



Tech in the UK 2023 Innovation Nation

Regional report: The Midlands
March 2024



BARCLAYS

Eagle Labs



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Executive summary

The UK's tech sector has demonstrated significant growth and resilience from 2019 to 2023, with substantial equity investments and the development of tech hubs across the country.

The UK stands strong as a hub for technology innovation, marked by the continuous growth in new company formations since 2013. Whilst London has significant concentration of existing high-growth tech companies, the innovation landscape extends nationwide, with several clusters contributing notably to the dynamic ecosystem. Leeds, Oxford, and Cambridge stand out, elevated by the close partnerships between business and academia. These world-leading institutions are instrumental in cultivating fertile ground for technological advancements on a national and global scale.

The widespread locations of tech hubs beyond London provides an opportunity for clustering and regional specialisation. Edinburgh's high-growth companies lead in fields such as biotech and artificial intelligence. Bristol is another burgeoning tech hub, particularly in robotics and aerospace technology.

In 2023, the UK's tech sector demonstrated resilience when navigating a challenging funding environment. Despite a collective 27.2% drop in total equity investment for private UK firms between 2022 and 2023, some regions resisted the trend. Yorkshire and the Humber and Wales were among the regions that registered an upward trend in funding activities between 2022 and 2023, with a 19.9% and 8.74% growth respectively. Moreover, there was a significant increase in grant funding across half of the 12

constituent countries and regions of the UK. It is important to note that the investment trends observed across 2020 and 2022 were unusual. Government support plays a vital role in supporting the UK tech ecosystem, as underscored by our survey involving 2,500 UK tech workers. A large majority recognise the benefits of initiatives such as Innovate UK and investment schemes like SEIS and EIS. Innovate UK has the highest positive rating at 45.5%, signifying strong approval of their efforts to stimulate technological innovation and growth within the sector.

The **UK Science and Technology Framework**, unveiled in March 2023, sets forth a list of actions to set the stage for the UK to become a top global tech player by 2030¹. These actions encompass a range of initiatives, from tackling industry challenges to enhancing digital infrastructure. To address the skills gap, the Department for Science, Innovation and Technology (DSIT) launched a communications campaign to promote government-funded Skills Bootcamps in high-demand digital fields like software development, data analytics, and cybersecurity.

Opportunities in digital transformation, artificial intelligence, and clean energy technologies, present great potential for the UK to strengthen its position in the global tech landscape. These technologies present an opportunity for the UK to foster growth and competitiveness on a global scale.

Introduction

The number of active companies in the UK's technology sector has consistently increased since 2019. This expansion of the sector extends beyond London, fostering the development of technology hubs throughout the country. These hubs play a vital role in attracting investment and supporting the development of ecosystems for startups and scaleups.

Andrew Roughan, CEO at Plexal, says, "The UK tech ecosystem is undergoing an exciting evolution, which has challenges but also opportunities ahead. With emerging technologies advancing at pace, the launch of a world-first from Britain, like the [AI Safety Summit](#), is one example of how we can demonstrate leadership on the global stage. This is increasingly important to ensure the UK's position as a science and tech superpower in the next six years."

Globally, technology sectors are developing, fueled by rapid advancements in artificial intelligence, machine learning, blockchain, and other cutting-

edge technologies. The UK's tech sector in particular has a strong emphasis on research and development, bolstered by its universities and research institutions. Despite the sector's role in generating substantial employment opportunities, 2023 witnessed a downturn with the loss of many tech jobs worldwide.

Manchester is another exemplary case of how a regional city can evolve into a tech hub. Katie Gallagher OBE, chair of the UK Tech Cluster, emphasises the role of Manchester within this landscape: "Manchester's tech sector is a testament to the city's resilient and innovative spirit. It has become a beacon of technological advancement and a hub for tech talent, significantly contributing to the UK's position on the global tech stage." This sentiment highlights how Manchester has embraced technological innovation, attracting both startups and established companies to the city. Alisdair Gunn, Director at Glasgow City Innovation District, echoes a similar narrative for Glasgow, highlighting the city's growing significance within the UK's tech ecosystem. "Glasgow is emerging as a significant player in the UK's tech ecosystem, with our Innovation District fostering collaboration between academia, business, and the public sector."

Wales is rapidly establishing itself as a pivotal centre for technology, showcasing significant expansion

and expertise across diverse fields. Mark John, co-founder and Director of Tramshed Tech, highlights this progress: "The technology sector in Wales has surged by 83% since 2010, reaching an estimated value of £8.2b by 2022." He further elaborates on the dynamic creative industries sector, where Wales outshines as a major hub of creative output and talent in the UK, second only to London. This is propelled by the support from leading sector organisations like Media Cymru, Ffilm Cymru, and Creative Wales.

