




Unlocking **growth**

Creating tech ecosystems to stimulate
local economies - October 2021

 **BARCLAYS** | **Eagle Labs**

 **Beauhurst**



Barclays foreword

We believe that healthy and vibrant localised technology ecosystems have a critical role to play in creating an environment that is conducive for startup businesses to flourish and grow. These ecosystems can help to accelerate innovation and stimulate the right type of economic growth that encourages high quality local job creation and knowledge sharing.

Ecosystem is the right term to describe what we see on a practical level through Barclays Eagle Labs across the UK. There are multiple interconnected and interdependent stakeholders and components that can create mutual and circular benefits for an area.

Local government, academia, investors and business support services such as accelerators and incubators all have a role to play in supporting the growth of technology businesses and associated economic benefits. In isolation they can add value, but when they collaborate and all operate within a specific geographical area, this is when positive outcomes intensify.

The presence of localised technology ecosystems can help spread growth geographically, something that we see as a major positive. Every region of the UK has the presence of at least one high-growth technology cluster and we can learn a lot from the approaches that these areas have taken. Geography should not be viewed as a constraint, and with the right infrastructure technology startups can be a success.

In our experience of having supported entrepreneurs nationally as well as in over 28 ecosystems across the UK, healthy technology ecosystems do not happen by accident or coincidence. As the case studies in this report detail, they're something that can be created and nurtured and there's a role for collaborative local government intervention here.

At Barclays Eagle Labs we're proud of how we've contributed towards the local ecosystems in which we operate over the last five-plus years and partnered with other organisations to support entrepreneurs, businesses and the wider community. If you're interesting in finding out more or working with us, please do get in touch.



Matthew Corbidge
Director, Barclays
Eagle Labs

Beauhurst foreword

Too often the role of local technology ecosystems is ignored. Even at Beauhurst where we aim to capture a range of behaviours that suggest a company's growth ambition, we can become overly focused on the national landscape at the expense of the local. This is also true of other data sources and the press — but the aggregate story is not the whole story. High-growth and ambitious companies do not spring unbidden from the regions; it takes an ecosystem to build a company.

Local technology ecosystems across the UK provide an environment in which innovative ideas can be successfully commercialised. To understand how the 621 high-growth companies in Edinburgh and the 1,213 in Greater Manchester got started and managed to grow, we not only track investors but also universities, accelerators, incubators and local government support. Having each type of participant present leads to an environment where companies are more able to access the expertise, finance and support they need to grow. Ensuring these support systems and ecosystem participants are in place is an area where local government has a critical role to play. As the examples throughout this report show, local government can act as the catalyst for the emergence of vital components of an ecosystem, including public-private initiatives and partnerships.

The pandemic has reinforced the importance of local communities and local spaces in our lives. The companies and support organisations that comprise a local tech ecosystem are important employers in the areas in which they are embedded and through their presence help to build digital skills and resilience in the local community.

The pandemic has also shown us that technology companies and digital skills are vitally important to the economy. This will certainly continue to be the case as we build back from the pandemic. We hope that this report will add another voice in support of local technology ecosystems we can no longer afford to ignore them.



Henry Whorwood

Head of Research & Consultancy,
Beauhurst

Executive summary

Local technology ecosystems across the UK are essential for transforming innovative ideas into thriving high-growth businesses. These ecosystems are formed of numerous investment sources from business angels to private equity; support structures such as universities, accelerators and incubators; and good local governance that offers partnerships and other initiatives to assist with growth.

A local authority that is well-equipped in these areas makes for a strong ecosystem that can offer the finance, support and expertise needed by young businesses with growth potential.

The benefits of well-cultivated technology ecosystems are not to be overlooked. Early-stage innovative businesses are more likely to survive, leading to the development of new products and markets, as well as fostering business cooperation and healthy competition. High-growth companies can contribute to both regional and national economies with increased revenues, use of local office space and offering jobs which upskill the workforce and attract top talent from overseas.

Edinburgh is the city headquartering the most high-growth companies outside Greater London and saw £1.3bn of equity investment into high-growth businesses between 2011-2020, of which £940m went into the technology sector. Top investor Scottish Enterprise and top incubator CodeBase are playing major roles in the flourishing Edinburgh tech ecosystem.

Greater Manchester is home to 1,213 high-growth companies which raised £2.4bn between 2011-2020. Around 70% of this figure was raised by technology businesses, which make up just over 30% of the total companies. Several of these are supported by Manchester Science Partnerships, a collaboration between Bruntwood SciTech, Manchester City Council and the University of Manchester among others.

In both Edinburgh and Manchester, there is a strong correlation between accelerator attendance and equity investment. With both areas having dipped in 2020 as a result of the pandemic, focus on local technology ecosystems is vital to supporting high-potential businesses and rebuilding the economy.

Key recommendations

An ecosystem can only thrive and survive when all the key players make a commitment to work together to give the businesses in their region a boost and springboard their growth. We've seen throughout this report that businesses located in areas where the local authority plays an active role to drive economic growth tend to thrive and go from strength to strength.

Local authorities are perfectly positioned to play an ever-increasing role in the growth, success and long term sustainability of their respective tech ecosystem and with this in mind, we recommend that:

- Local authorities and government agencies make full use of available Government funding and provide education, facilities and direction to local businesses and business groups about the available support and funding for tech businesses.
- Central government should consider mobilising additional funding and support, such as the Midlands Growth Engine and Northern Powerhouse, which is ring-fenced for local authorities to tap into and empower them to build more thriving local economies throughout the country.
- Local authorities seek support from organisations, like Barclays Eagle Labs, who have a strong track record in building tech ecosystems.

Building a strong economy is more vital than ever in a post-pandemic environment and we all need to play our part.



Defining high growth

Beauhurst identifies ambitious businesses using eight triggers (outlined on the right) that it suggests a company has high-growth potential. More detail on Beauhurst's tracking triggers is available via its website.

Equity investment

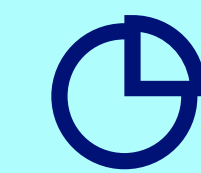
To be included in its analysis, any investment must be:

- Some form of equity investment
- Secured by a non-listed UK company
- Issued between 1 January 2011 and 31 December 2020.

Announced and unannounced fundraisings

An unannounced fundraising is an investment made into a private company that is completed without press coverage or a statement from the recipient company or funds that made the investment. These transactions are an integral part of the UK's high-growth economy, accounting for around 70% of all equity transactions.

High growth triggers



Equity investment



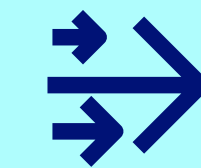
Academic spinouts



Scaleups



High-growth lists



Accelerator attendances



Major grant recipients



Management Buy-outs/
Buy-ins



Venture debt

Chapter one: Defining local tech ecosystems

Introduction

An ecosystem is more than the sum of its parts, yet it is the parts that allow emergent behaviours like cooperation and competition to occur. In the case of a technology ecosystem, there are a number of components that seem to be necessary to support growth businesses. These include the availability of investors and investment; support structures like universities, accelerators and incubators; and good local governance that takes active steps to grow the ecosystem through partnerships and other initiatives.

This report examines the components that characterise high-growth technology ecosystems in the UK. The first chapter takes a high-level look at key ecosystem components, while Chapter 2 takes a deeper dive into two key UK tech ecosystems, Edinburgh and Manchester.

These two cities are home to the largest populations of high-growth technology businesses in the UK outside of London. Chapter 3 summarises tech ecosystems and their role in supporting high-growth businesses, including the impact of tech ecosystems on local economies and how ecosystems can be fostered and improved.

A number of international universities have been attended by top 200 company founders, including US institutions: Harvard University (13) and Stanford University (12). Moreover, the graduate-only business school INSEAD, which has campuses in Europe, Asia, the Middle East and America, also features in the ranking with nine companies.



Ecosystem components: Investors

Innovative businesses need capital, meaning investment is an essential support mechanism for the high-growth ecosystem. There are several types of funding a business could secure investment deals with. Private equity firms invest into unlisted private companies that are reasonably established to make significant returns. Venture capital funds are a form of private equity focused on early-stage businesses with high potential. These investments are high-risk, meaning venture capital firms are looking for extremely high profits for their investors.

Other fund types include corporate venture funds run by a corporate in order to make strategic investments, funds using public money backed either by central or devolved government,

or funding programmes backed by universities and non-profit organisations.

Some high-growth businesses also choose the route of crowdfunding, either alongside or instead of more traditional equity finance methods. Crowdfunding platforms operate largely online, allowing lots of investors to participate on a smaller scale.

Angels

Usually individuals with a high net-worth, angel investors undertake discretionary investments into ambitious startups and early-stage businesses. Angels often offer investment at a stage when other investors are not yet willing to provide financial backing.

Compared to funds, angel investing can have a more personal component, with many angels having made their money through the success of their own startups, meaning they can offer skills and experience as a source of support to a high-potential business and their founders.

Angel networks

Angel networks are investment groups of angel investors that enjoy the benefits of sharing investment opportunities and introductions. They typically syndicate funds to make joint investments, meaning they are able to make larger investments.

These networks help entrepreneurs with fast-growing companies connect with multiple angels to find the right investor. This means companies can benefit from more than one perspective as well as more funding.

Angels and angel networks play an important role in supporting the growth of very early-stage companies.

Ecosystem components: Support

Universities

Academic spinout refers to a company that has been spun out of a UK university or higher education institution. These types of company are often highly innovative, benefitting from the intensive research and development done at leading UK institutions.

Academic spinouts often receive support from the universities they came from, perhaps in the form of capital from the university or a linked venture fund, continued access to workspaces and cutting-edge tools and technology, and extended support and knowledge-sharing. Investors, grant-awarding bodies and policymakers pay attention to spinouts due to their innovative nature.

With ongoing university support as well as specialised expertise and research backgrounds, spinouts are unsurprisingly mostly technology businesses in areas such as pharmaceuticals, research tools and reagents, clinical diagnostics, medical devices, artificial intelligence, software-as-a-service and materials technology.

Accelerators

Business accelerator programmes are designed to help startup businesses grow and develop, usually in return for an equity stake. Types of support vary between different accelerators, but may include early funding, tailored mentoring, access to potential investors or customers, working spaces and facilities or specialised skill development.

Accelerators may be funded by government or large corporates and sometimes have very competitive selection processes. Programmes are time-bound and run in cohorts, and some may also be selective by sector or region.

Incubators

Like accelerators, incubators hope to offer support to aid business advancement. Rather than 'accelerate' business growth in a set programme, incubators are more open-ended and help to develop and refine innovative ideas over a longer period. Working spaces, networking and ideas sharing, workshops and access to products and services at reduced cost may be offered as part of incubator support.

Incubators are less likely to offer funding as a perk than accelerators, but they are often non-profit, do not take equity and run by universities or economic development organisations.

Ecosystem components: Local government interactions

Local Enterprise Partnerships (LEPs)

Local enterprise partnerships, commonly referred to as LEPs, are partnerships between local authorities and businesses. The initiative was launched in 2011 by the Department for Business, Innovation and Skills. The 38 LEPs across England support economic development and job creation within the communities they serve by running events and supporting inward investment. LEPs deliver business support to the multiple local authority areas they cover; many are currently focused on helping businesses to recover from the pandemic and associated lockdowns.

Growth hubs

Run by LEPs, Growth Hubs are specifically focused on providing business support. This can range from advice on how to start a business to assisting with fundraising strategy or starting to export. Some Growth Hubs such as the Manchester Business Growth Hub offer targeted support for key local industries. Many can also assist with helping to recruit and train employees and provide advice on related matters like apprenticeships.

Local government partnerships

In Wales, Scotland and Northern Ireland, local government partnerships play a similar role to those of LEPs and Growth Hubs in supporting businesses and facilitating economic development. For example, Scotland's Business Gateway programme has local offices across the country that provide business advice, local workshops and access to online resources. Business Gateway also works with economic development organisations at a national and regional level to help businesses access financial support and funding.



