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2022 MILTON KEYNES Tech Ecosystem Report

Santander

The Open University

mazars

MK College Group

milton keynes council

SOUTH CENTRAL INSTITUTE OF TECHNOLOGY

THE UNIVERSITY OF BUCKINGHAM

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Table of contents

Introduction **2**
- Whitecap Consulting 3
- Executive Summary 4

Forewords **5**
- Milton Keynes City Council 6
- Santander 7
- The Open University 8
- Protospace 9

Infographics **10**
- Ecosystem Map 10
- Key findings 12
- Recommendations & next steps 14

Milton Keynes Tech Ecosystem Report 2022 **19**
- Economic Overview 20
- Tech Sector 24
- Testbed Location 33
- Startups and scaleups 38
- Collaboration 45
- Talent and Skills 50
- Location Advantage 58

Appendix **63**
- Online Survey 63
- Data Analysis and Methodology 63
- Data Tables 63
- Participating Organisations 63

Whitecap Consulting

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. The firm works with clients across a range of market sectors including Consumer, Retail & Leisure, Financial Services & FinTech, Technology & Innovation, Education, Manufacturing & Engineering, Logistics & Defence, and Professional Services (including Corporate Finance and Private Equity).

The report is the latest regional analysis to be conducted by Whitecap, following previous published reports focusing of a number of regional tech-enabled ecosystems and opportunities across the UK.

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Thank you to the organisations who have supported and co-funded this research:

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Lal Tawney, Director, Whitecap Consulting

This report comes at an exciting time for Milton Keynes after recently being awarded city status, only 55 years after its inception. Now home to almost 300,000 people, Milton Keynes is a city of firsts and innovation.

Having arrived in Milton Keynes over 30 years ago, I've had the pleasure of living in a growing city that is "different by design" – from Milton Keynes being the first UK city to have kerbside recycling, to delivery robots becoming an everyday sight on our redways – Milton Keynes has innovation embedded within its DNA. But going forward, how does the city ensure it maintains its pioneering spirit whilst also firmly establishing itself on the map as a national and international tech and innovation city?

Whitecap Consulting is delighted to have had the opportunity to conduct research on the Milton Keynes Tech Ecosystem, undertaking an analysis that has involved detailed desk research, interviews with 41 key stakeholders from within Milton Keynes and the surrounding regions, and a data based analysis of the Milton Keynes tech ecosystem.

Our report confirms what many suspected in that Milton Keynes has a productive and resilient economy along with a strong and thriving tech sector that demonstrates pockets of exciting innovation. The city has huge potential, as one of the fastest growing cities in the UK, to continue to develop its tech ecosystem for the benefit of the city and surrounding regions. Specifically, there is a desire and need for the tech ecosystem to become more connected in order to drive greater value, both economic and social, for Milton Keynes.

Our analysis outlines the strengths and unique competences of the city including the high proportion of tech activity, its unique reputation for being a testbed location, and its high-quality education providers, as well as recognising some of the challenges such as the opportunity to create a more cohesive and collaborative tech ecosystem.

To support the future growth and development of the tech ecosystem, Whitecap has provided six key recommendations for the city to consider. Therefore, the report is part showcase, and part 'catalyser' for all parts of the tech ecosystem to reflect, discuss, and act upon to aid the growth of Milton Keynes.

On behalf of the project team, I would like to express our thanks and gratitude to all the individuals and organisations who provided their time, input, and feedback, and to the organisations who have funded and supported this research.

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Executive Summary

Over the course of recent months, Whitecap Consulting has been undertaking an analysis of the tech ecosystem in Milton Keynes in order to evaluate the scale of growth and emerging opportunities across the city.

The research has involved interviews with more than 40 key stakeholders across Milton Keynes, a programme of detailed desk research and data analysis and an open online survey.

Specifically, the purpose of the project was to identify the capabilities, strengths and investment opportunities of the Milton Keynes tech ecosystem and to highlight any potential barriers to growth.