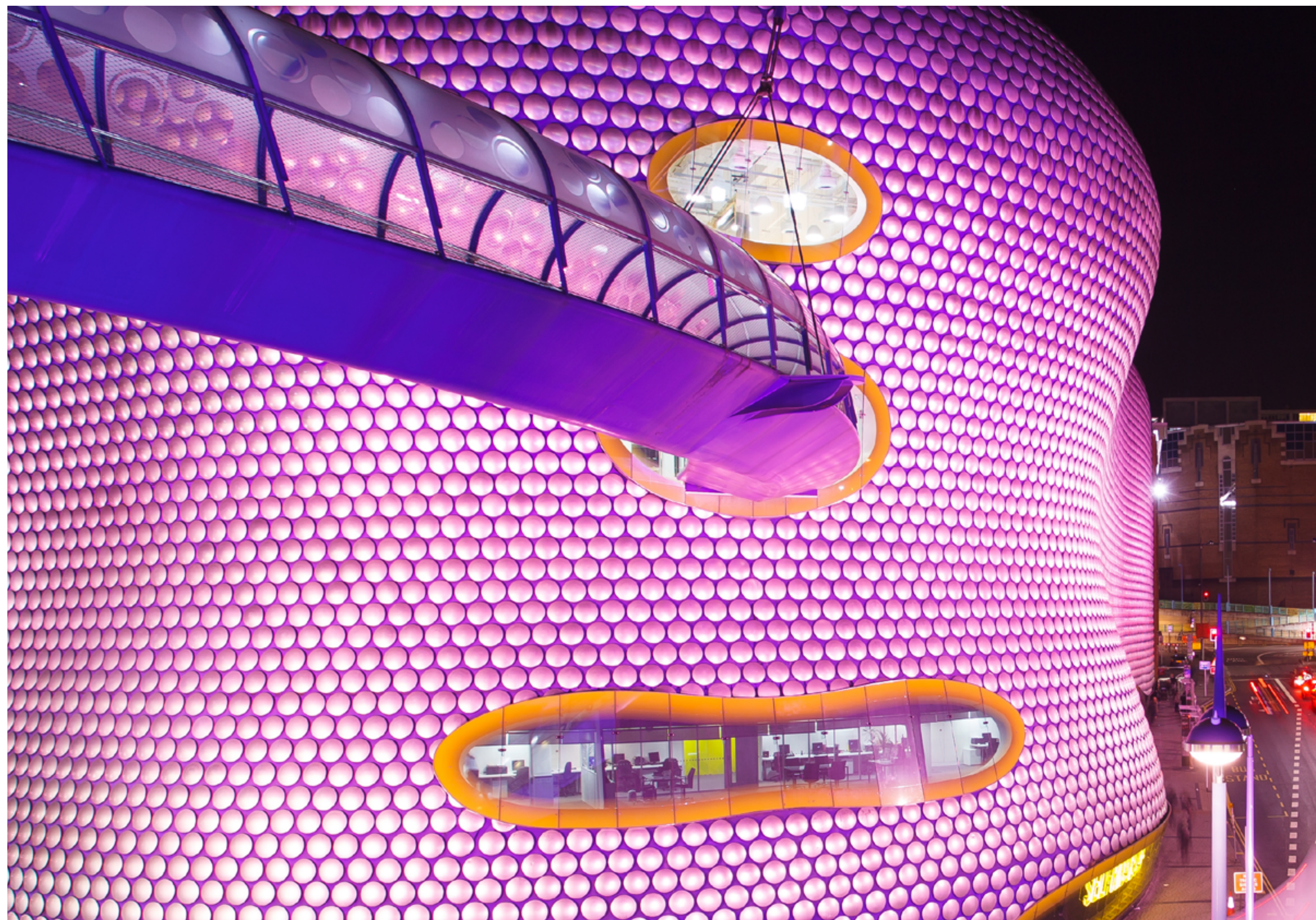
Ian Browne, Managing Director of the National Digital Research Centre (NDRC) based in Dogpatch Labs underscores the importance of supporting early-stage ventures, "More North and South initiatives are being proposed to connect the startup ecosystems of both the UK and Europe with Northern Ireland at the core. The NDRC's mission is to invest in and support digital startups that have the potential to scale internationally. Our success stories underscore the UK and Ireland's capability to produce world-class tech companies."

Irene Graham OBE, CEO, ScaleUp Institute said, "Science and tech businesses are a key segment of the scaleup landscape. ScaleUp Institute research shows that the building of clusters and hubs are critical enablers of scaling businesses, alongside access to

skilled talent and growth capital accessed locally."

Looking ahead, the trajectory of the UK's tech sector appears promising. With the government's increased focus on digital skills, research and development (R&D) tax credits, and initiatives aimed at encouraging investment in tech startups, the ecosystem is poised for sustained growth. Additionally, the UK's departure from the European Union presents both challenges and opportunities. While it necessitates the renegotiation of trade, it also offers a chance to redefine the UK's role in the global tech landscape, forging new partnerships and reinforcing its status as a global tech leader.

The report is focused on the UK tech ecosystem as of December 2023. To qualify as a tech company for this report, the business must fall within the 'technology' classification developed by Beauhurst.



England

Tech company population

England's tech sector declined in most metrics between 2022 and 2023. This decrease largely reflects the adverse macroeconomic conditions impacting the high-growth ecosystem, signalling a challenging period for startups and scaleups alike.

Investment declined by 38.9% in 2023 to £11.6b. Despite this, some businesses, such as SumUp, secured notable equity investments (£244m) in 2023. This suggests that although overall equity funding has decreased, some investors continue to invest significantly in this sector despite a more challenging economic backdrop.

Spinouts comprise 6.48% of England's active tech population. In 2023, these companies secured £1.34b across 297 deals, contributing to 11.6% of the total equity raised in the sector.

With 4,556 active companies, SaaS ranks as

England's top subsector. This dominance underscores the versatility of SaaS platforms operating across fintech, artificial intelligence, and e-commerce industries.

Fintech (1,527) and financial services (976) are popular subsectors for English tech businesses. Companies operating within fintech have collectively raised £22.3b over the past five years via 3,086 fundraisings. Checkout.com raised a significant £730m in January 2022. The Hackney-based firm develops software that allows businesses to process online payments in multiple currencies. Pharmaceuticals is among the top sectors by number of active companies in England. The number of companies in this life sciences sector has grown by 116% over the last decade, from 359 in 2014 to 777 in 2023.

England		
Company population:	16,199	▲ 1.60%
Investment:	£11.6b	▼ -38.9%
Grants:	£389m	▼ -12.4%
Spinouts:	1,050	



The map presents data on the active and dormant tech company population in 2023. Percentage changes are derived by comparing statistics from 2023 with those from the preceding year (2022). The spinout population data is accurate up to the end of December 2023.

East Midlands

Tech company population

The company population in the East Midlands' tech sector has increased by 3.34% in the last year, with 539 active tech companies. Proportionally, there has been a greater number of incorporations than in other English regions, highlighting an underlying strength despite the backdrop of decreasing equity funding volumes.

Equity funding into tech companies in the East Midlands declined by 24.8% over the past year, leading to a total of £101m. Despite the overall decline in funding, several large deals contributed to this value. A single deal worth £36.0m by GeoPura contributed to 35.6% of the total equity raised. The Nottingham-based company produces low-emission hydrogen fuel using renewable energy. Grant funding volumes increased by 8.90% in 2023, to £20.1m.

The East Midlands is home to 45 active tech spinouts, with most companies originating from the

University of Nottingham. Spinouts in this region include HALO X-ray Technologies, a Cranfield University spinout developing security scanning technology using X-rays. To date, the company has raised £3.96m via three deals and received four grants totalling £963k.