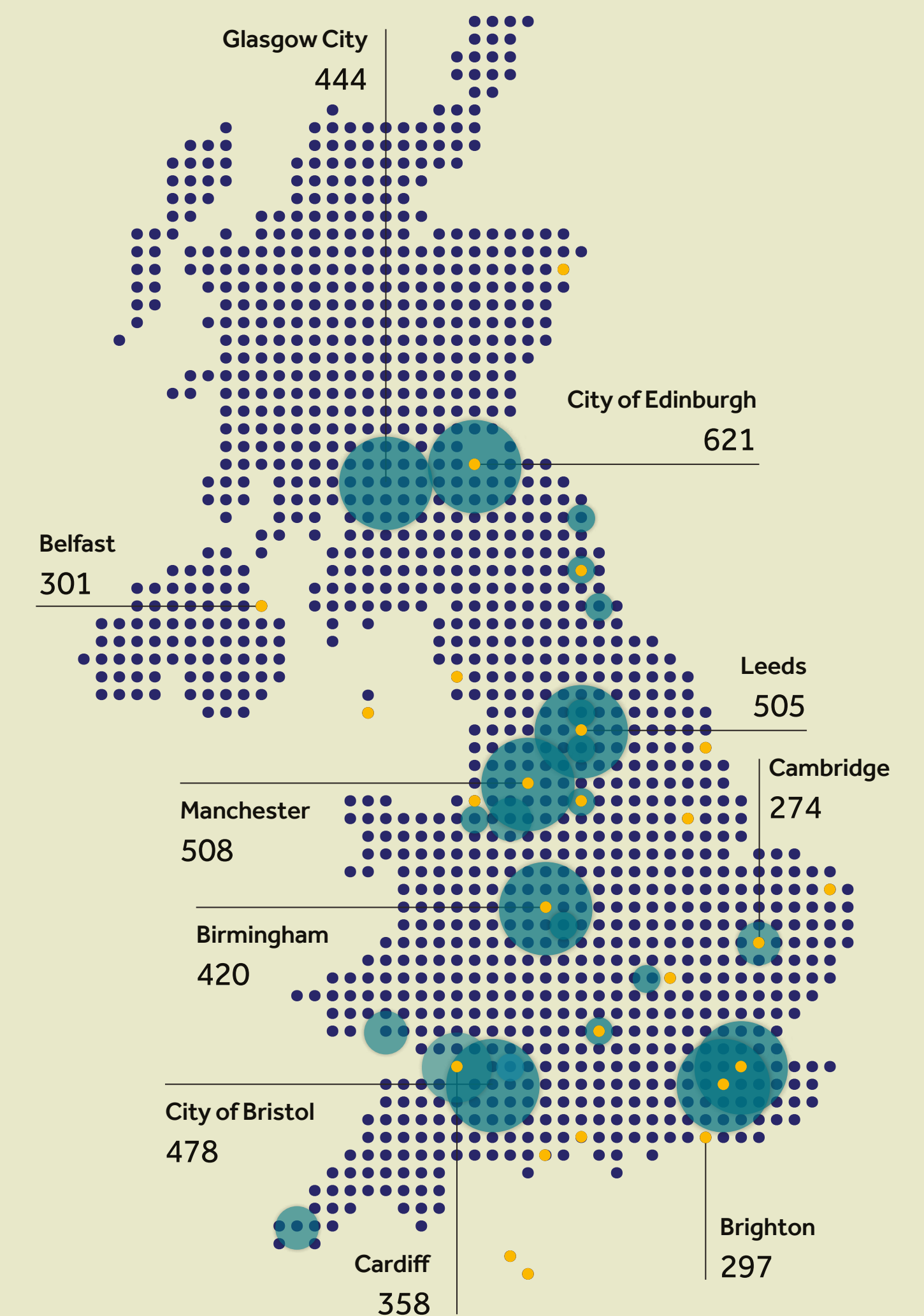
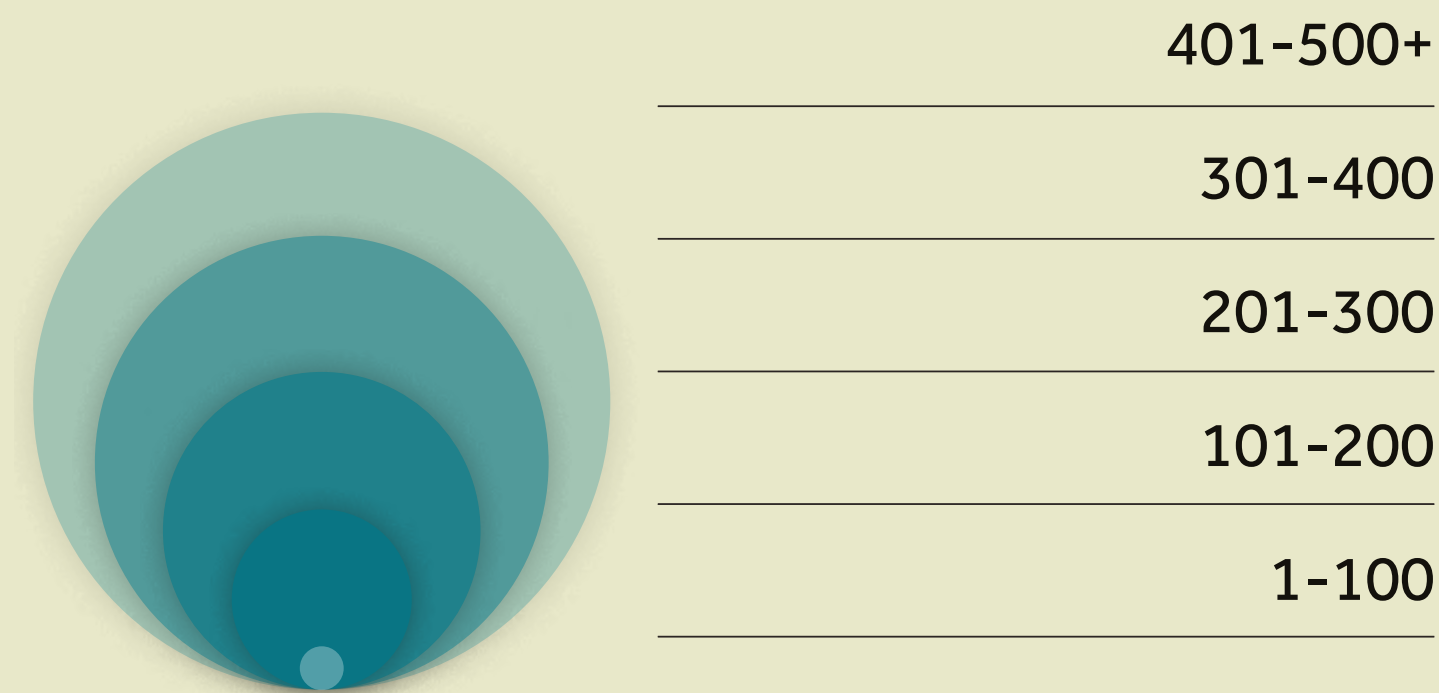
Top tech ecosystems

As the map shows, the UK has strong technology and high-growth ecosystems across the country. Outside of the London local authorities, Edinburgh, Manchester and Leeds have the highest population of technology and high-growth companies. The remainder of this report focuses on Edinburgh and Manchester and the combination of organisations and resources, including investment, that support the local technology ecosystem in each city.

Top technology and high-growth ecosystems outside of London by local authority (2021)

- Barclays Eagle Labs location

Number of high-growth companies



Chapter two: Exemplar tech ecosystems

Edinburgh

Edinburgh is home to 621 high-growth companies, the most calling a single city home outside of Greater London, of which 280 are technology companies. Edinburgh's impressive technology ecosystem makes this achievement possible. The city's incubators, accelerators, universities, and partnerships between public and private organisations create an environment in which businesses can start and scale successfully.

New companies are often supported by equity investment from Scottish Enterprise and a number of other Scottish investors. In 2020, Edinburgh-based high-growth technology companies raised £143m in equity investment, down slightly on the £163m in 2019 but a tremendous achievement in the face of the pandemic. Over the last 10 years, high-growth companies in Edinburgh have raised £1.3b with three-quarters of the money going to technology companies.

Accelerators, incubators and universities provide rich environments for entrepreneurs and business leaders to prosper. Since 2011, 190 Edinburgh-based high-growth companies have attended Glasgow-headquartered accelerator Entrepreneurial Spark. Other key accelerators for Edinburgh companies include Entrepreneur Accelerator and Unlocking Ambition.

Though harder to quantify, the role of incubators should not be overlooked. The availability of office space, workshops and access to industry and academic experts provides a crucial leg up for young businesses. This chapter touches on the key components that make Edinburgh technology and high-growth ecosystem so successful.



Edinburgh : Headline stats

54k

active companies

621

active high-growth companies

280

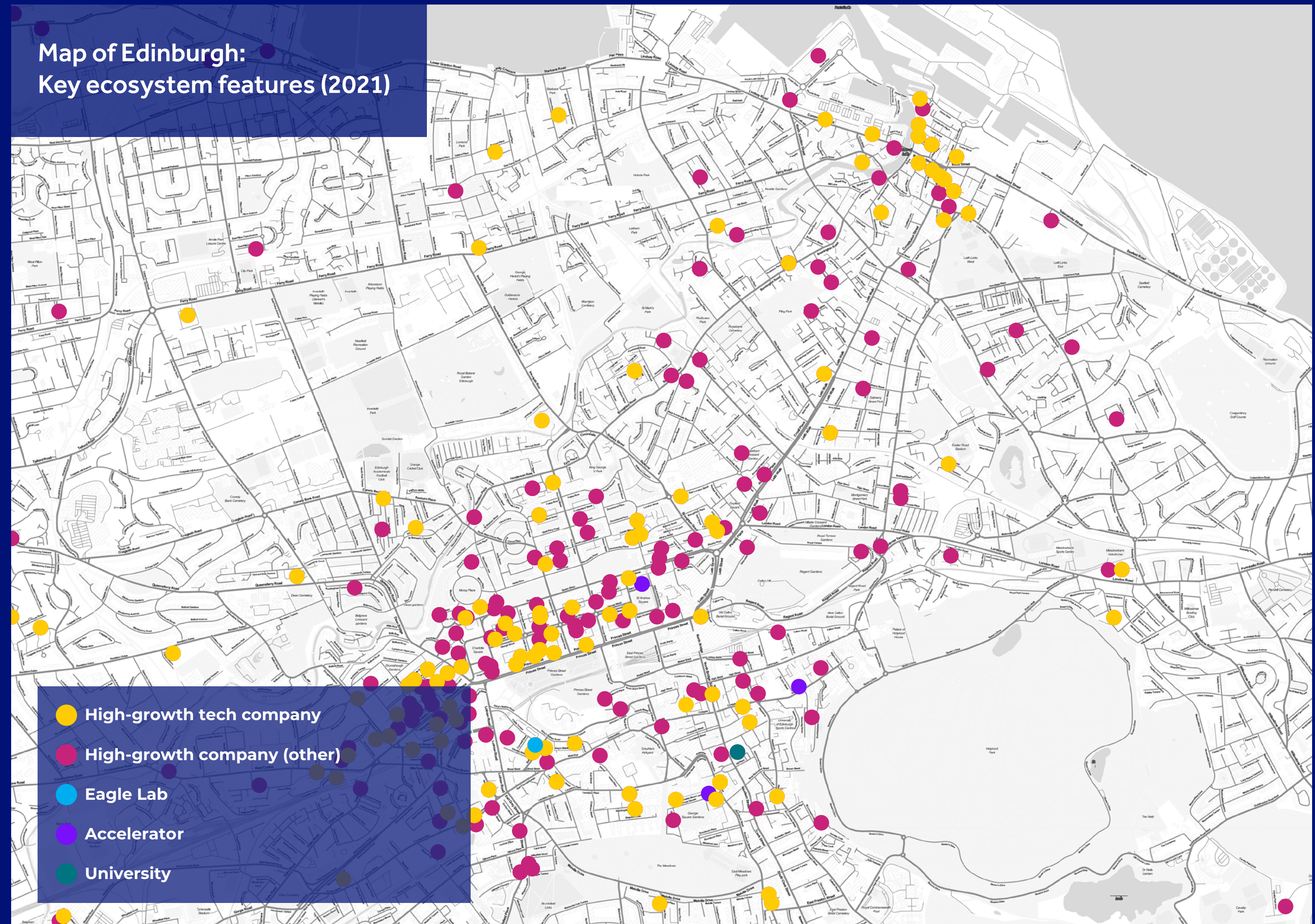
active high-growth tech companies

Edinburgh: Map

Most of the high-growth companies in the City of Edinburgh are clustered around the city centre and the port district of Leith.

The city's central New Town and West End districts play host to a majority of the local authority's high-growth companies. Support providers such as accelerators, the University of Edinburgh's Old College and the Barclays Eagle Lab are loosely clustered nearby on the south side of the city. The close proximity of the businesses and the other components of the ecosystem — the city centre is less than two kilometres squared — means that in-person collaboration can occur with manageable travel time.

Edinburgh BioQuarter is located about five kilometres to the south east of the city centre.



Edinburgh: Tech investment

In the last 10 years, companies in Edinburgh raised £1.3b in equity investment, with three quarters of this amount raised by companies operating in the tech sector, making evident the importance of tech companies to Edinburgh’s high-growth ecosystem. With a total investment value of £220m, 2019 saw the largest amount raised, while 2020 was the top year for the number of deals at 181.

In January 2016, Skyscanner secured the largest deal of the decade with a £128m equity fundraising round, accounting for 67% of investment that year. The travel website was bought by Chinese travel firm Trip.com, formerly Ctrip, later the same year.

