hub Interviews

- Darren Balcombe, Deputy CEO, Capital Enterprise
- Jonathan Bray, Deputy Head of Digital, AMRC
- Dr Martin Stow, Chairman and Director, Nexus
- Tristan Watson, CEO, Ignite

Participating organisations contd.

Stakeholder Interviews

Survey Responses

- 2020 Insights LLP
- Anothertrail
- Barefoot Lightning Ltd
- Chords Tech Ltd
- City of York Council
- Connected York
- Ernest Wilson & Co Ltd
- JB Consulting
- Realise Possibilities
- Rollits LLP
- United by Design
- University of York
- Wits Design and Development
- Yordigital Services Limited
- York St John University

Initial Steering Group

- Dick Whittington, Entrepreneur
- Olivia Chatten & Claire Bennett, Business Development Executive & General Manager, York Science Park
- Alex Dochery, Economic Growth Manager at City of York Council
- Charles Storr, Economy and Enterprise Manager, Make It York
- Jim Bennett, CEO, Mood International
- Stefan Haase, Whitecap Consulting

Whitecap Consulting

Whitecap Consulting

Established in 2012, Whitecap Consulting is a regional strategy consultancy headquartered in Leeds, with offices in Manchester, Milton Keynes, Bristol, Newcastle and Birmingham.

Whitecap typically works with boards, executives and investors of predominantly mid-sized organisations with a turnover of c£10m-£300m, helping clients analyse, develop and implement growth strategies.

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www.whitecapconsulting.co.uk



Whitecap Consulting

1 Aire Street, Leeds LS1 4PR

Tel: 0113 834 3133

Email: info@whitecapconsulting.co.uk

www.whitecapconsulting.co.uk

Leeds | Manchester | Milton Keynes | Bristol | Newcastle | Birmingham

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