Active tech company population statistics for the East Midlands (2023)



East Midlands		
Company population:	359	▲ 3.34%
Investment:	£101m	▼ -24.8%
Grants:	£20.1m	▲ 8.90%
Spinouts:	48	

The map presents data on the active and dormant tech company population in 2023. Percentage changes are derived by comparing statistics from 2023 with those from the preceding year (2022). The spinout population data is accurate up to the end of December 2023.

West Midlands

Tech company population

This slight growth in the company population reflects the resilience of the West Midlands' tech ecosystem despite broader economic challenges. Its company population has increased slightly by 1.36% over the past year, with a total of 750 active businesses.

Equity investment in the region declined by 23.6% over the past year, with total investments amounting to £123m. CrowdProperty secured the largest deal in 2023 via a £15.0m fundraising in April. The Birmingham-based company operates a property crowdfunding platform. Similarly, grant funding decreased by 3.43% since 2022, with a total of £13.0m in funding.

Despite the downturns in incorporations and investment, spinout activity remains strong with 58 companies. Academic spinouts in the region include EYOTO, which spun out of Aston University in 2013.

The Birmingham-based company develops solutions for the optical industry, supporting optometrists with diagnosis. EYOTO secured the largest deal for a spinout company in January 2023, with a total of £9.30m.

Active tech company population statistics for the West Midlands (2023)



West Midlands

Company population:	1,261	▲ 0.95%
Investment:	£338m	▼ -98.5%
Grants:	£18.3m	▼ -2.20%
Spinouts:	95	

The map presents data on the active and dormant tech company population in 2023. Percentage changes are derived by comparing statistics from 2023 with those from the preceding year (2022). The spinout population data is accurate up to the end of December 2023.

Nottingham

Investment overview

From 2019 to 2023, companies in Nottingham's tech sector secured £145m via 90 fundraisings. There was a surge in equity investment in 2022, a year in which the city's tech firms raised a significant £61.9m. This increase was notably driven by a single deal worth £27.6m by Worn Again, comprising 44.6% of the total investment raised that year. The company develops recycling technologies for textiles and PET plastics, which can be used to create eco-friendly products. Since its incorporation in 2009, Worn Again has raised a total of £43.9m in equity investment via eight deals.

Seedrs emerged as the most active investor in Nottingham's tech scene, with a total of six deal participations. The crowdfunding platform has played a pivotal role in facilitating access to capital for early-stage tech companies, underscoring the increasing importance of alternative finance sources in the tech ecosystem. One such company

is Concrete4Change, which develops technology to reduce carbon emissions within the concrete manufacturing process. To date, the firm has raised £2.65m via four funding rounds, as well as £176k across five grants.