Key figures: (2010-2020)

£1.3bn

total equity investment

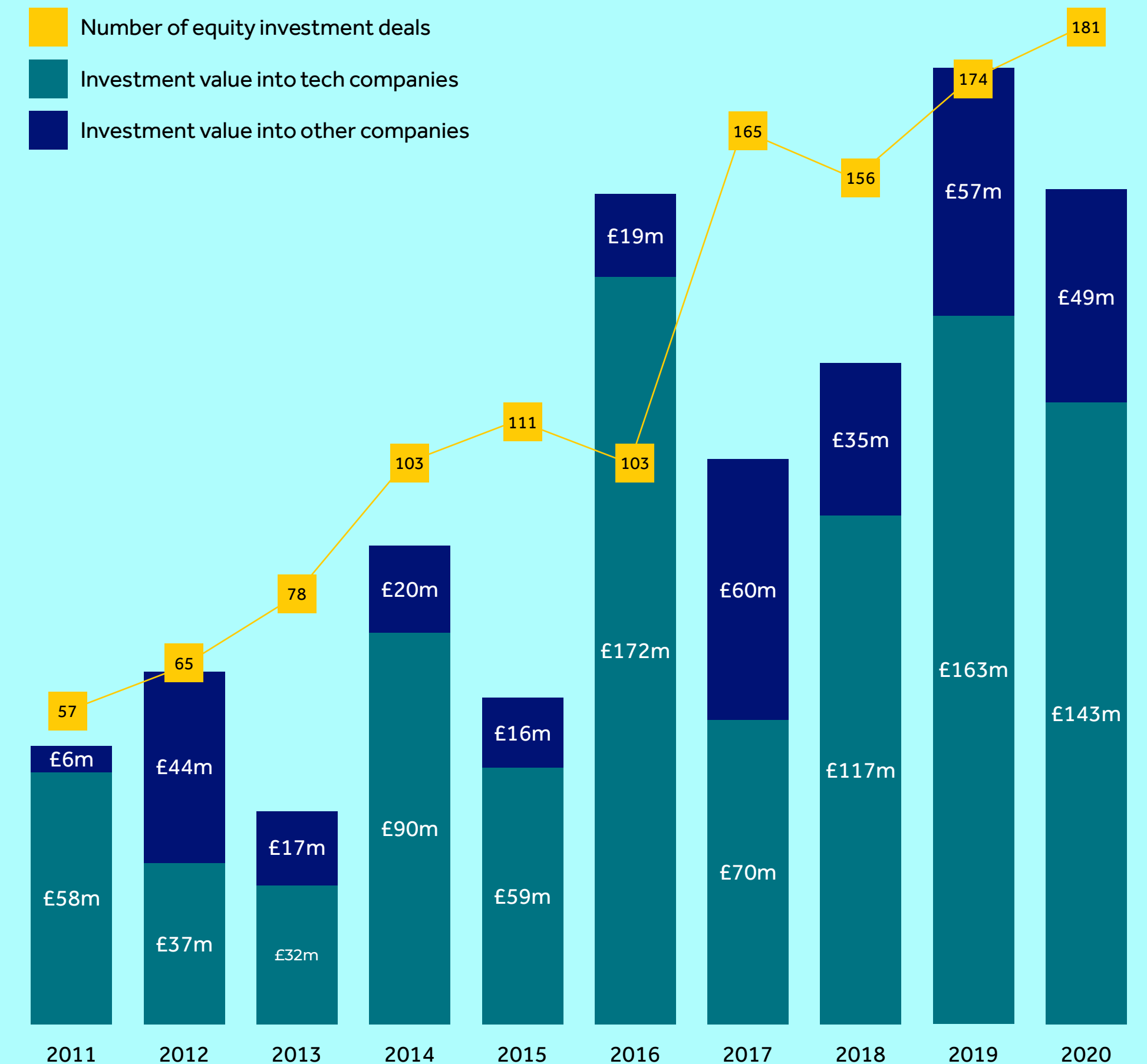
1,193

total deals

£940m

total tech equity investment

Deal numbers and value of equity investment to Edinburgh-based tech companies (2011–2020)



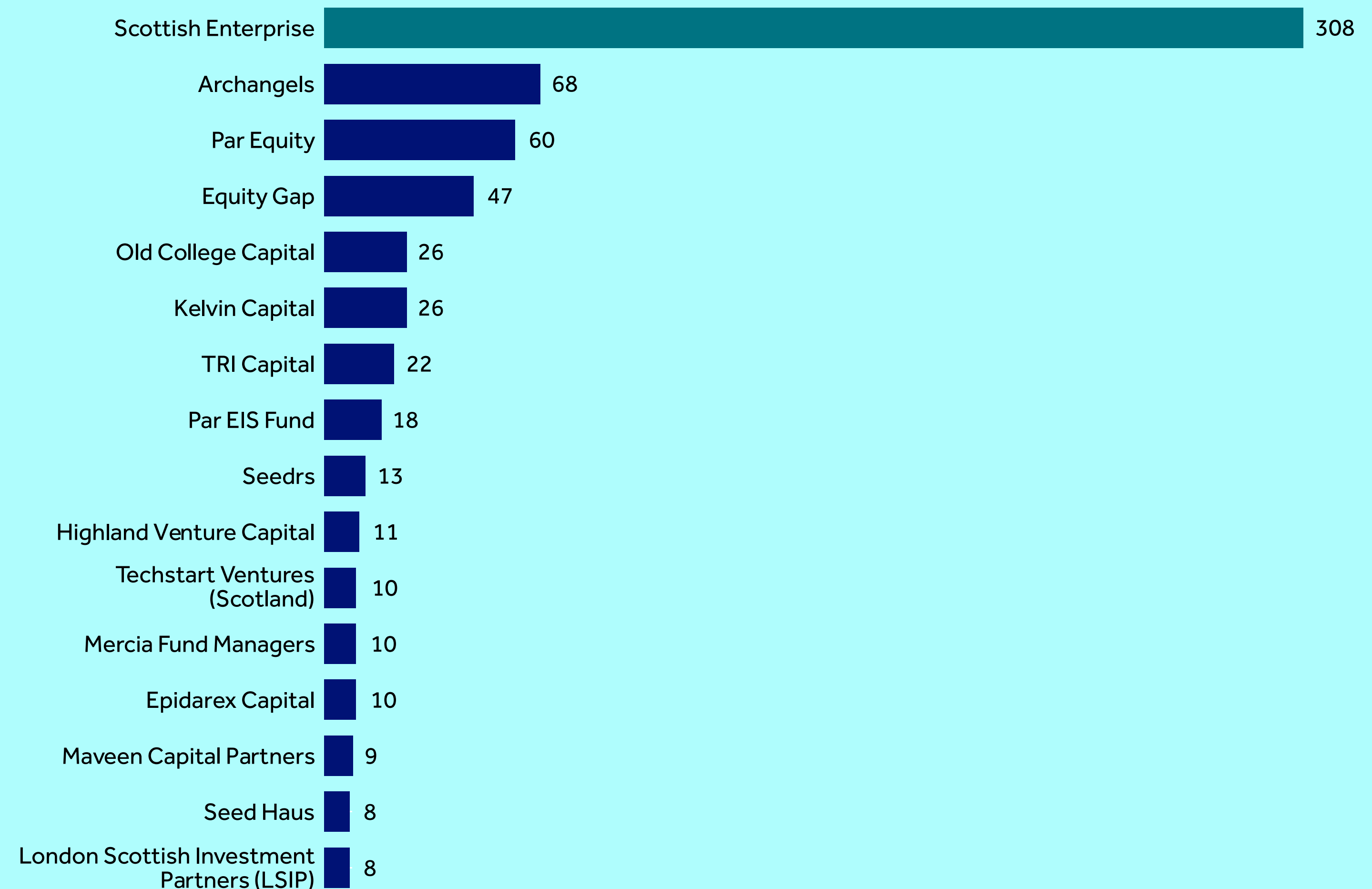
Edinburgh: Tech investors

The largest investor into tech companies headquartered in Edinburgh was by far Scottish Enterprise and its associated funds including the Scottish Co-investment Fund, Scottish Venture Fund and the Early Stage Growth Challenge Fund. Scottish Enterprise is a non-departmental public body of the devolved Scottish Government, aiming to support local economic development.

The angel network Archangels and venture capital firm Par Equity ranked second and third making 68 and 60 equity deals respectively between 2011 and 2020 to support the growth of Edinburgh's tech ecosystem.

The vast majority of the investors on this ranking are Scotland-based, suggesting the relative strength and self-sustaining nature of the ecosystem in Edinburgh.

Top investors into Edinburgh-based tech companies by number of equity deals (2011–2020)



Edinburgh: Spotlight companies

Codeplay develops a range of software tools for developers, including providing Artificial Intelligence (AI) based products for projects to build autonomous vehicles. Acknowledging the rapidly growing demands that artificial intelligence imposes on processors, Codeplay allows AI researchers and developers to access the latest processors via well-established open standard interfaces. While the range of products included in its ComputeSuite offering are used by developers in many markets, CodePlay's ultimate aim is to facilitate the development and deployment of autonomous vehicles.

Leveraging both private investment and grants, Codeplay now employs over 70 people and has grown its headcount by more than 10% in three consecutive years. Its latest batch of investment was provided by the Foresight Williams Technology EIS fund, a collaboration between the Foresight private equity group and Williams Advanced Engineering, the company behind the Williams Formula 1 team. This investment will be used to develop image recognition technology that will allow cars to perceive obstacles, other cars, and pedestrians, in partnership with Renesas, a Japanese semiconductor company. Alongside these international partnerships, Codeplay is heavily involved in the Edinburgh AI scene, hosting the Machine Learning Edinburgh meetup group, and attending a computer science seminar series held at Heriot-Watt University in 2020.

Artificial Intelligence;
Software Development

2002

incorporated

73

employees

£2.1m

equity investment raised

Edinburgh: Spotlight companies

Orbital Marine Power develops and manufactures a floating tidal turbine. Anchored within streams and tidal currents with sufficient speed and power, their innovative floating platform's underwater rotors converts this energy into electrical energy. The company has developed two turbines, the O2 and the SR2000. Orbital estimates that tidal power could power 80m homes and its deployment would generate investment of over £300b in related services and equipment.

Founded in 2002, Orbital received its first Innovate UK grant of £109k four years later. Now, it has secured £17m in total grant funding, and £38m in private investment. Its latest grant, one of the first awarded by the Saltire Tidal Energy Challenge Fund, totalled £3.4m and will be directed towards building the world's most powerful floating turbine, the next generation of the O2 device. This unprecedented green energy structure will also be built in Scotland, creating new jobs and diversifying the UK's supply of energy sources.

Orbital attended the Shell StartUp Engine UK Accelerator programme in 2020, which supports clean energy startups operating outside of established tech hubs.

Clean energy generation

2002

incorporated

342

employees

£38m

equity investment raised

Edinburgh: Universities

The University of Edinburgh has spun out 54 companies in sectors including pharmaceuticals, research tools and software, of which 43 remain active. Several of these spinouts have been highly successful at raising equity, such as pharmaceuticals company Resolution Therapeutics, which secured a £27m round in December 2020, just before the end of its third year of trading. Mobile and wireless hardware company pureLiFi has raised £22m since 2011 across six deals, in addition to being the recipient of nine grants worth £2.4m.