Key observations of this analysis can be summarised as follows:

- **Milton Keynes has a productive and resilient economy** with a GVA of approximately £14.7bn for 2022.
- **Milton Keynes has a strong and thriving tech sector** with pockets of innovation and visible strengths in robotics and autonomous vehicles.
- **The city has a unique reputation for being a testbed location for new technologies**, allowing organisations to trial their innovations in Milton Keynes and roll them out across the UK and internationally using Milton Keynes as a blueprint.
- **Milton Keynes has an extremely high startup activity**. However, there is an opportunity to offer more tailored and coordinated support for scaleups.
- **There is an opportunity** for the tech ecosystem in Milton Keynes **to become more connected** and cohesive. For example, through the creation of an innovation / technology hub.
- **Milton Keynes has high-quality education providers** both within the city and in surrounding regions, offering a potential strong supply of talent. However, there is an opportunity to invest in improving the perception of Milton Keynes and its tech ecosystem in order to increase talent attraction and retention.
- **Milton Keynes has an advantageous geographical position**, a good standard of living, unique infrastructure and exceptional 5G connectivity.

Consequently, a number of recommendations have been suggested in this report for the consideration of the wider Milton Keynes tech ecosystem.

Create a Milton Keynes tech steering group

- A tech steering group that brings together key stakeholders from across the tech ecosystem to develop and deliver a tech strategy for Milton Keynes.
- The steering group should be representative of, and have input from, the wider tech ecosystem, and reflect the community it serves.

Establish a tech ecosystem strategy

- A tech strategy for Milton Keynes that is aligned to the current strengths and capabilities of the tech sector, supports the wider ambitions/goals of the city, and develops new tech ideas.
- The strategy should align to the current strengths of the tech ecosystem, and support the wider ambitions of the city.

Design and create a technology hub

- A physical space to help the tech ecosystem come together and collaborate.
- Within the hub, there should be office space, collaborative working space, labs, workrooms, event space, and social meeting areas – all designed to encourage collaboration amongst members.

Create a tech accelerator as part of the hub

- A tech specific accelerator that is based within the hub.
- The accelerator should provide specific support for scaleups including targeted business advice on how to commercialise new products and innovations.

Establish an education providers' group to create tech talent strategy for the benefit of Milton Keynes

- A group that covers Further Education (FE), and Higher Education (HE) providers in Milton Keynes, and surrounding regions to develop a strategy that services the current and future tech needs of the city.

Develop a strategic marketing plan for Milton Keynes tech ecosystem

- A strategic marketing plan to showcase and promote the city, and its tech success stories nationally and internationally.

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Forewords

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Milton Keynes City Council

Cllr Robin Bradburn, Deputy Leader, Milton Keynes City Coucil

"Milton Keynes Council is really proud to have supported Whitecap Consulting and the partners in creating the MK Tech Ecosystem Report. Written in collaboration with a collection of MK's key tech partners and with over 40 interviews conducted, the report provides great insight into the city's digital and tech environment.

Milton Keynes is a place where nothing has ever stood still, and innovation is embraced. We are ambitious for the future of Milton Keynes and recognise that delivering the vision will require cooperative working between business, education and the city. In the past, this joint working has delivered projects of international significance, such as MK Smart, led by the OU and proudly supported by MK Council. Our city as a testbed approach continues to position the city on the global stage as one that thinks differently and looks to the future.

The past two years have been very challenging for the people and businesses of Milton Keynes and we have been proud to see how the city has responded. Working with our business community we co-developed the Milton Keynes Economic Recovery Plan, investing £3.1 million in our city to support it through the pandemic. We provided immediate support to our tech meet up community through funding the work of Protospace and the Milton Keynes Artificial Intelligence community who delivered to over 1500 businesses. Looking to the future, we supported the ambitious plans the South Central Institute of Technology and MK:U have to ensure Milton Keynes is developing the skills locally needed for the jobs of the future.

There is much to be proud of in the success story of MK's tech sector to date and we look forward to working with our partners to position Milton Keynes as one of the UK's best cities for tech."

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Santander

Matt Hutnell, Director, Santander Universities

We are delighted to be able to bring you the 2022 Milton Keynes Tech Ecosystem Report. Produced independently by our expert partner, Whitecap Consulting, we believe this research is an important initiative to support the continued growth and prosperity of Milton Keynes as a leading technology centre.

Santander UK is a financial services provider in the UK and serves around 14 million active customers, providing high quality, seamless service across our branch network, digital and telephony channels. We offer innovative products and services to help people and businesses prosper, our customers are at the heart of everything we do. Our aim is to be the best open financial services platform by being responsible in everything we do and earning the lasting loyalty of our stakeholders.