22.5k

Number of active companies

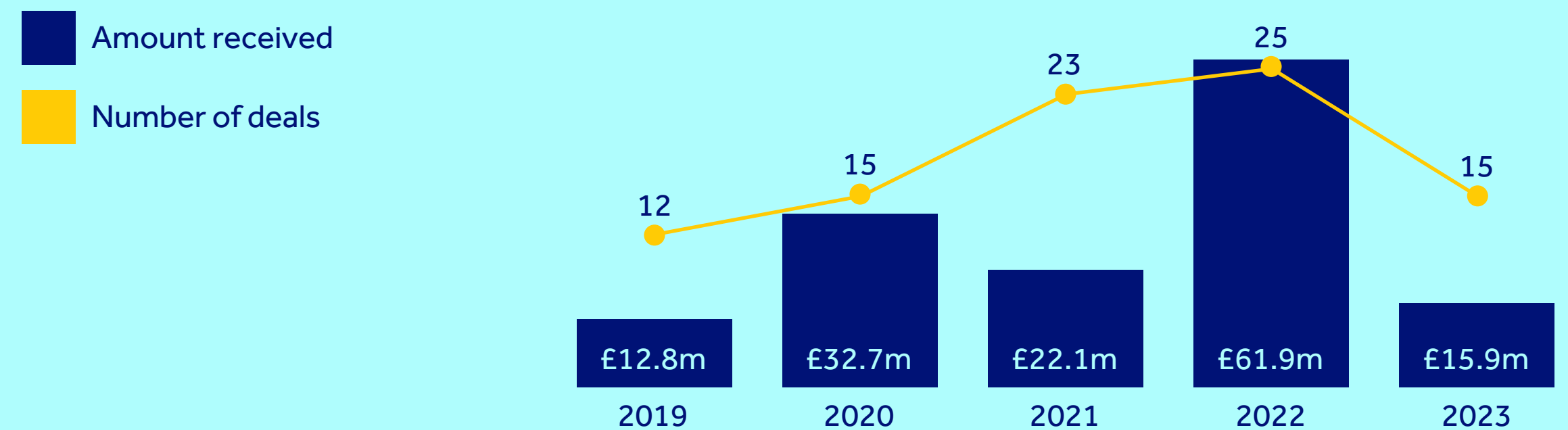
243

Number of active high-growth companies

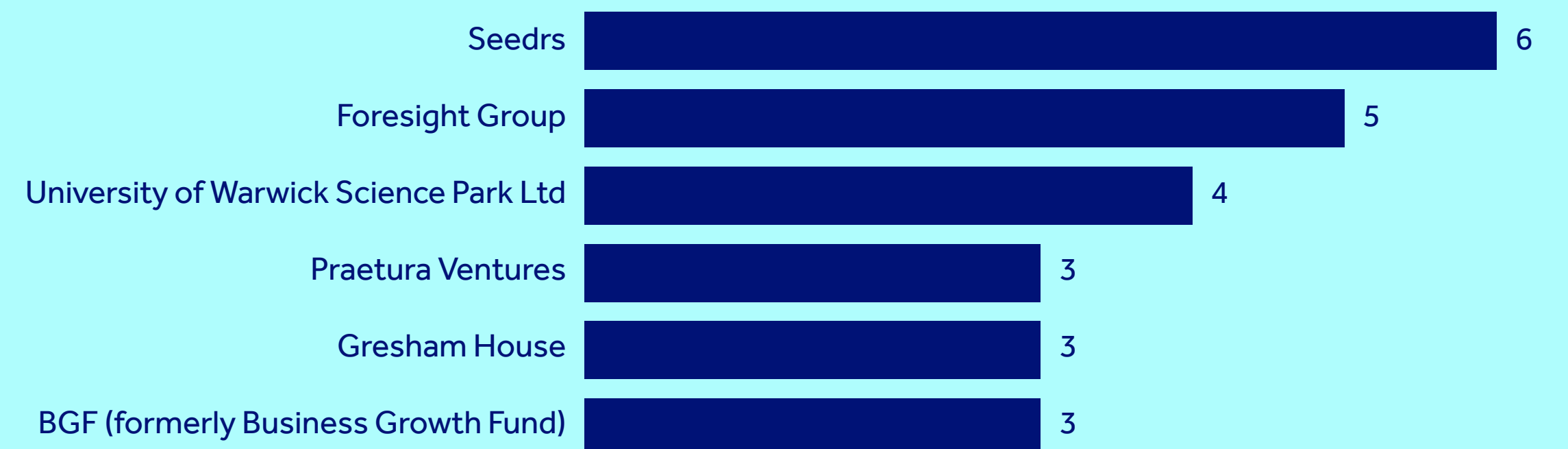
103

Number of active high-growth tech companies

Equity investment secured by Nottingham-based tech companies (2019-2023)



Top investors into Nottingham-based tech companies by number of equity deals (2019-2023)



Nottingham

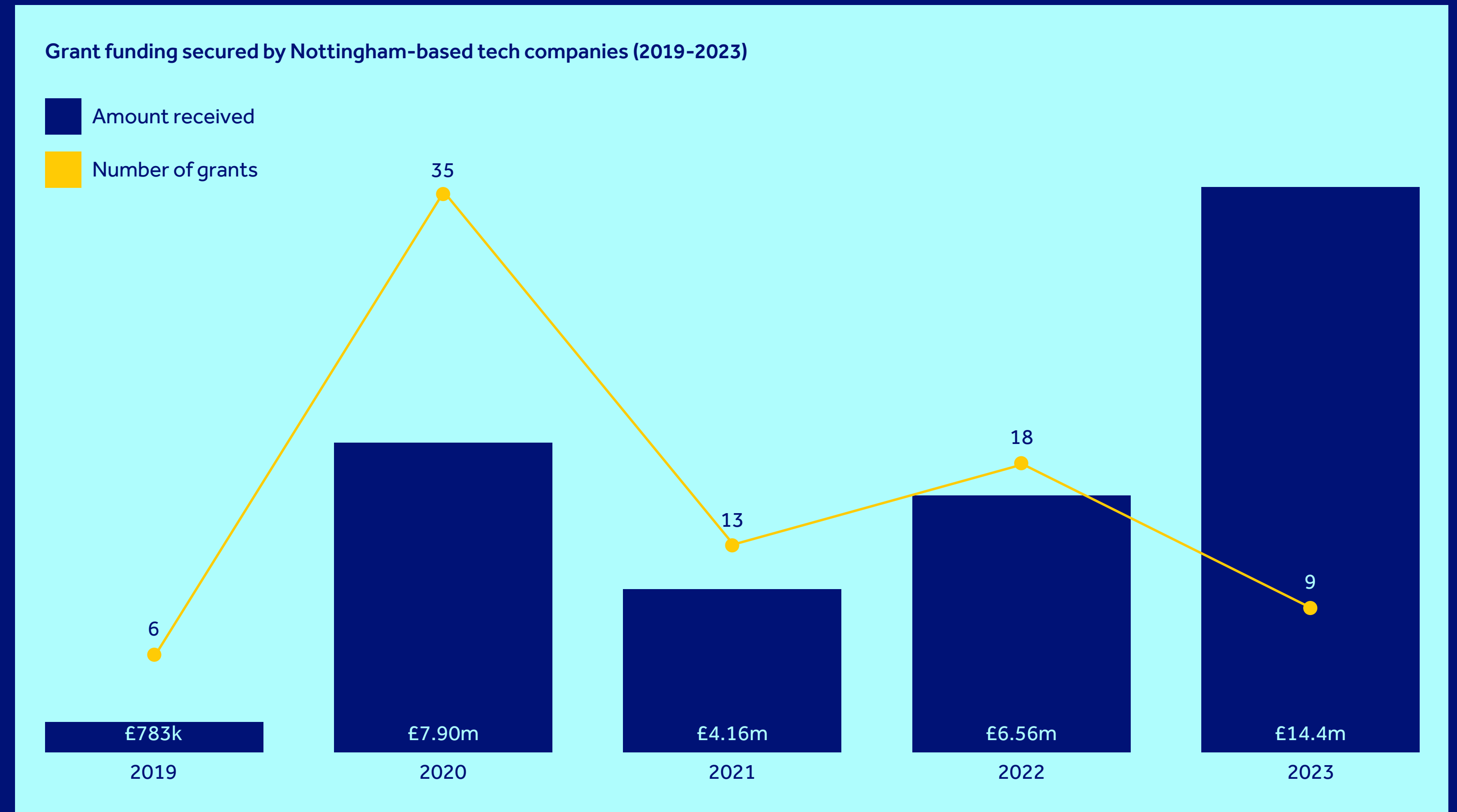
Grant funding

Active tech companies in Nottingham were awarded 81 innovation grants between 2019 and 2023. These grants amounted to £33.8m in funding across the period. There was a notable increase in the number of grants awarded in 2020, reaching a total of 35. This surge is likely linked to the additional financial support provided during the COVID-19 pandemic. In 2023, the value of grant funding peaked at £14.4m, distributed across nine grants.

A single grant to CleanTech company Cheesecake Energy was responsible for the higher-than-average levels seen in 2023. The company was awarded a total of £9.40m to support the installation of an energy storage service in Colchester. The University of Nottingham spinout develops energy storage systems for renewable energy, and to date has raised £5.50m in equity funding via four rounds, as well as securing £10.8m across 10 grants.

Nottingham City Council offers business support through the D2N2 (Derby, Derbyshire, Nottingham & Nottinghamshire) Growth Hub. This service offers schemes designed to help entrepreneurs set up a business, support training and recruitment, and offer

networking and financial support. Nottingham Business Ventures also delivers services designed to provide business advice and training.



Birmingham

Investment overview

From 2019 to 2023, Birmingham’s tech sector has witnessed growth, raising a total of £123m in equity investment across 166 fundraisings. Over this period, investment in tech companies saw a slight increase with 2023 being the landmark year in terms of investment volume. The 2023 and 2021 periods saw the highest activity in terms of fundraising events, with a total of 39 deals.