Key stats

04

universities

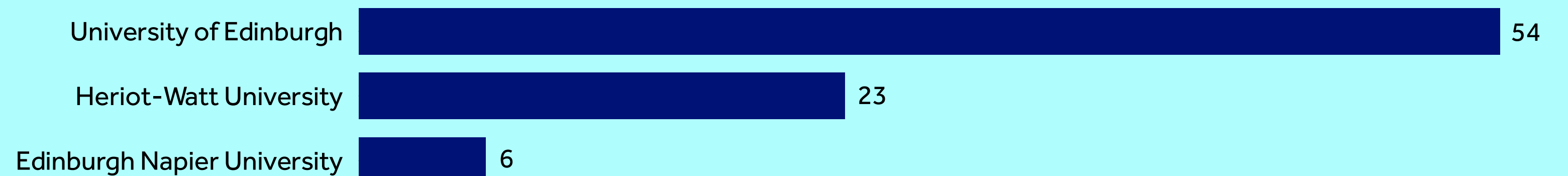
83

spinouts

68

active spinouts

Edinburgh universities by number of spinouts created

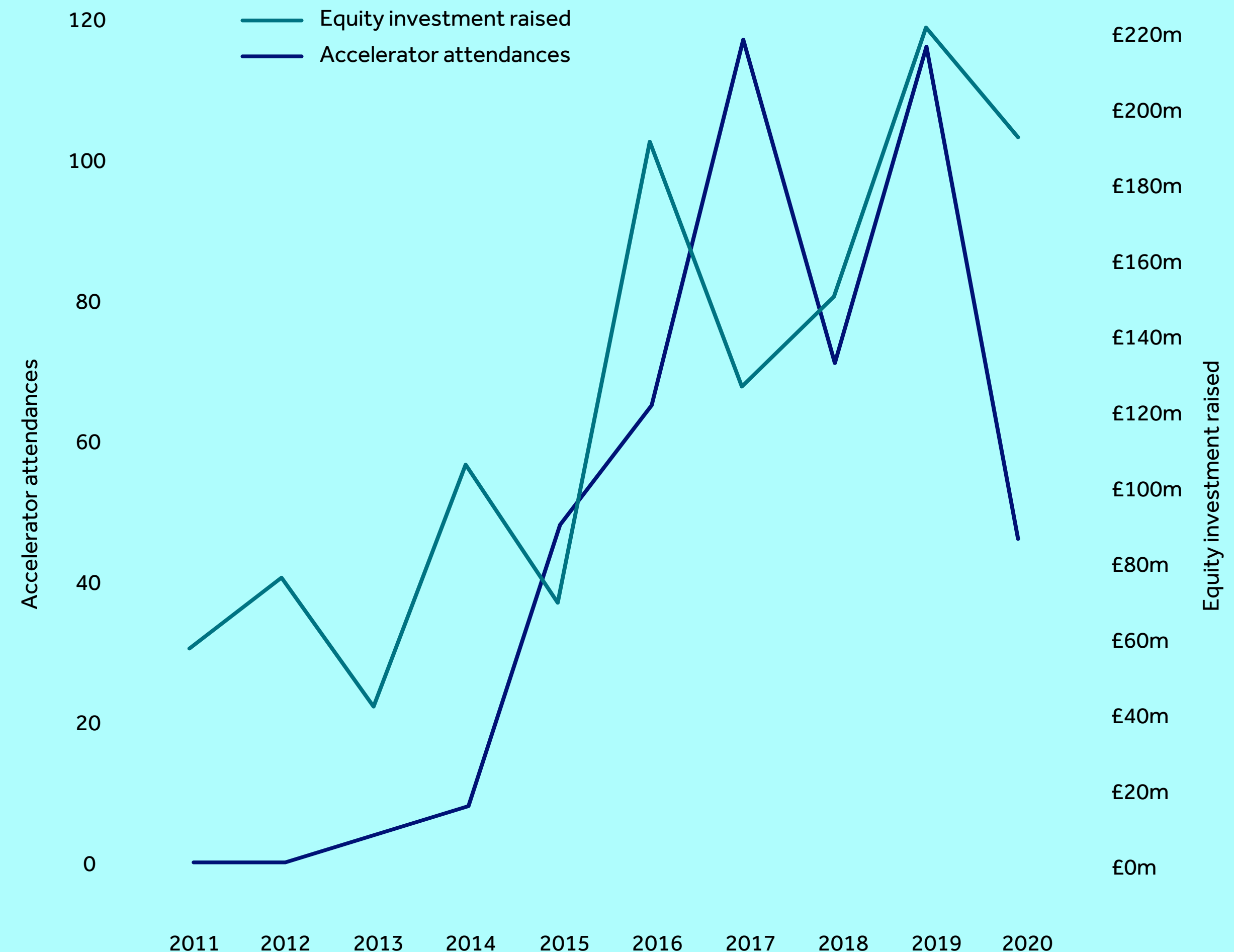


Edinburgh: Accelerators

Accelerators are important contributors to local technology ecosystems and are a catalyst for equity investment. This graph demonstrates the strong positive relationship between accelerator attendance and equity raising in Edinburgh. Since the pandemic hit there has been a steep decline in companies attending accelerators. While the overall decline in equity investment is low, it's concerning that there may be a smaller cohort of accelerated Edinburgh-based companies looking to raise equity finance and scale over the next few years.

The Scottish Government recognises the important role that accelerators play. Scottish Enterprise has launched an accelerator programme called Unlocking Ambition that sees entrepreneurs complete a six-month course and receive a development grant to launch their business. Such programmes are an important part of ensuring the continued growth of Edinburgh's technology ecosystem.

Accelerator attendance and equity investment received by Edinburgh-based companies (2011–2020)



Edinburgh: Incubators

As home to the largest number of high-growth companies outside London, the City of Edinburgh naturally hosts a number of incubators that play an important role in the ecosystem. As described earlier, incubators tend to offer more open-ended support than accelerators with perks including access to co-working spaces and workshops.

A key presence in Edinburgh is CodeBase, founded in 2014 and now with sites in Aberdeen and Stirling. CodeBase offers events and programmes throughout the year in partnership with a range of corporate, academic and local government organisations including Barclays, PwC, Stirling Council, Stripe, Seedrs and the University of Edinburgh. As part of its partnership with Barclays, CodeBase provides mentorship and business support in Barclays Eagle Labs across the UK.

Another important facility that plays an incubator-like role is the Edinburgh BioQuarter which is 160-acre site dedicated to life sciences projects. The site is host to around 8,000 clinicians, researchers and students. It is backed by the City of Edinburgh Council, NHS Lothian, Scottish Enterprise and the University of Edinburgh. Other incubators in the Edinburgh ecosystem include The Edinburgh Business School Business Incubator at Heriot-Watt University and the Higgs Centre for Innovation, which is supported by the University of Edinburgh and the Science and Technology Facilities Council (STFC). The Higgs Centre is focused on supporting commercial applications of research in space, astronomy, particle physics and big data analytics.

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*Edinburgh has had a growing tech ecosystem for years. But there is ambition for more: there is a pervading sense of maturing, of getting to the next level, that is driving all the constituent parts of the ecosystem: startups and investors, but also institutions old and new are demonstrating that Edinburgh gets tech entrepreneurship, wants more of it, and knows how to accelerate it.
Exciting times!*

||

Steven Drost,
CSO, CodeBase

Edinburgh: Local government

Local government plays an important role in creating, nurturing and funding high-growth ecosystems. In Edinburgh, the City of Edinburgh Council helps allocate vital resources to the ecosystem.

Invest Edinburgh, the Council's inward investment arm, highlights investment opportunities for investors outside the region, the country, and even the UK. It has played a role in promoting the 160-acre healthcare and medical research site BioQuarter for investment.

The City of Edinburgh is also one of the six local authority areas that partnered on the Edinburgh and South-East Scotland City Deal. The initiative will see £1.3b of public and private money invested in the region over the period from 2017 to 2032.

Under the stewardship of the City of Edinburgh Council, a number of programmes funded by the deal are helping to support and grow the local ecosystem. These include the Bayes Centre at the University of Edinburgh which acts as a multidisciplinary hub for data science, including commercial applications of data science technologies, as well as the National Robotarium at Heriott-Watt University, which provides facilities to support the creation of a new generation of smart robotics companies.

Other supported organisations include the Edinburgh Futures Institute, which is a multidisciplinary centre for challenge-based data science research, and the Usher Institute (located at Edinburgh BioQuarter) which has a focus on using data to improve health and social care.



Manchester

Home to 1,213 active high-growth companies, Greater Manchester accounts for 3.6% of the UK's total high-growth population. Over 30% of these companies operate in the technology sector. Manchester's technology ecosystem makes this possible. The city's population base and commercial density combined with partnerships between public and private organisations create a nurturing environment for early-stage and scaling technology companies.

New and more established tech companies can source investment from investors such as Mercia Asset Management or via GC Angels — both of which are highly active investors in the Greater Manchester area. In 2020, Manchester-based technology companies raised £216m in equity investment, down from the record £316m raised in 2019 but still an impressive total in a year that was certainly not business-as-normal.

Beyond investment, Manchester-based companies can access support from local incubators, accelerators and universities. An important source of support is the Manchester Science Partnership which is a partnership between the Manchester City Council, the University of Manchester and the Salford City Council among others. The partnership provides support via two campuses run by Bruntwood SciTech that offer incubation services and lab facilities.



Manchester: Headline stats

206k

active companies

1,213

active high-growth companies

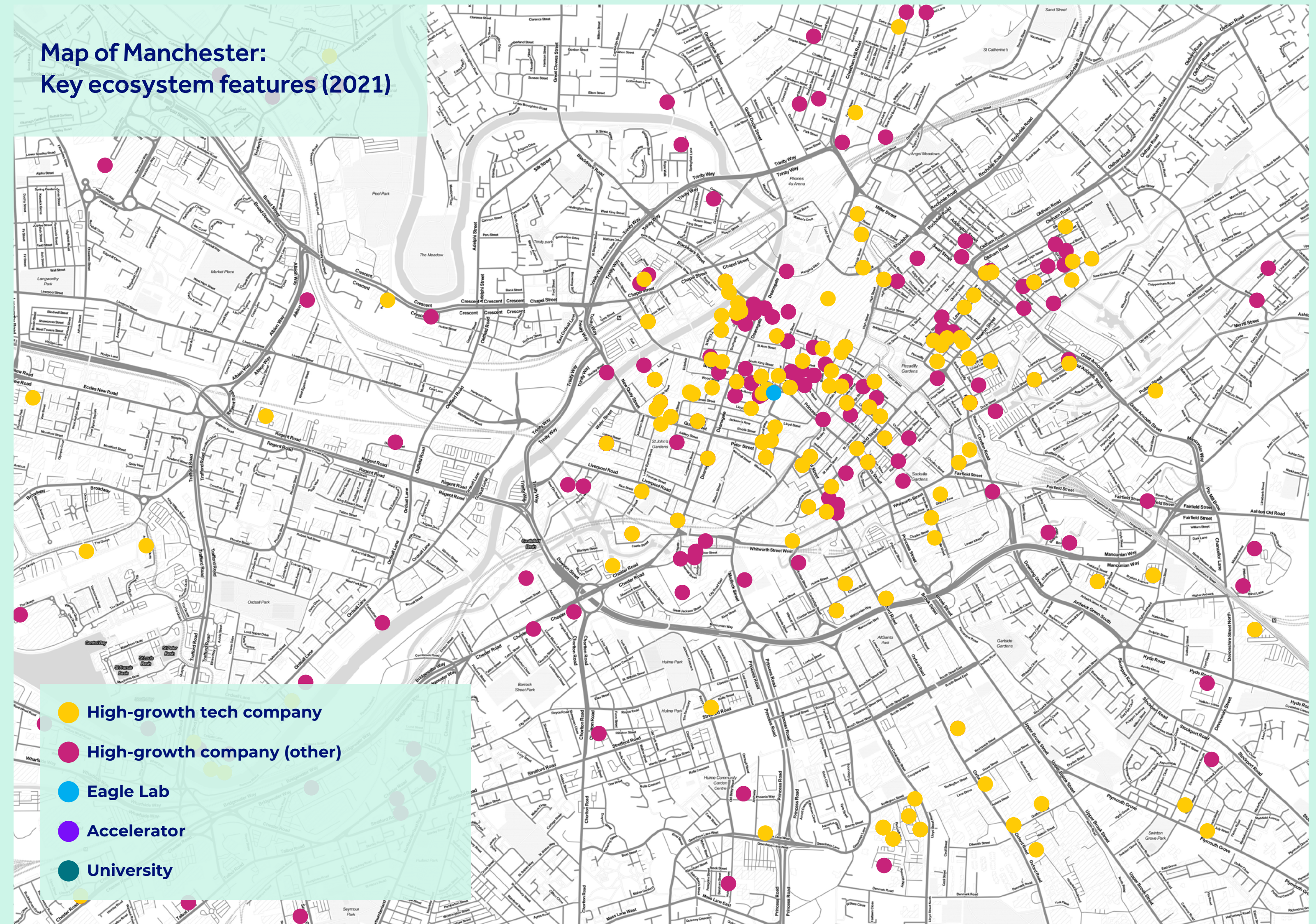
388

active high-growth tech companies

Manchester: Map

The majority of the high-growth companies in Greater Manchester are located in the Manchester local authority area, although Trafford, Stockport and Salford also play host to significant high-growth company populations.

A large number of the region's technology companies are clustered in Manchester city centre, particularly in the Central Retail District, Spinningfields and the Northern Quarter. In 2021, Barclays Eagle Labs was selected by Manchester City Council to operate a new digital security hub, which will offer co-working space and highly sophisticated facilities to support the city's digital security ecosystem. The forthcoming hub will be located in Albert Square, easily within reach of Manchester's high-growth technology companies.



Manchester: Tech investment

Between 2011 and 2020, £2.4b of equity investment across 1,421 deals was secured by companies in Greater Manchester, including 864 deals into tech companies worth £1.7b. With nearly 200 deals in each year, 2017 and 2019 both saw over £450m of equity investment and were the peaks of the decade.

Headquartered at Manchester Airport, the Hut Group operates a large number of e-commerce websites selling a huge range of consumer products. Among its 12 rounds of equity fundraising throughout the last 10 years, the company raised £138m in 2016, £125m in 2017 and £116m in 2019 and since listed on London Stock Exchange in September 2020 in an IPO worth £920m.

Key figures: (2010-2020)

£2.4bn

total equity investment

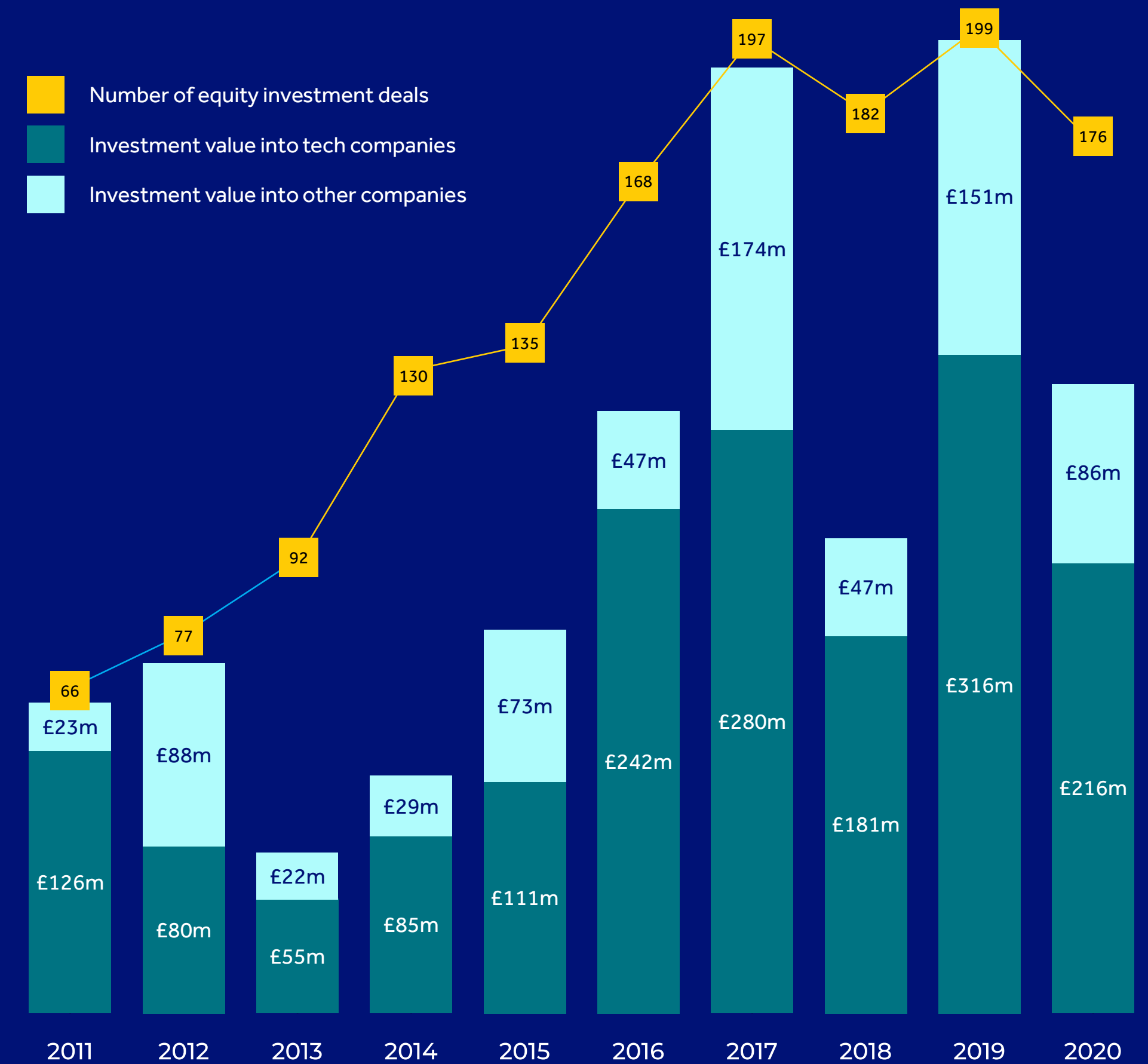
1,422

total deals

£1.7bn

total tech equity investment

Deal numbers and value of equity investment to Manchester-based tech companies (2011-2020)