We are investing £150m in our state-of-the-art new campus in Milton Keynes, which will become our new headquarters. Milton Keynes is one of the UK's leading technology centres and with a number of innovative education and training providers on our doorstep, we believe it will provide us with excellent future access to talent and opportunities for colleagues and the wider community to innovate and develop their skills.

Our recent investment in a strategic education partnership with MK:U, the UK's first university focused on digital skills, will create a state of the art, hybrid learning centre in our new campus. MK:U will power Santander's Training Centre in Milton Keynes, enabling Santander colleagues and the community to develop future digital skills, experience world class training, earn degree apprenticeships and complete short courses.

We have long felt that Milton Keynes possessed unique assets and talent that give it the potential to be a leading technology hub in the UK. Our long-term investment in Milton Keynes and the wider community provides an exciting opportunity for talent and business development, community support and technological advancement. We would like to thank Whitecap Consulting and all the contributors to this research and hope that it provides a basis for a deeper understanding of the tech ecosystem and identify wider opportunity for collaboration.

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The Open University

Prof Kevin Shakesheff, PVC-Research, Enterprise and Scholarship, The Open University

The Open University is delighted to sponsor this report on the current state of the Milton Keynes Technology Ecosystem. Milton Keynes has huge potential as one of the fastest growing cities in the UK to connect and develop its digital tech and innovation as a distinctive capability for the benefit of the region. As one of the largest employers in Milton Keynes and the largest provider of higher education and skills in the UK, with a reach that's both local and global, the OU is well-placed to contribute.

For over 50 years, the OU has been at the forefront of educational technology, providing online learning and skills development opportunities for millions of people. Our teaching programmes span everything from professional development short courses, known as microcredentials, to MBAs, meaning you can upskill and reskill staff at all levels of your business. The OU is one of the largest providers of Degree Apprenticeships and Higher Technical Qualifications – including, for example, the Digital and Technology Solutions Professional Degree Apprenticeship – which makes a significant contribution to the supply of talent and skills for in-demand digital roles.

We are a tried and trusted partner for employers. 75% of the FTSE 100 have sponsored staff on OU programmes. In addition, our contract research consultancy service utilises our academics, scientists and engineers to help solve challenges faced by businesses. We offer Knowledge Transfer Vouchers (KTVs), which are a low risk, cost-effective way of running a strategic partnership to help businesses improve competitiveness and productivity through utilizing the knowledge, technology and skills at the OU. Recent examples include working with the Silverstone Technology Cluster to investigate how to improve testing in digital manufacturing and engaging with local businesses to developing licencing applications for satellite propulsion and air monitoring on nuclear submarines.

Milton Keynes is a testbed for Artificial Intelligence (AI). The OU co-led the initiative known as MK:Smart – a £16 million Smart City project that harnesses big data and other technology solutions to address transport and other infrastructure challenges. This also looked at integrating real time data to deploy the UK's first dedicated 5G Network to trial applications in mobility, health and energy solutions. Milton Keynes has the world's largest fleet of delivery autonomous robots and has clear scope to be a global destination for future waves of innovation-led growth in the application of AI.

Our Knowledge Media Institute and Institute of Educational Technology, as well as our wider digital and tech teaching and research capabilities in our Faculty of STEM help us stay at the forefront of digital innovation and deliver real world impact for the benefit of society. Later in this report, a case study by the OU's Professor Anna De Liddo shows how the OU's development of Collective Intelligence technologies provides an effective platform to harness citizen feedback and structure the collective knowledge of a community.

Milton Keynes has the potential to be at the forefront of technological advancement and connectivity in the tech ecosystem. The Open University stands ready to work in partnership and contribute its expertise to help realise this tremendous opportunity.

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Protospace

Protospace is an initiative to support, connect and grow the tech community in Milton Keynes, and is proud to be supporting the Milton Keynes Tech Ecosystem Report.

Through a series of events and digital resources, Protospace brings individuals, businesses and organisations together to connect, collaborate and share knowledge. From meetups to hackathons, workshops to industry-leading talks, the community-led events spark new connections, champion local digital technology and cultivate the development of new skills.