EYOTO secured the largest single equity fundraising during this period, with a total value of £9.30m. The firm spun out of Aston University in 2013, and develops solutions for the optical industry, supporting optometrists with diagnosis. To date, EYOTO has raised a total of £19.5m in equity financing via eight rounds.

Midven Ltd was the top investor into tech companies in Birmingham between 2019 and 2023. With 16 deal participations, the venture capital firm provided

investment to companies such as Linear Diagnostics, which develops specialist optical technology, and Virtue Health Group, a platform helping hospitals to manage and provide care to patients in their own homes. Midven invests in businesses in the West

Midlands, and manages a number of funds including the Midlands Engine Investment Fund (MEIF) and the West Midlands Co-Investment Fund (WMCO).

99.0k

Number of active companies

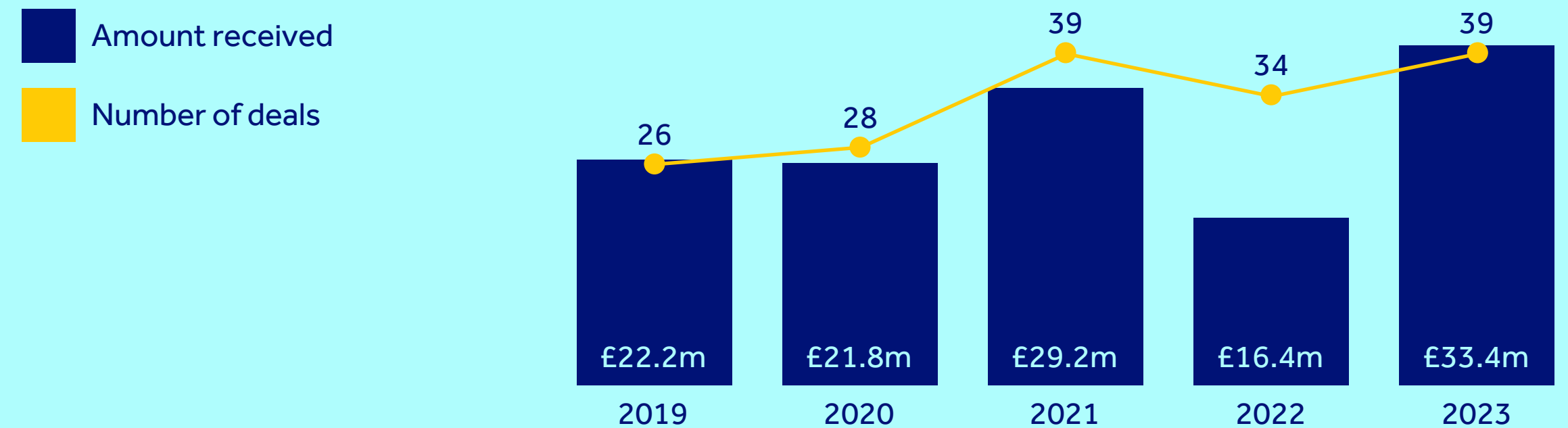
655

Number of active high-growth companies

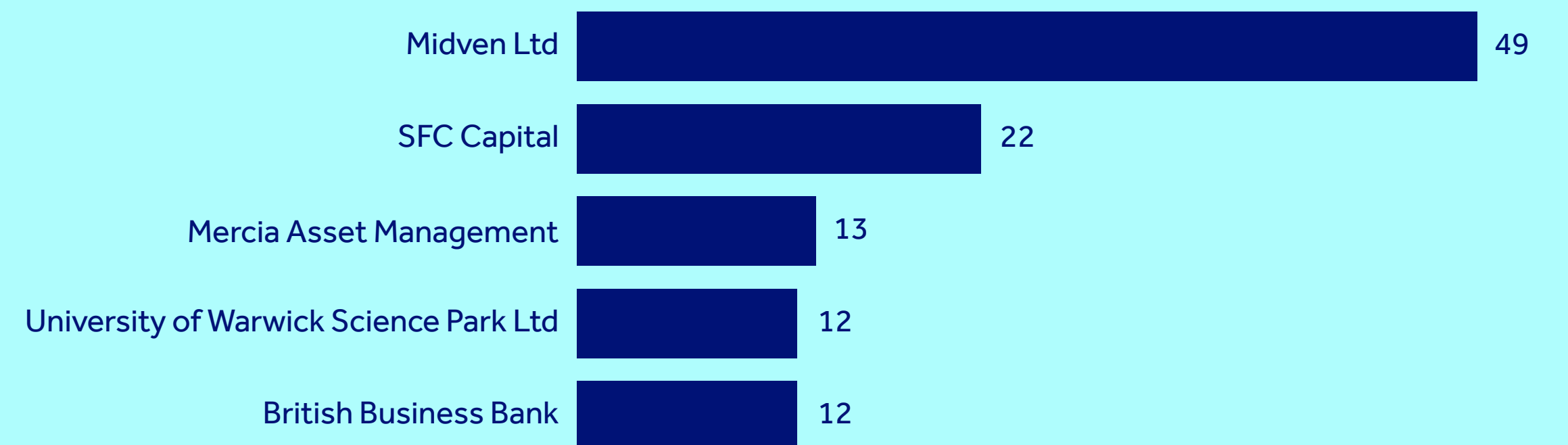
181

Number of active high-growth tech companies

Equity investment secured by Birmingham-based tech companies (2019-2023)



Top investors into Birmingham-based tech companies by number of equity deals (2019-2023)



Birmingham

Map

Birmingham's location in the heart of the UK facilitates easy access to national and international markets, further enhancing the attractiveness of the city for tech entrepreneurs. The city's high-growth tech sector is experiencing significant growth, underpinned by its robust network of companies in the city. This ecosystem is predominantly situated in the city's centre and northern districts, with a few key clusters in the neighbouring constituencies.