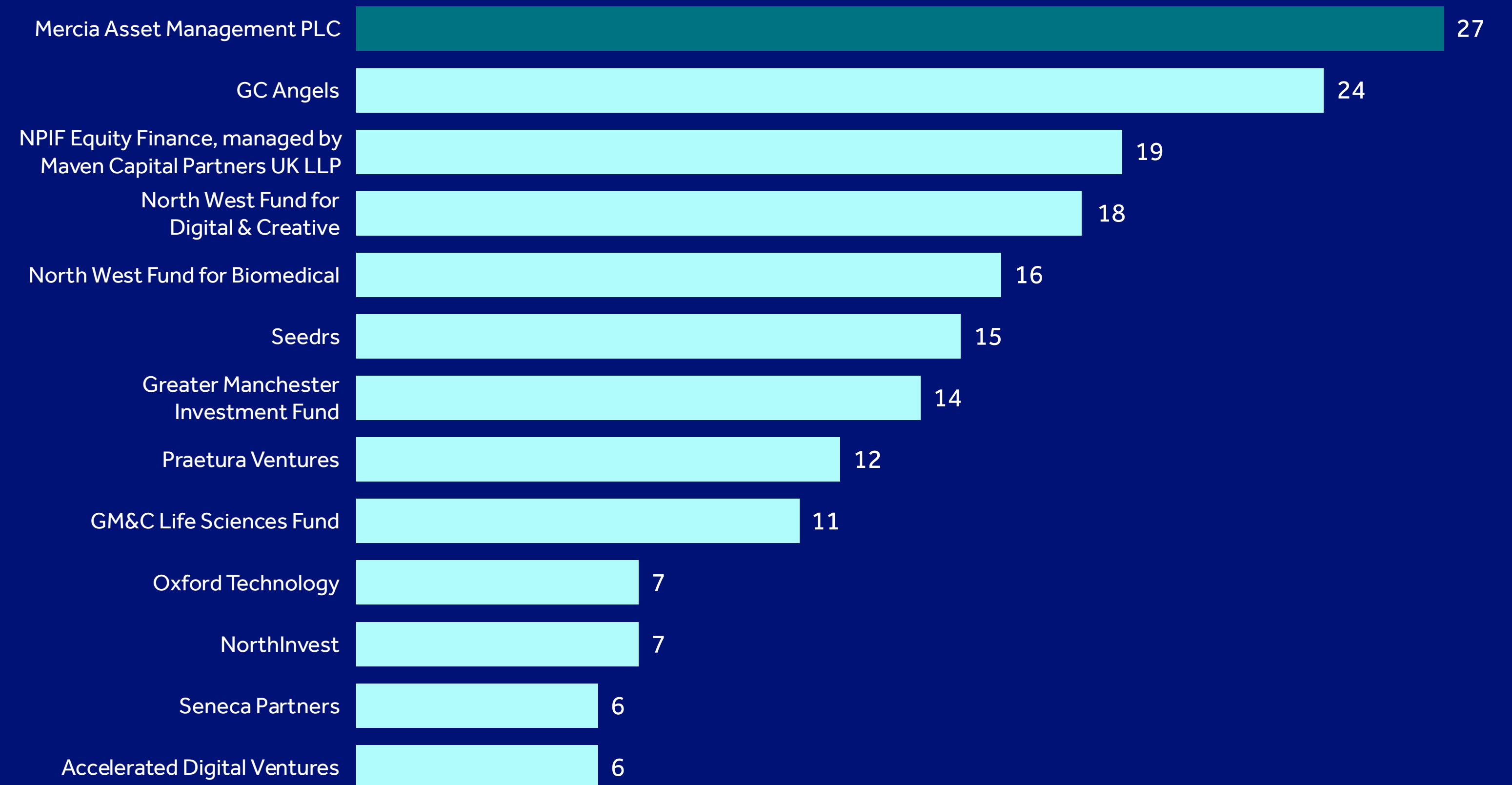
Manchester: Tech investors

Over the last 10 years, Mercia Asset Management has completed 27 equity deals involving Manchester-headquartered technology companies. Mercia has 11 offices across the UK, including a centrally located Manchester office on Deansgate.

GC Angels (Growth Company Angels) is an initiative run by the Growth Company that connects high net worth individuals with businesses in the North West that are seeking investment. Since launching in 2015, the programme has facilitated investment into 24 companies based in Greater Manchester.

Managed by Maven Capital Partners, the Northern Powerhouse Investment Fund (NPIF) is supported by the British Business Bank and aims to address the funding discrepancy between the North of England and London as well as the South East. It has made 19 investments into high-growth tech companies.

Top investors into Manchester-based tech companies by number of equity deals (2011–2020)



Manchester: Spotlight companies

Telcom Networks provides internet and phone line rental for businesses, individuals, and events. The company manages a suite of brands and divisions, all dedicated to the shared mission of delivering high-quality, value-for-money internet services for local communities. As well as providing internet services to businesses and the private rental sector, they also maintain full-stack infrastructure of full-fibre networks and provide engineering services.

In 2018, a collaboration between Telcom Networks and another Manchester-based fibre-network provider, The Loop, brought 10 gigabyte internet to 300 businesses in Manchester city centre. This initiative makes up part of a 10-year deal revolutionising internet utility in the city.

Shaun Gibson, CEO of Telcom Networks said: “We believe the internet should be offered as a utility, and this project is another step towards eliminating the digital divide once and for all in this region. We are very focused on digital inclusion and helping the independent creative community thrive. This is not a run-of-the-mill tech collaboration. It is in line with both the Government’s and the Mayor’s strategy and we’re proud to be supporting them on achieving their vision for the city region. What we’re doing here is just the start.”

Fixed-line; Website hosting or server provision services

2014

incorporated

106

employees

£65m

Fixed-line; Website hosting or server provision services

Manchester: Spotlight companies

The UK's eHealth and digital medicine sector is thriving, and **Push Doctor** is another big player on the scene. Founded in 2013, Push Doctor claims to be the longest standing digital partner to the NHS. As well as providing on-demand online GP surgery appointments, its technology also assists surgeries in managing busy schedules and personalises the matching process between clinicians and patients; its Apollo programme links the NHS's large and disparate databases.

Push Doctor has utilised extensive private investment on its growth journey, raising £58m in total from investors such as Draper Esprit, Oxford Capital Partners, and Celeres Investments. In 2019, it attended the DigitalHealth.London Accelerator, and in 2021, attended TechNation's Future Fifty Accelerator.

After securing a £20m equity deal in 2017, Push Doctor has paid it forward to the Manchester eHealth scene, by investing £3m into a new digital health campus at its offices in the city centre. The company has also launched a grant scheme for student doctors; recipients receive a £500 grant to spend on university supplies, and a year's free access to the Push Doctor Premium membership service.

Mobile apps;
Personal healthcare services

2013

incorporated

80

employees

£58m

Fixed-line; Website hosting or server
provision services

Manchester: Universities

The University of Manchester has spun out 53 companies, of which 46 remain active, in sectors including materials technology and clinical diagnostics.

One such spinout is drug developer F2G which has raised £136m in equity finance via eight rounds since incorporating in 1998. The company is based in the UK and Austria. It has been awarded four innovation grants totalling £3.3m.

Another notable spinout from the University of Manchester is Arvia Technology, which has developed technology to treat industrial wastewater. It has raised £18.4m of equity investment via six rounds and received 11 innovation grants worth a total of £1.1m.

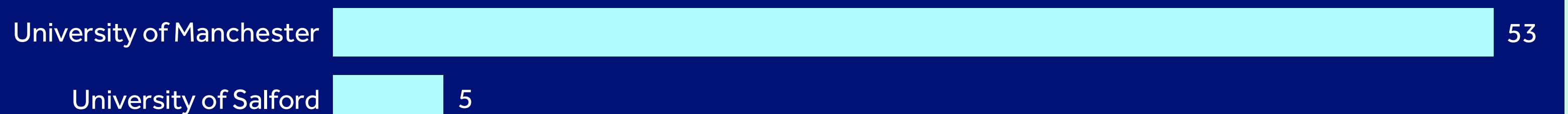
Key stats

05
universities

58
spinouts

51
active spinouts

Manchester universities by number of spinouts created

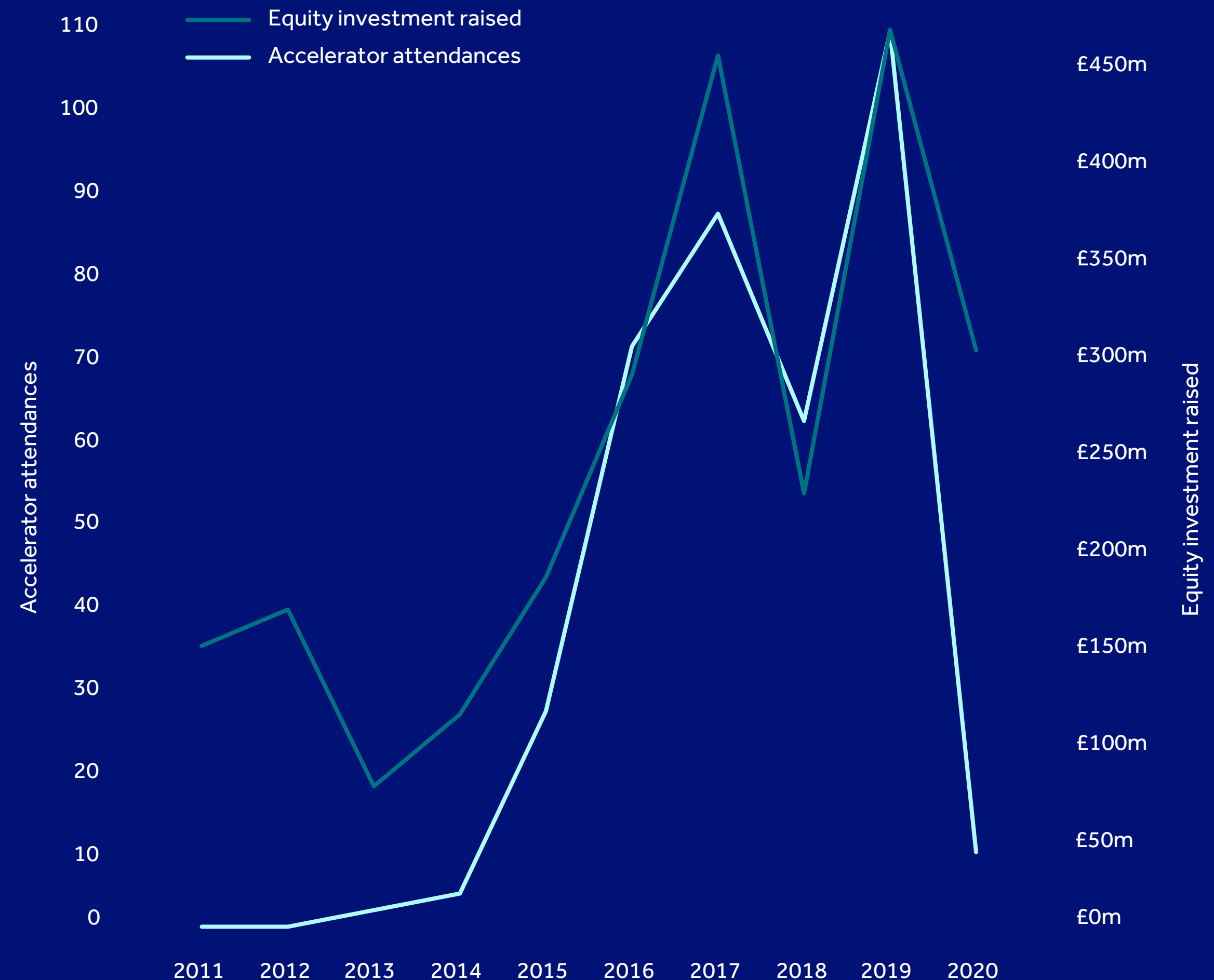


Manchester: Accelerators

As this graph shows, there is a strong positive correlation between accelerator attendance and equity investment in Greater Manchester. The skills and support that accelerators provide to founding teams are certainly catalysts for equity investment. Unfortunately, 2020 saw a significant decline in both equity investment and accelerator attendance in Greater Manchester. These declines are no doubt related to the pandemic and hopefully the 2021 figures will show a sharp reversal of these downtrends. However, as with Edinburgh, it is concerning that the pipeline of potential growth companies may be diminished due to the impact of the pandemic on accelerator activity.