As part of this initiative the team is working to provide a dedicated physical space for the local tech community. From co-working to events, the space aims to offer a vibrant and nurturing environment for collaboration, knowledge sharing and the exploration of new ideas.

Protospace is a collaboration between the teams behind Made in MK, MK Geek Night and Pooleyville with support from Milton Keynes City Council as part of its COVID-19 Economic Recovery Plan.

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Milton Keynes Tech Ecosystem Report Summary

Milton Keynes City

278k
population

£14.7bn
GVA

12,800
enterprises

15%
population growth for Milton Keynes compared to 6% UK population growth 2011-2021

£98k
GVA per worker

149,000
economically active

Milton Keynes Tech sector

45,000
tech workforce

£3.4bn
tech GVA

2,400
tech enterprises

30%
of total workforce is tech

23%
of total Milton Keynes GVA

19%
of enterprises in Milton Keynes are tech

Milton Keynes Tech sector highlights

- Milton Keynes has a productive and resilient economy with a GVA of approximately £14.7bn for 2022.
- Milton Keynes has a high proportion of tech activity when compared to other UK cities - with an estimated tech GVA of £3.4bn (2022).
- The city has a unique reputation for being a testbed location for new technologies, allowing organisations to trial their innovations and roll them out using Milton Keynes as a blueprint.
- Milton Keynes has an extremely high startup activity. However, there is an opportunity to offer more tailored and coordinated support for scaleups.
- There is an opportunity for the tech ecosystem in Milton Keynes to become more connected and cohesive – including through the creation of an innovation / technology hub.
- Milton Keynes has high-quality education providers both within the city and in surrounding regions, offering a potential strong supply of talent.
- However, there is an opportunity to invest in improving the perception of Milton Keynes and its tech ecosystem in order to increase talent attraction and retention.
- Milton Keynes is unique by design, has an advantageous geographical location and has city-wide 5G connectivity.

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Milton Keynes Tech Ecosystem

Outside of Milton Keynes

TECH CLUSTER

INDUSTRIALS

RoadWise, ENVISICS, HUMAN DRIVE, computerised information technology, prodrive, ARBOR, Routeco, EMPEL, ADVANCED AUTOMATION SOLUTIONS, Dynamic Imaging Analytics, SMC, Rockwell Automation, BALANCE BATTERIES, Immense, helix, Clearview Intelligence, etap, EFFICIENCY TECHNOLOGIES, SEKO, INTEGRAL POWER, RHENUS HIGH TECH, SBD, Biopower Technologies, NDSL, UKAutodrive, SalesMaster, Samad Power, COLLISION MANAGEMENT SYSTEMS, Red Bull Racing, Cranfield University, MILLBROOK, AURRIGO, STARSHIP

TECH CONSULTING

CELATON, PragmatiQ, IBM, aiimi, White Clarke Technologies, Tech Mahindra, IP SOFT, bjss, Bernard Marr & Co., issured, managed., hinttech, CCL, wtdatatech, PARAGON, INGRAM MICRO, velocity, cubicspace, TETRA TECH, silverbug, dph, ITC INFOTECH, sdg group, MIRUS IT SOLUTIONS, 10100

INFORMATION TECHNOLOGY

CYSIAM, Bluecube, COMTACT, Deepview Solutions, PreCog, aztech IT Solutions, Digital Insights, The HBP Group, vmware, TI

RETAILTECH

RMS, Viewsy, Dropit, amazon, MWC PARTNERS, CouchWise, SPRINGBOARD., Retail Loop, zizo, twc Technology, IMS EVOLVE

CREATIVE

Pooleyville, Creative ITC, 123 INTERNET, MK9 DEVELOPMENT, WISDOM TECH LTD, briteyellow, usheru, Momento, SOTECH

HEALTH & MEDTECH

CenoBiologics, PHYSIOLAB, health scientific, CMR SURGICAL, Kenza Technologies, Graphnet

AGNOSTIC

orbit, adam, gruup, Work Buzz, Pulsant, ABB

LEGALTECH

baskervilledrummond, FIND OTHERS, CONTRACT SYSTEMS

EDTECH

UFARO, metaverse, Do You Promise?