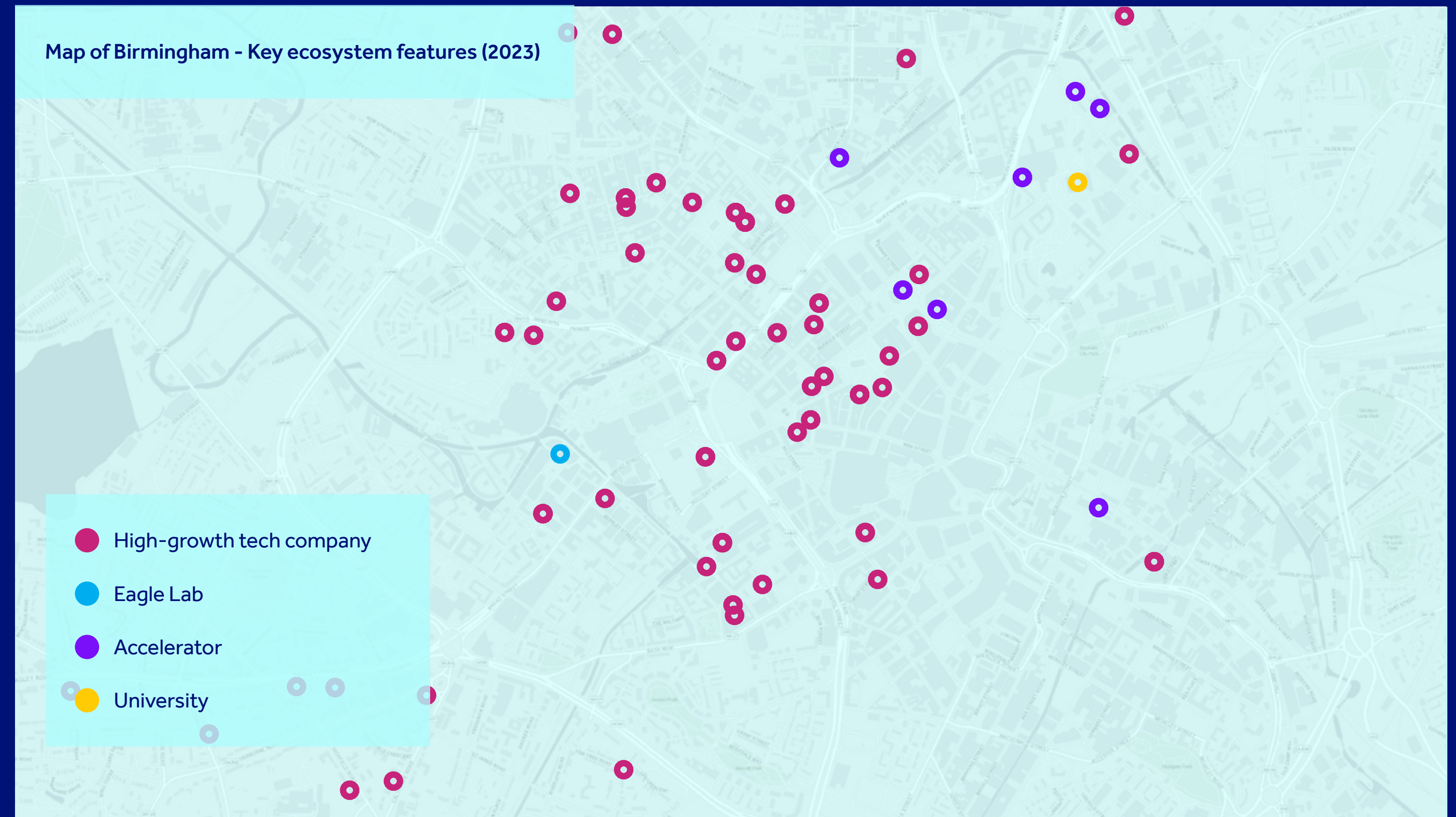
The University of Birmingham offers extensive support to entrepreneurs, including training and knowledge-sharing sessions. The university has created numerous spinouts associated including Graide, an AI-based platform that assists teachers in marking homework, and Delta-g, a quantum technology and gravity gradiometry company.

Additionally, Aston University serves as a key hub for academic and entrepreneurial support and is located

towards the north. The institution offers the Aston Programme for Small Business Growth, among other accelerator initiatives.

Tech companies in Birmingham benefit from the

proximity to a range of local support providers including the Barclays Eagle Labs site location in Brindley Place and the Black Valley Founders Programme. These entities provide essential resources for networking, collaboration, and innovation.



Coventry

Investment overview

The tech sector in Coventry, while smaller compared to larger UK cities, shows promising signs of dynamic growth. This is highlighted by the rising number of tech companies in the area receiving substantial financial investments.

Since 2019, Coventry's tech sector has attracted £45.9m in equity investment across 62 fundraisings, showcasing a growing interest in the city's technological innovations. NaroSyrinx secured the largest deal in the five-year period, with a £6.21m round in November 2022. This single deal contributed to 42.5% of the total equity raised by tech companies in Coventry that year. The biotechnology company spun out from the University of Warwick, and develops nanoscale syringes for targeted drug delivery.

Mercia Asset Management emerged as the most active investor in Coventry's tech landscape, participating in eight deals. The investment firm is

known for its support of SMEs outside of London and the South East, as well as its collaborative relationships with 19 regional universities in the UK. It has supported businesses such as Medherant, a University of Warwick spinout developing technology that delivers drugs,

such as painkillers, through patches instead of oral administration.