Hopefully, the increased number of businesses started during the pandemic and efforts by local ecosystem players to promote entrepreneurship, including the local government, will translate into a new generation of high-growth companies.

Accelerator attendance and equity investment received by Edinburgh-based companies (2011–2020)



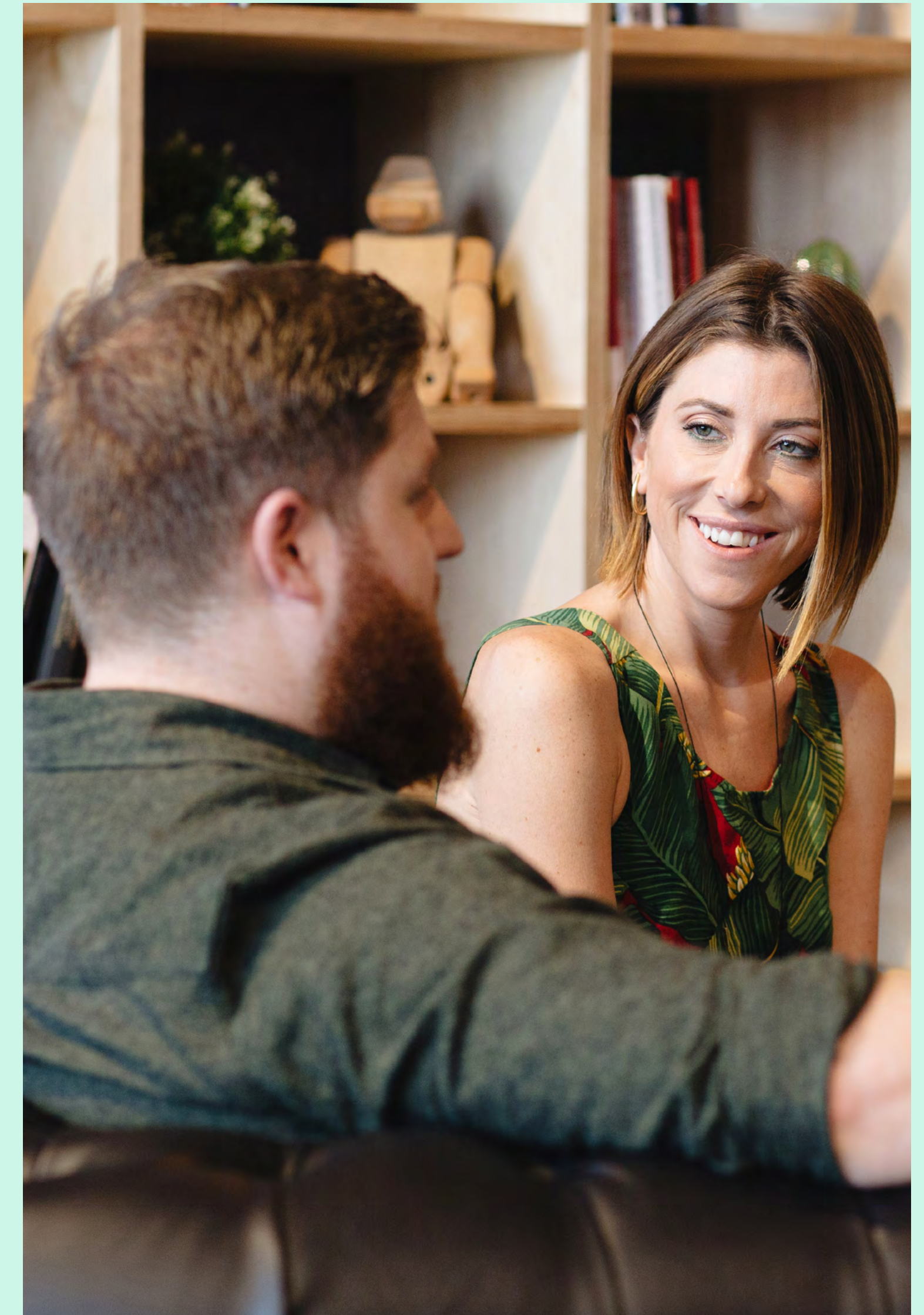
Manchester: Incubators

Similar to those found in Edinburgh, incubators in Manchester are often linked to academic institutions or commercial hubs, helping to facilitate flows of knowledge and other key resources such as lab space.

Centrally located Innospace helps businesses to connect with the expertise and facilities available at Manchester Metropolitan University. Entrepreneurs and business leaders can choose from a range of services including office space, access to specialist tools such as the university's 3D body scanner and food extrusion equipment, and assistance with startup visas for international founders.

Another important component of the Manchester ecosystem is the Tech Incubator at the Manchester Technology Centre. The incubator is hosted by Bruntwood SciTech and run in partnership with trade body Manchester Digital.

The University of Manchester also operates a number of incubator spaces via the university's Innovation Centre (UMIC). These include the biotech research and development centre at the Manchester Incubator Building and the Core Technology Building which offers lab modules and conferencing facilities.



Manchester: Local government

While the majority of high-growth companies in Greater Manchester are located in the local authority area administered by the Manchester City Council, Greater Manchester's ecosystem is supported by all of the component local authorities.

An example of collaboration between the councils and with private and academic partners is the Manchester Science Partnerships (MSP). MSP shareholders include Manchester City Council, Cheshire East Council, Salford City Council, the University of Manchester and Manchester University NHS Foundation Trust. The partnership is focused on supporting the local knowledge and technology ecosystem via two campuses, Citylabs and Manchester Science Park which are run by shareholder and property company Bruntwood SciTech.

Another important role played by local government is inward investment and economic development. Greater Manchester is served by MIDAS which is wholly owned by the Greater Manchester Combined Authority. MIDAS assists national and international companies in sourcing property, recruiting and training employees, and understanding investment opportunities.

Manchester City Council has also selected a consortium led by Barclays Eagle Labs to operate the new Manchester Digital Innovation and Security Hub (DISH) due to be up and running in 2022. The Manchester Digital Security Innovation Hub is supported by Greater Manchester Combined Authority through the Local Growth Fund.

”

Manchester was recently named one of the most innovative cities in the world. Our growing status as the UK's hotbed for innovation has seen us become a destination of choice for life sciences, digital development, financial services, manufacturing and education.

”

**Tim Newns,
CEO, MIDAS**

Chapter three: Tech ecosystems and their role



Benefits of high-growth ecosystems in the UK

Increased success

Alongside ambitious companies, high-growth ecosystems are supported by incubators, accelerators, investors and universities. When a new business is surrounded by a healthy network of resources as well as opportunities for funding and partnerships, it stands a better chance of surviving and growing rapidly. Founders of high-growth businesses may then go on to become angel investors or mentors for seed-stage businesses, leading to circular success in the ecosystem. The UK's reputation of a strong ecosystem for innovative startups also attracts founders from Europe and beyond, bringing in further entrepreneurs, ideas, jobs and economic benefits.

Economic growth

A major benefit of a high-growth ecosystem is national and regional economic growth. The ecosystem supports businesses to grow quickly with increased revenues. Over 7,500 high-growth businesses in the UK reported turnover of more than £5m in their most recent accounts. Innovative businesses with a secure revenue are also more likely to attract investors, increasing the flow of funding. High-growth tech companies raised £57b in equity investment between 2011 and 2020. Fast-growing startups also have the economic benefits of stimulating local economies, by using office space, offering jobs, making partnerships and providing healthy competition to encourage continual innovation.

Increased employment

A healthy ecosystem allows business to grow quickly, which can help create jobs — sometimes at a faster rate than large established firms. High-growth companies in the tech sector alone currently employ more than 300,000 workers in the UK. Startups usually offer skilled jobs or take on graduates into training programmes, creating more talent in the workforce. High-growth companies launching outside the UK's current major employment areas, such as London,

encourage professionals to move to other regions which stimulates local development. Over the longer term, a strong ecosystem supports the retaining of top talent in the country and may even attract further talent from overseas.

Technological innovation

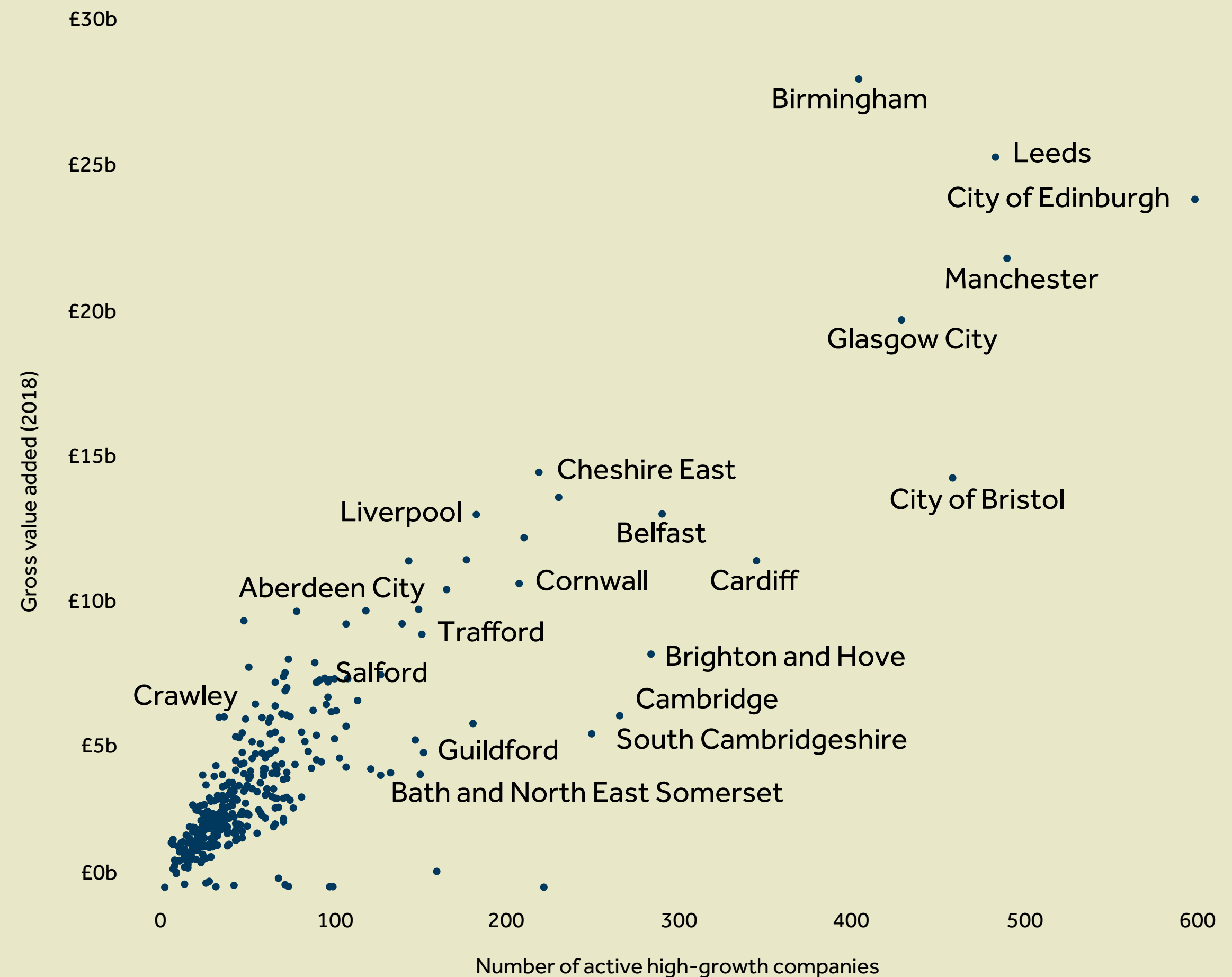
High-growth businesses are usually innovative and look to invest time and funding into new ideas. An ecosystem surrounding young agile businesses can encourage development of cutting-edge technologies and novel products, with means of support such as financial investment, access to costly tools and equipment, access to office space, or simply mentoring and advice. A strong high-growth ecosystem means companies can pave the way to new markets, bringing huge potential value to the economy through positive disruption. New products and services can hugely benefit society, whether that is a pioneering medical technology to treat individuals, or new software that helps another young high-growth business to evolve and expand.