FINTECH

Tomorrow's Journey, irisguard, LQID, TOOTI, HotPatch, worksmart, xero, JML, ATLANTIC, solifi

TELECOMMUNICATIONS

dbfb, protel, AMN, comms 365, iVoxx, Digitalk, infinity, CityFibre, boxx, Plexinor, triangle. NETWORKS, genx SOLUTIONS

SCIENCES

AND, ceravision, Two Trees Photonics, LINOS, acal bfi, MK PHOTONICS, d3i

FOODTECH

IMS EVOLVE, Biopower Technologies

AGRI & GREENTECH

ROBO VEG, THG (more : trees)

HOSPITALITY TECH

briteyellow, cubicspace, Robotzzia

SPORTSTECH

SIS, twenty3, SPORT BUDDY

SUPPORT SYSTEM

FACILITIES

5G Accelerator, BLETCHLEY PARK, NatWest, MK:U, Tech Mahindra, SEMLEP, CATAPULT, College MK, MK Community Foundation, ALPHA Club, Regus, intertek, BUSINESS LEADERS PARTNERSHIP, MKAI, MK:SMART, SPACES., PINNACLE, The Wheelhouse, WITAN STUDIOS, Eagle Labs, DMC, SH:MK

EDUCATION

MK College Group, The Open University, MK:U, SOUTH CENTRAL INSTITUTE OF TECHNOLOGY, OXFORD, CAMBRIDGE, Cranfield University, University of Bedfordshire, University of Northampton, THE UNIVERSITY OF BUCKINGHAM

FINANCIAL & PROFESSIONAL SERVICES

Santander, BARCLAYS, HALIFAX, KPMG, NatWest, HSBC, Whitecap, BGF, pwc, VOLKSWAGEN FINANCIAL SERVICES, Geoffrey Leaver Solicitors, TSB, BIDWELLS, EMW, growthdeck, mha MACINTYRE HUDSON, COTTONS, Mercer & Hole, DENTONS, SHOOSMITHS, wilson browne SOLICITORS, KC, ADVALOREM, 123 INTERNET, FREETHS, HOWES PERCIVAL, evolve LAW, METRO BANK, mazars, COLLISION MANAGEMENT SYSTEMS

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NETWORKS & SUPPORT GROUPS

GirlsCode, female techpreneur, BUSINESS LEADERS PARTNERSHIP, MK HACKATHON, Made in MK, Velocity, MKIG, protospace, City, milton keynes BUSINESS IMPROVEMENT DISTRICT, MKGN, Biztech, BusinessGrowthClub, SILVERSTONE TECHNOLOGY CLUSTER, GAMEDEV:MK, Willen Hospice

GOVERNMENT

HMGCC, Central Bedfordshire, milton keynes council, SEMLEP, Invest Milton Keynes

FUNDING

MAVEN, MKIG, Central Arc Angels, MK Community Foundation, mercia asset management

Key findings

Economic Overview

- This report is particularly timely given Milton Keynes's recent achievement of securing city status.
- Milton Keynes has a productive and resilient economy with a GVA of approximately £14.7bn for 2022.
- Milton Keynes has a high GVA per Worker of £98k, demonstrating high levels of labour productivity.
- Milton Keynes demonstrates its ambition and commitment toward becoming a sustainable city through the MK Sustainability Strategy 2050.

Tech Sector

- Milton Keynes has a high proportion of tech activity when compared to other UK cities - with an estimated Tech GVA of £3.4bn (2022).
- Milton Keynes has particular strengths/capabilities in autonomous vehicles and robotics. However, there appears to be a lack of clarity with regards to a vision for tech going forward.
- The tech sector has remained strong and robust throughout the Covid-19 pandemic and will continue to be a key driver of activity for Milton Keynes.

Testbed Location

- Milton Keynes has a unique reputation for being known as a testbed location for trialling new innovations and technologies.
- Starship Robots provide a good example of Milton Keynes being used as a blueprint for rolling out new technologies to other cities.
- A noticeable strength of Milton Keynes and a key focus for the local authority has been optimising the transport system within the city.
- Milton Keynes City Council has been a key facilitator in establishing the city as a testbed location.

Startups and Scaleups

- Milton Keynes has one of the highest startup rates in the UK and has a large number of high growth companies.
- There is an opportunity for a more coordinated approach to supporting startups and scaleups.
- Enabling the commercialisation of products through targeted business support could help to remove barriers to growth and enable more firms to successfully scale up.
- Although there are a number of accelerators and incubators in Milton Keynes and the surrounding regions, they are agnostic rather than tech focused.