27.9k

Number of active companies

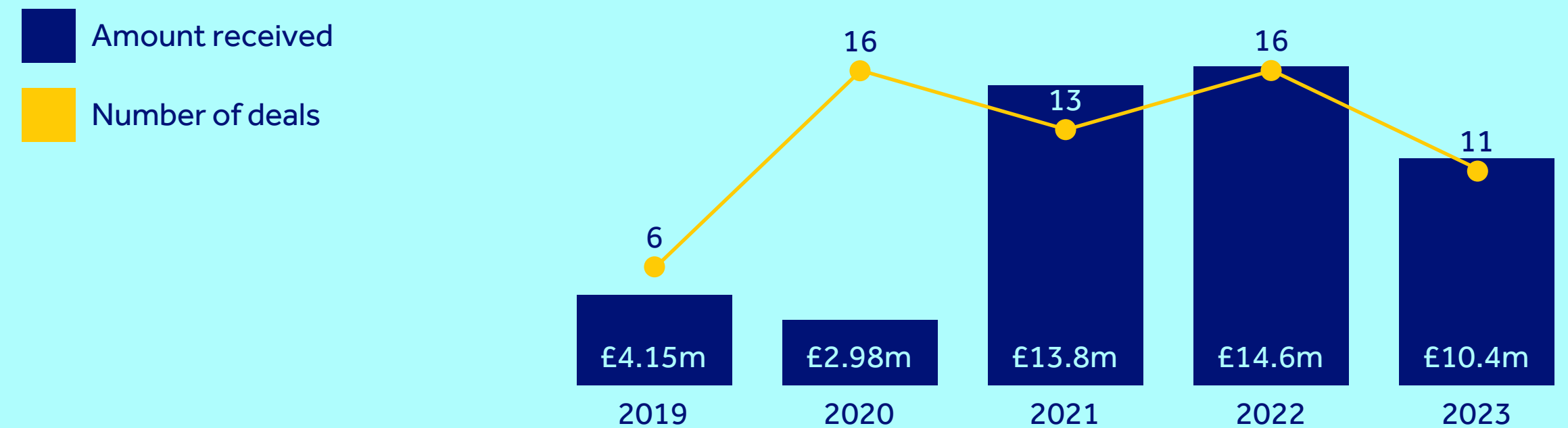
153

Number of active high-growth companies

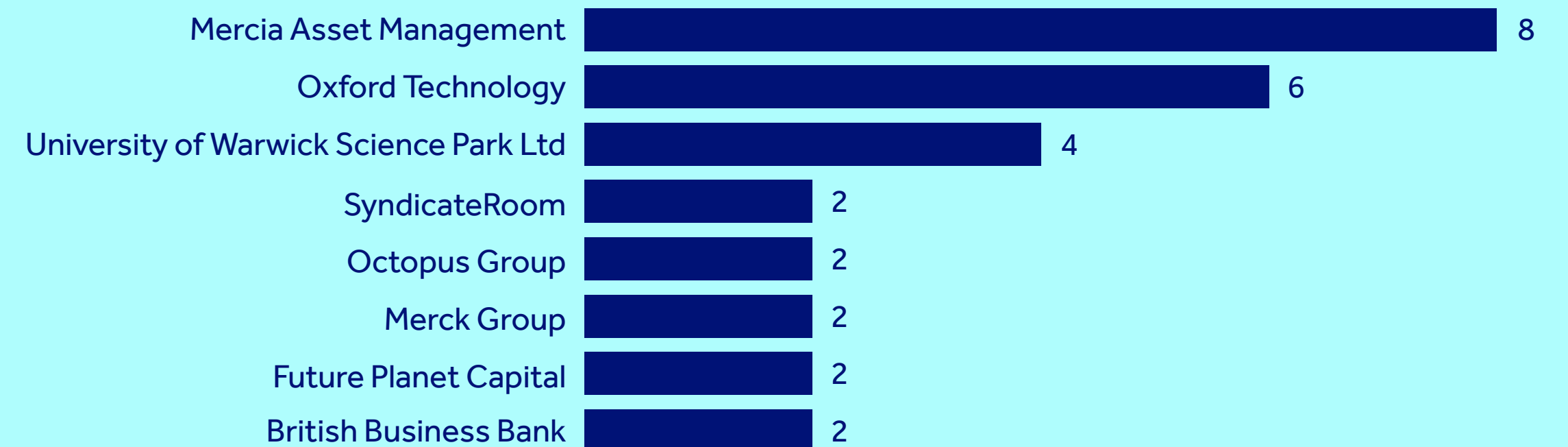
64

Number of active high-growth tech companies

Equity investment secured by Coventry-based tech companies (2019-2023)



Top investors into Coventry-based tech companies by number of equity deals (2019-2023)



Coventry

Grant funding

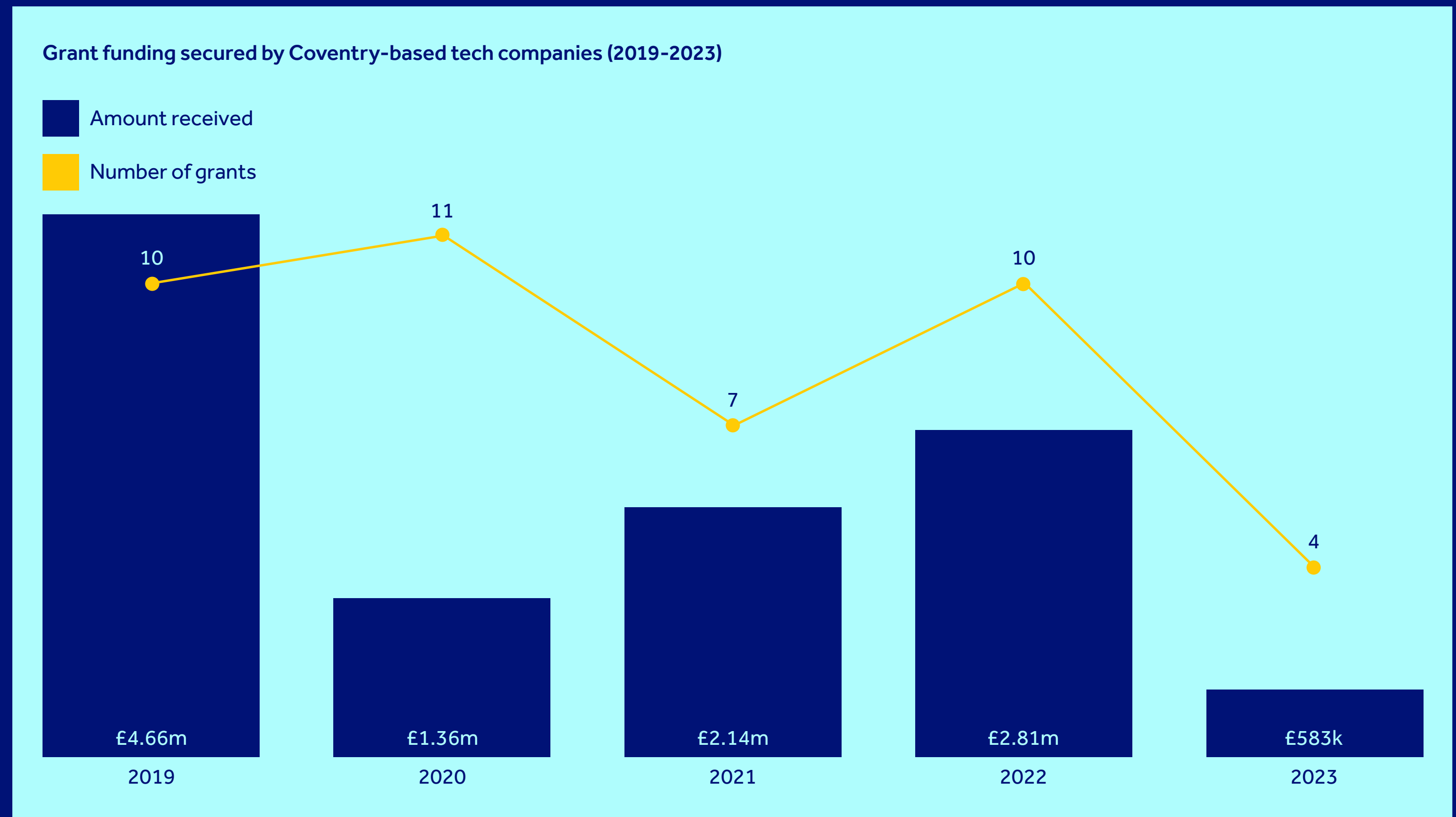
Between 2019 and 2023, technology companies in Coventry secured £12.1m in grant funding, distributed across 42 grants. Innovate UK issued 65.9% of these grants, amounting to £9.81m of grants secured by Coventry-based tech businesses. ZPN Energy, a developer of battery charging technology for electric vehicles, received the largest grant among Coventry's tech firms over this period, with funding of £2.89m.