Impact on local economies

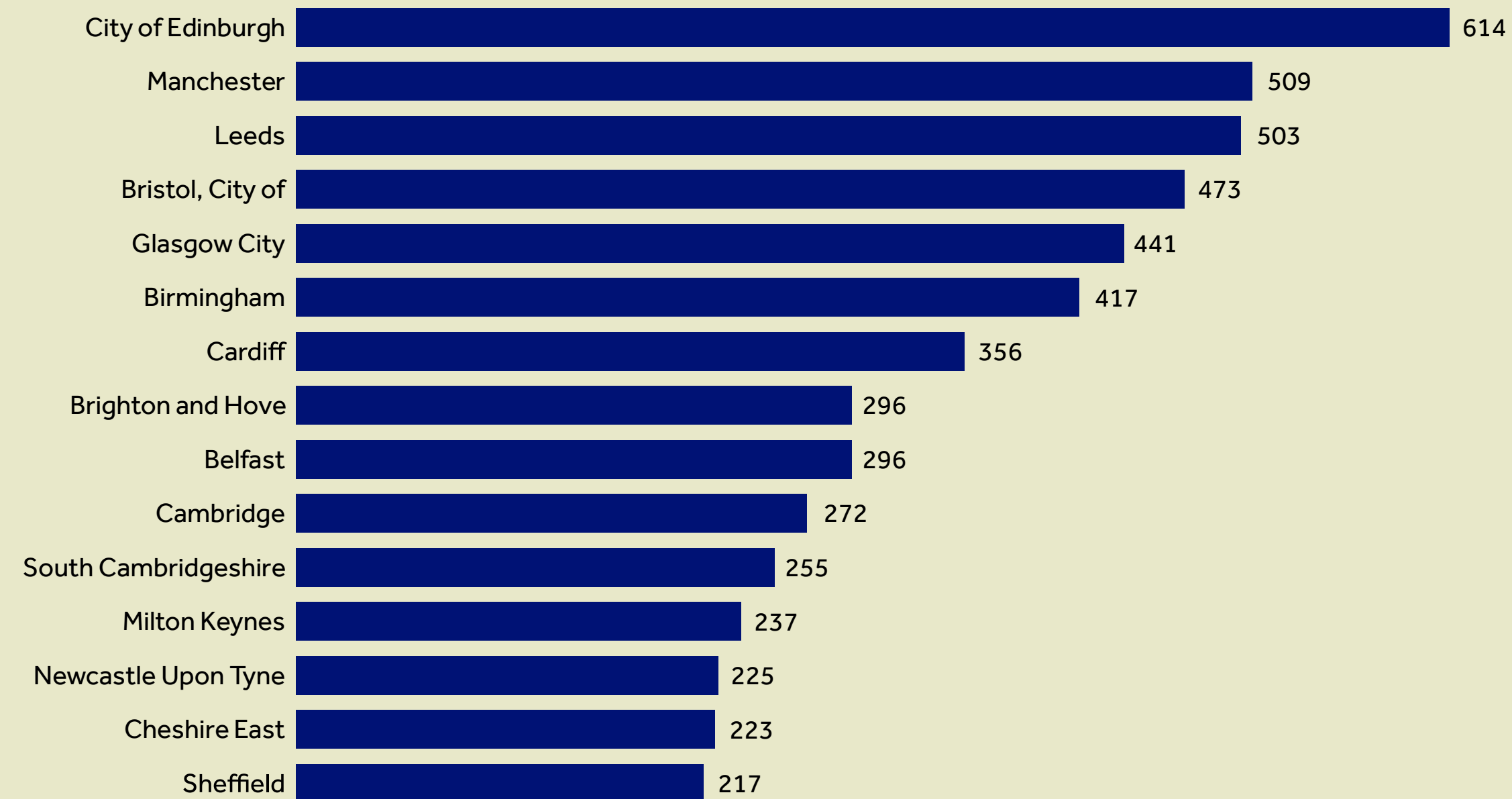
The number of high-growth companies has a strong association with the Gross Value Added (GVA) that's generated in a local authority area. GVA is a measure of the goods and services produced in an area and a key metric for local authorities. The number of active high-growth companies in a local authority area has a correlation coefficient of 0.88 with the Government's latest figures for local authority GVA (Office for National Statistics 2018), suggesting there's a positive relationship between the two.

In more concrete terms, local authority areas that are home to 100 or more high-growth companies have an average GVA per head of population of £138k compared to £22k for local authority areas with less than 100 high-growth companies. This demonstrates the presence of a local tech and high-growth company ecosystem can help to drive the creation of significant value, both through the sale of high-value products and through high salaries.

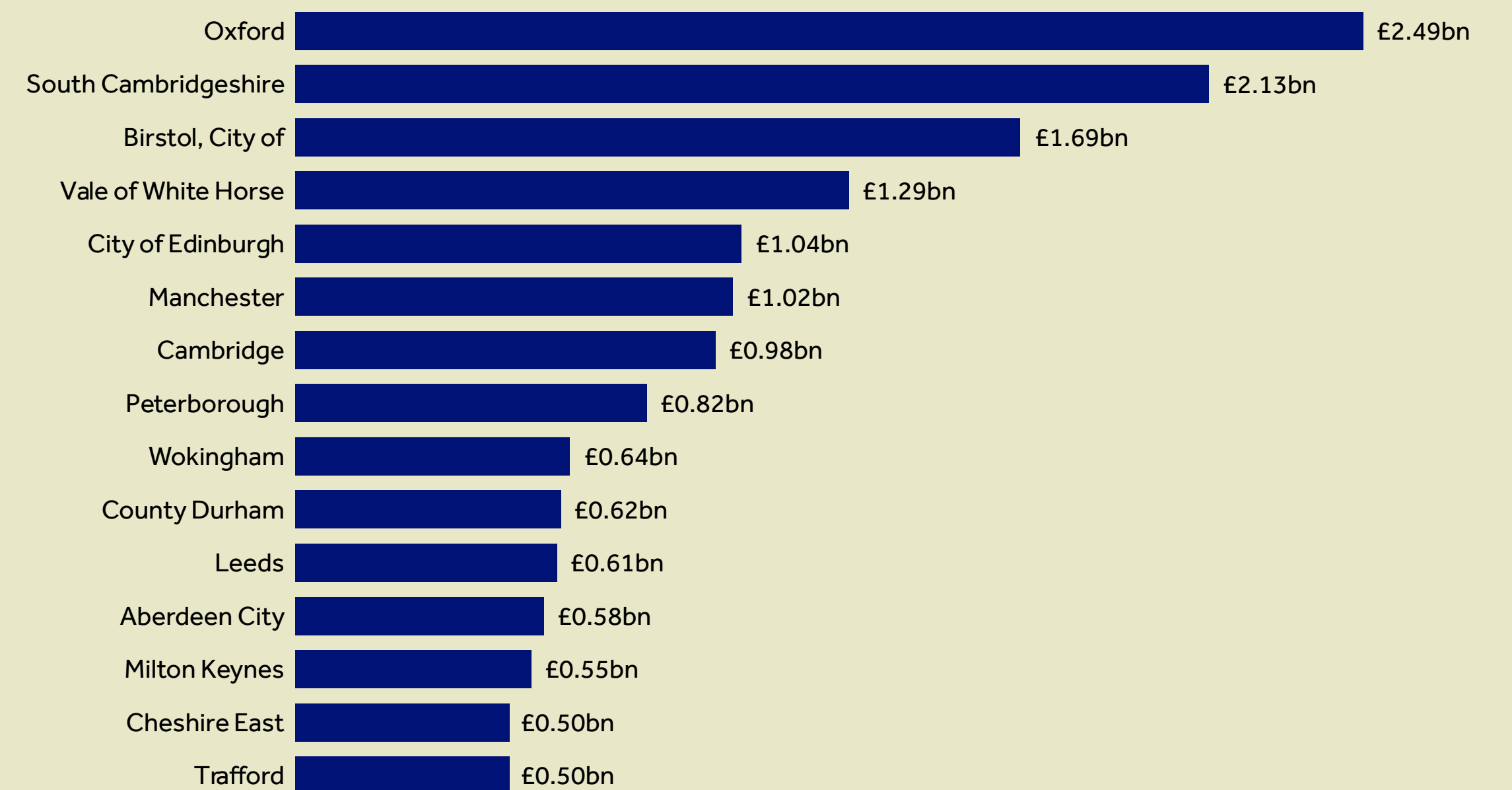
The relationship between GVA and the number of high-growth companies by local authorities outside London



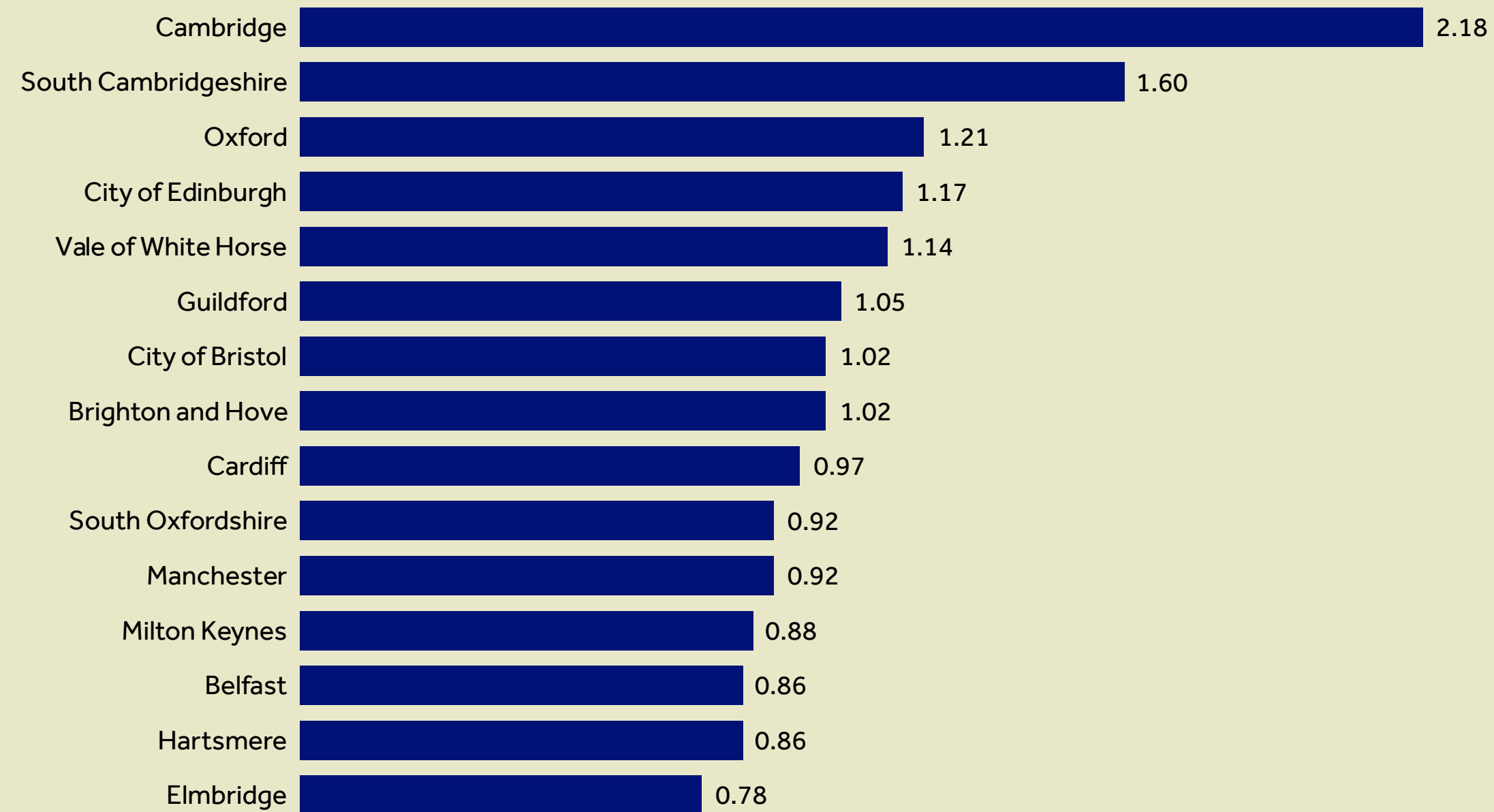
Local authorities by number of high-growth companies (2021)