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Key findings contd.

Collaboration

- There is an opportunity to create a more connected and cohesive tech ecosystem in Milton Keynes.
- The tech ecosystem appears to be made up of small, innovative firms and large global players that operate in silos, with a lack of wider engagement.
- There is an opportunity in Milton Keynes to create a tech steering group which pulls together the existing networks, facilitates collaboration and determines the future tech strategy.
- There may be an opportunity in Milton Keynes for a physical space which encourages collaboration such as a technology hub.

Talent and Skills

- Across the UK, basic digital skills are now essential skills and the demand for advanced digital skills is also rising.
- In line with the national trend, Milton Keynes suffers from a tech talent shortage.
- The increase in remote working has resulted in employers needing to offer competitive salaries to tech talent, an issue particularly prevalent for Milton Keynes.
- There appears to be a challenge surrounding the attraction and retention of talent within Milton Keynes.
- There is a perception that Milton Keynes lacks the 'vibrancy' that can be seen in other cities.
- There are a number of high-quality education providers within Milton Keynes and the surrounding regions, offering a strong supply of talent.

Location Advantage

- Milton Keynes is extremely well-located for businesses and commuters, with excellent connectivity to the rest of the UK.
- Milton Keynes is situated at the centre of the Oxford-Cambridge Arc and within 30-minutes of the Silverstone Tech Cluster, presenting a potential future growth opportunity.
- The grid road, Redways and 5G infrastructure all make Milton Keynes unique by design and showcase the city's innovation.

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Recommendations & next steps

Recommendations	Description	Next steps
1. **Create a Milton Keynes tech steering group**	• **A tech steering group that brings together key stakeholders from across the tech ecosystem in order to develop and deliver a tech strategy for Milton Keynes.** • The steering group should be inclusive and representation of the wider tech ecosystem, including current networks and meet-up groups, and be responsible for making high-level decisions that will guide the future direction of the city's tech ecosystem. • The steering group will require a chair who is well connected, respected, has vision and can facilitate collaboration. Different options for chairship exist including that of an independent chair – this option was suggested during stakeholder interviews and should be given consideration in order to accelerate collaboration. • The governance structure of the group should be considered and may evolve over time. The group could be informal (e.g. loose affiliation) or formal (e.g. Community Interest Company). • Rather than this being a side project, employ or secure appropriate resources to ensure the steering group has the required resource in order to keep it running, maintain momentum and ensure it has city-wide promotion and engagement. • The steering group should develop and deliver the tech sector strategy (see next bullet point).	• Create terms of reference for the tech steering group. • Define the skills and experience required for the group. • Consider the best option for how the group is chaired, and plan how to recruit the chair. • Develop a stakeholder engagement plan. • Agree on the best structure of the group, and the resourcing or financing model. • Ensure there is diversity of input within the group.
2. **Establish a tech ecosystem strategy**	• **A tech strategy for Milton Keynes that is aligned to the current strengths and capabilities of the tech sector, supports the wider ambitions/goals of the city, and develops new tech ideas.** • The strategy must align with the ambitions and goals of the city e.g. A leading green and cultural city by global standards. • The strategy should cover what the city 'wants to be famous for' from a tech perspective and include the tech USPs. • The strategy must be aligned to the current strengths and capabilities of the tech sector – e.g. robotics, autonomous vehicles, 5G, whilst considering new tech ideas - e.g. Centre of excellence for GreenTech. • The strategy should include a plan of how Milton Keynes ensures that businesses continue to choose the city to test and trial their new products and innovations. • The strategy should also cover how the city attract large corporates that are operating in this field by creating an attractive environment for them (strong supply of talent, affordable office space, collaborative working space), and can attract and retain more tech talent into Milton Keynes including monitoring how the "vibrancy" of Milton Keynes impacts on the talent pool.	• Develop stakeholder engagement plan to gain buy in to the purpose of, and the approach to development of the strategy. • Undertake further stakeholder consultation to provide input to the development of the strategy. This should include Milton Keynes citizens, local communities and other interested stakeholders. • Analyse further elements of the ecosystem as guided by the steering group to develop the strategy. • Undertake process to develop vision, strategic priorities, objectives, and action plans. • Develop a communications plan.