Potenza Technology also garnered significant financial backing, in the form of a £1.41m grant. This adds to the previous 14 grants awarded to the company, totalling £4.13m. The company was acquired in 2020 by FPT Industrial and now operates as their UK research and development centre for electric vehicle batteries.

Coventry has a number of support mechanisms for its businesses, offering financial and non-financial

support to companies based in the area. Among the supporting organisations is Coventry City Council, which provides grants to startups and SMEs via the UK Shared Prosperity Fund (UKSPF). The government-funded Coventry & Warwickshire Growth Hub is

another key player, providing one-to-one advice to businesses in the region. Similarly, the Coventry & Warwickshire Chamber of Commerce deploys a team of experienced advisors to support entrepreneurs seeking to start or grow their businesses.



The Midlands Survey stats

Among those working for companies in the Midlands (East and West Midlands):

18.7%

Access to talent and international markets were both flagged by this amount as the firm's top concerns.

42.6%

gave Innovate UK a positive rating, marking it as the most favourably reviewed among the government support programs assessed.

52.1%

felt that the finance options available in their region could be enhanced.

50.5%

Half of the participants recognized a discrepancy in the availability of tech financing when comparing London to other areas.

77.1%

noted that a shortfall in infrastructure has led them to consider relocating to a different region or country.

Our reports

Barclays Eagle Labs in partnership with Beauhurst has delivered a series of thought leadership reports to support the UK tech sector. The reports covered topics ranging from engineering, and artificial intelligence, to the challenges faced within the technology sector, around hiring practices and the need for specific skills.



Decrypting the UK's high-growth quantum technology companies



Unlocking Investment: Trends for high-growth companies, H1 2023



A review of the UK's semiconductor clusters



Understanding the UK's high-growth artificial intelligence companies



Unlocking access to ecosystems



Exploring the UK's engineering biology companies



Unlocking the UK's tech talent potential



Impact, environmental and social signals in startups and scaleups

Methodology

Beahurst identifies high-growth startup companies using eight triggers (outlined on this page) that it believes suggests a company has high-growth potential. More detail on Beahurst’s tracking triggers is available via its website. Additionally, to qualify as a tech company for this report, the business must fall within the ‘technology’ classification developed by Beahurst.

Active companies

"Active" companies refers to companies that have an active or dormant Companies House status. The term excludes companies that have exited via an IPO or acquisition.

Equity investment

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

- Some form of equity investment
- Secured by a UK company
- Issued between 1 January 2013 and 31 Dec 2023.

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.

Grant funding

A company that has met our innovation grant trigger is one that has formally accepted a grant offer for a specific innovation project. The project’s primary focus must be fostering ‘New to the market’ innovation, as opposed to other aims such as job creation. The grant must have been received between 1 January 2013 and 31 Dec 2023.

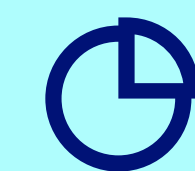
Academic spinouts

We define an academic spinout as a company that meets condition 1 and at least one condition out of 2-4:

1. The company was set up to exploit IP developed by a recognised UK university or research institution (this is broadly in line with the Higher Education Statistics Agency’s (HESA) definition of a spin-off)
2. The institution owns IP that it has licensed to the company
3. The institution owns shares in the company

4. The institution has the right (via an options or warrants contract) to purchase shares in the company at a later date.

High growth triggers



Equity investment



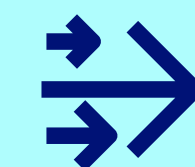
Academic spinouts



Scaleups



High-growth lists



Accelerator attendances



Major grant recipients



Management Buy-outs/ Buy-ins



Venture debt

Barclays Eagle Labs

Barclays Eagle Labs is a growing national network that provides business incubation, dedicated growth programmes, mentoring as well as co-working, and office space for ambitious high-growth businesses.

By cultivating a community of like-minded entrepreneurs and providing a collaborative work environment, access to peers, and opportunities to maximise growth through digital connections and growth programmes, curated events, and funding opportunities, Eagle Labs is able to help startups to grow at pace.

Eagle Labs also specialises in positively disrupting key industries by bringing together key corporate players, industry bodies, leading universities, and startups to enable rapid innovation and investment, by asking them to collaborate and currently have dedicated lawtech, healthtech, energytech and agritech industry-aligned programmes.

With various Eagle Labs dotted all across the UK and many more in the pipeline, our focus is to help to connect, educate, inspire, and accelerate ambitious UK businesses and entrepreneurs.

Find out more at labs.uk.barclays.

Important Information

We have pulled together the resources in this document for you to help with your independent research and business decisions. This document contains opinions from independent third parties and link(s) to third party websites and resources that we (Barclays) are not providing or recommending to you.

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Beauhurst

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

Their platform is trusted by thousands of business professionals to help them find, research and monitor the most ambitious businesses in Britain. They 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.

Beauhurst's 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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