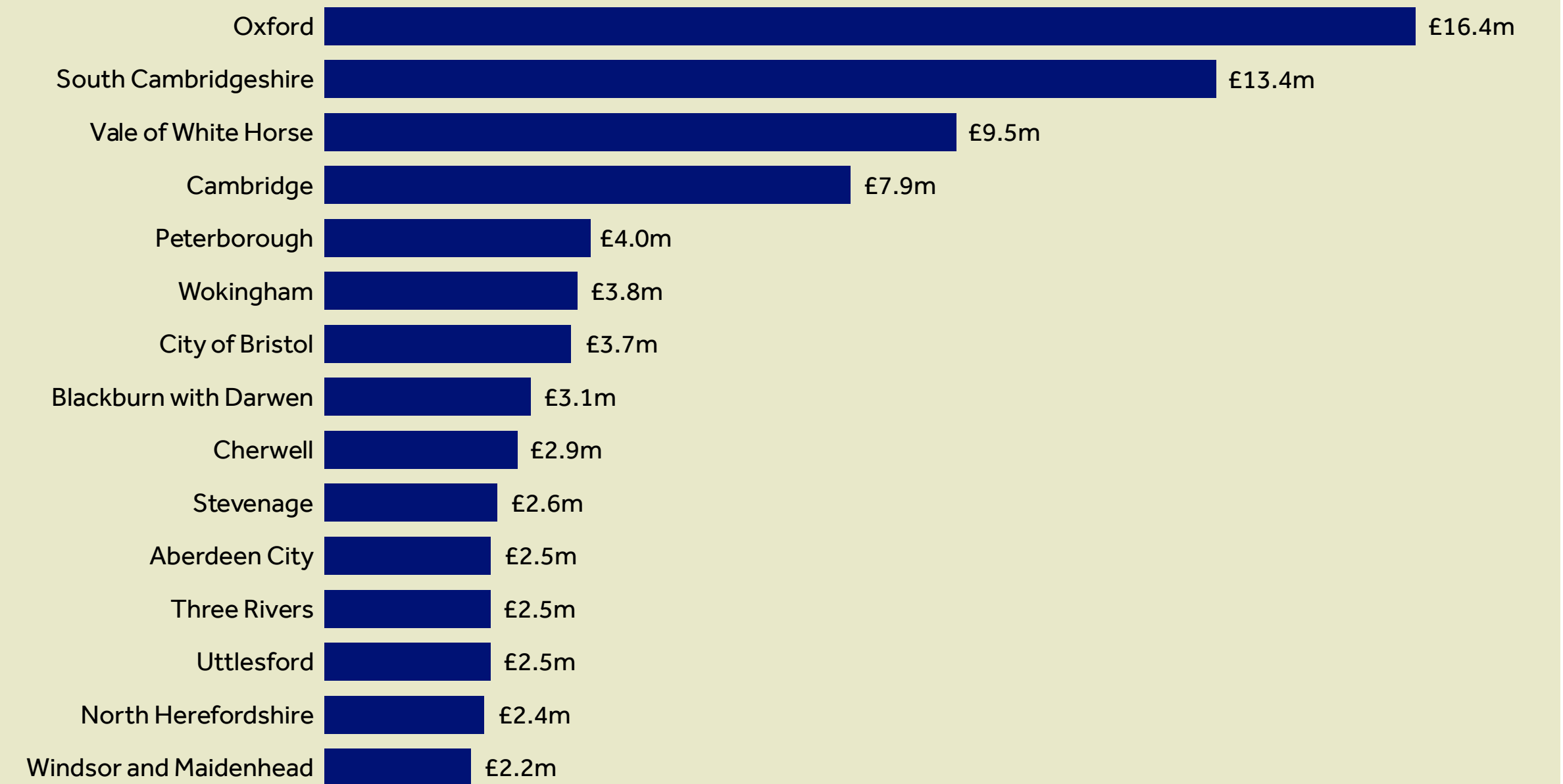
Local authorities by total investment received by high-growth companies (2011–2020)



Local authorities by number of high-growth companies per 1,000 people (2021)



Local authorities by fundraising received by high-growth companies per 1,000 people



Accelerators and incubators

Nesta's report, 'The impact of business accelerators and incubators in the UK', was produced in collaboration with the Department for Business, Energy and Industrial Strategy in 2019. It found that 73% of companies that attended an incubator said it was significant or vital to their success. Of those that attended an accelerator, 64% said it was significant or vital to their success.

The report found that participation in accelerator programmes was positively correlated with higher survival rates, growth in employee numbers and more funding raised. It also suggested that there are likely knock-on benefits to having such support programmes in place even to companies that do not directly access them. Research showed that there was a significant increase in the number and value of venture capital investments in non-accelerated companies following the launch of an accelerator in the area.

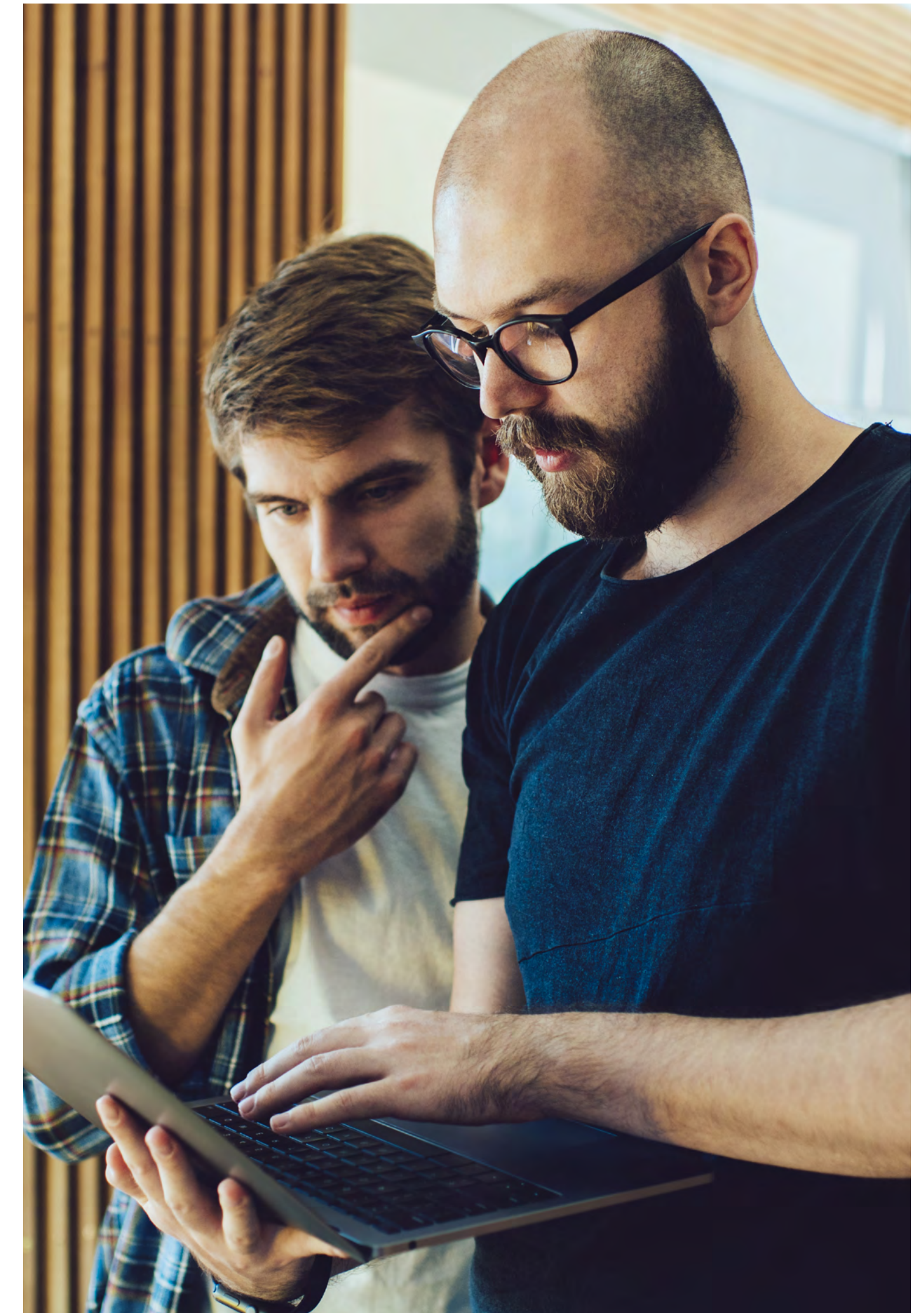
Nesta's research, combined with the examples included in the report, strongly suggest that accelerators and incubators play an anchoring role for technology and high-growth ecosystems. These support systems encourage young companies and their founding teams to adopt best-practices and other behaviours linked to positive outcomes. Ensuring that accelerators and incubators are present in a community is an important step in starting or growing a technology ecosystem.



Public, private and academic partnerships

Local government, businesses and academic institutions all stand to benefit from a thriving technology ecosystem and can work together to achieve this goal. Local governments can create more higher paid jobs for the people that live in their community. Businesses benefit from a local technology ecosystem by gaining access to fast-growing companies that could be suppliers, customers or partners. Academic institutions supported by a thriving technology ecosystem find it easier to launch and support spinouts and student startups.

Collaboration between these three groups is a logical way to kickstart or enhance a technology ecosystem. Local government can often play the role of convenor—making sure that right people at different organisations can connect. As discussed in Chapter 2, partnerships with local government at their core play a vital role in technology ecosystems. Initiatives like the Edinburgh BioQuarter and the Manchester Sciences Partnership are a testament to this.



Barclays Eagle Labs

As one of the largest networks of business incubator spaces in the UK, with locations spread all over the country, the aim of Eagle Labs is to complement local ecosystems and support entrepreneurs and startups to innovate and grow. This mission began in 2015, when Barclays was inspired by MIT's Fab Lab which provides open-source access to tools and equipment, and transformed its underutilised space in Cambridge into the first Eagle Lab.

Today, the incubator spaces are used by a range of individuals, investors, businesses and corporates, helping to interconnect the entrepreneurial ecosystems of local areas. The main focus, however, remains to support early-stage startups. It does this by offering a range of resources, including coworking and office space, opportunities for skill learning, mentoring from business experts, workshops and networking events, access to emerging technologies and business incubation for high-growth businesses.

The journey since 2015 has shown that collaboration and community are of paramount importance. Eagle Labs focuses on businesses who want to work together, enjoy peer networks and contribute to a community. The running of Eagle Labs and its continual expansion has been fuelled through partnerships with organisations such as universities, councils, private incubators and other corporate clients. These partners share the same agenda of job creation, skill development, investment and local economic growth.

By working together on Eagle Labs, Barclays and its partners can maximise the resources and capabilities of the incubator spaces available to its users.

In addition to its successive opening of incubator spaces in new locations, growth programmes and industry milestones are key to Eagle Labs' history. In 2019, Eagle Labs launched the Global Connect Programme to connect founders to international markets and the Funding Readiness Programme to help early-stage founders identify and access different funding types. Then, in 2020, Eagle Labs aimed to improve diversity in entrepreneurship with the Female Founder programme and the Barclays Black Founder Accelerator.

Eagle Labs has also given particular attention in recent years to emerging technology sectors that can achieve positive disruption in the UK, including LawTech, HealthTech, AgriTech, EnergyTech and CyberTech. This includes the creation of a dedicated LawTech hub in 2018 and the launch of a HealthTech vertical and a Medicine Accelerator in 2019.

In 2021, Eagle Labs remains committed to the levelling up campaign by continuing to provide incubator space and resources all over the UK for very early-stage businesses with high potential for growth. Eagle Labs hopes to expand the network by working with more councils and universities that are also committed to regional ecosystem development and accessing central funds that make building and running more spaces possible.

Impact of Eagle Labs

(Information accurate as of June 2021)

28

ecosystems

3,976

businesses supported
(volume of members,
programme participants,
alumni as well engaged
ecosystem businesses)

614*

equity deals secured
by Eagle Lab members,
programme participants
and alumni between
2011–2020

*Source: Beauhurst

£1.45m*

average equity round for Eagle Lab
businesses between 2011–2020

*Source: Beauhurst

Collaborating to support the ecosystem

How Barclays Eagle Labs partners with councils and local government initiatives.

Wherever possible, Barclays Eagle Labs looks to collaborate and partner with local organisations to tailor support towards a community's needs. This allows the ecosystem to benefit from the national network of expertise that we can provide. Some examples of this are detailed below.

Southampton

Southampton City Council were interested in re-imagining the high street, attracting inward investment whilst retaining post-graduate intellectual talent. This is our first partnership with a local authority. We've been commissioned to run the city's Network Eagle Lab, which is a 12,500 sq ft incubator located in previously underutilised space in the Marlands Shopping Centre. Our philosophy of regenerating under-used spaces was aligned with Southampton City Council's approach. Since 2019, the incubator has supported some of the most exciting startups in the area and businesses have benefitted from wider support with many attending the Global Connect and Funding Readiness programmes.

Whitehaven, Cumbria

Barclays Eagle Labs have partnered with Britain's Energy Coast and Sellafield Ltd. to launch an Eagle Lab incubator to boost the region's startup and scaleup businesses. The partnership aims to diversify employment opportunities, regenerate the region through innovation and take advantage of the local infrastructure and expertise.

The incubator itself is located in the site of an old bus station and offers a mixture of co-working, offices and meeting space, plus a rapid prototyping makerspace. Businesses are able to access expert mentoring and funding opportunities through Eagle Labs. As part of the initiative Eagle Labs have also launched a nationwide EnergyTech programme encouraging innovation in the energy sector and facilitated collaboration between startups and corporates.

Get in touch

We're keen to partner with other organisations, public and private, to support regional growth. We would love to hear from you to explore opportunities and understand how we can collaborate.

Please get in touch if you're interested in opening a physical incubator space; want to run a growth programme; or would like to access virtual support, expertise and a national network.

Through our Digital Eagles Partnerships we also support large organisations upskill their workforce and communities with transferrable digital skills and confidence. We help organisations embrace new and emerging innovations and technologies, and to address the challenges and opportunities present in society.



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Beauhurst

Beauhurst is a searchable database of the UK's high-growth companies.

Our platform is trusted by thousands of business professionals to help them find, research and monitor the most ambitious businesses in Britain. We collect data on every company that meets our unique criteria of high-growth; from equity-backed startups to accelerator attendees, academic spinouts and fast-growing scaleups.

Our data is also used by journalists and researchers who seek to understand the high-growth economy, and powering studies by major organisations – including the British Business Bank, HM Treasury and Innovate UK – to help them develop effective policy.

For more information and a free demonstration, visit beauhurst.com

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Before you go

Get in touch if you would like to find out how we can support you and your business. We'd love to hear from you.

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