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Recommendations & next steps

Recommendations	Description	Next steps
3. **Design and create a technology hub**	• **A physical space to help the tech ecosystem come together and collaborate.** • Within the hub, there should be office space, collaborative working space, labs, workrooms and social meeting areas – all designed to encourage collaboration amongst members. • A platform where members can share their core challenges/problems so that tech solutions can be found – ideally by startups. • A hub that allows education providers to form strong relationships with all players in the ecosystem (especially businesses) to allow for improved alignment between the needs of ecosystem and the courses offered, research and enterprise opportunities, knowledge transfer and knowledge exchange partnerships, and consultancy support. • An attractive focal point for venture capitalists and investors to be part of the ecosystem, including the provision of local market data (e.g. businesses growth rates; economic productivity and resilience; quality of infrastructure; workforce skill level; quality of education and trading relationships).	• Confirm the scope of the tech hub, and evaluate the different options for delivery (considering the fit with existing assets within the ecosystem). • Develop an appropriate business case for the tech hub. • Undertake a feasibility study. • Obtain learnings from existing successful tech hubs nationally and internationally. • Define the hub proposition.
4. **Create a tech accelerator as part of the hub**	• **A tech specific accelerator that is based within the hub.** • The accelerator should provide specific support for scaleups including targeted business advice on how to commercialise new products and innovations. • The accelerator should also provide support and guidance on the funding landscape and how to access it.	• Design the accelerator proposition considering how it will fit with other accelerators in Milton Keynes and the surrounding area. • Obtain learnings from existing successful tech accelerators nationally and internationally. • Create an appropriate business model.
5. **Establish an education providers' group to create tech talent strategy for the benefit of Milton Keynes**	• **A group that covers Further Education (FE) and Higher Education (HE) providers in Milton Keynes and surrounding regions to develop a strategy that services the needs of the local tech sector.** The strategy should: • Define the current needs of local tech businesses using insight from FE and HE providers. • Outline a plan and clear pathways for skills progression for upskilling and reskilling of local residents through short courses/ qualifications. • Outline a plan for engagement with local schools and encouraging children from a young age to consider careers in tech.	• Create terms of reference for the education providers' group. • Agree group participants, and recruit a chair for the group. • Define the strategy on how to align and address the tech skills needs of Milton Keynes.
6. **Develop a strategic marketing plan for Milton Keynes tech ecosystem**	• **A strategic marketing plan to showcase and promote the city and its tech success stories nationally and internationally.** • Ensure surrounding regions understand the offer and value add of collaborating with Milton Keynes – Ox-Cam Arc, Silverstone Tech Cluster & Super Cluster. • Create showcase events e.g. annual Milton Keynes tech week or festival as part of the marketing plan.	• Develop the strategic marketing plan considering existing projects regarding Milton Keynes branding. • For example, ensuring the marketing plan aligns with the current work Milton Keynes City Council is doing to market Milton Keynes. • Develop an engagement plan for Milton Keynes citizens and stakeholders.

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Stakeholder Quotes

"There is an opportunity to collaborate, as there are a number of large organisations who rely on tech, and it would be great if we could collaborate for the benefit of Milton Keynes by building a consortium that brings together universities, large corporates, the council and start-ups."

Rakshit Kapoor, Chief Data Officer, Santander

"If Milton Keynes wants to be known as a place to scale your technology business through local ecosystems, quality candidates, and investment, then we need to identify our competitive positioning and role in the context of the Arc. Green Technologies, perhaps? I believe that, in the short term, if we agree on an industry and all get behind it, we will make a lot of progress."

Richard Foster- Fletcher, Executive Chair, MKAI

"I have been to some great meetups in Milton Keynes where you find little pockets of tech but I wouldn't say there's a collective vision that brings everyone together."

Christian Metzner, Chief Information Officer, VWFS

"You realistically can't do everything; it makes sense to have a focus and GreenTech might be a good place to start. Being a centre of excellence for embedding technology into a sustainable business process with a focus on Greentech, that would have national relevance and global relevance."

Dr. Mark Addis, Associate Dean Knowledge Exchange, The Open University

"Milton Keynes is a great location for tech start-ups and scale-ups. It's been a testbed for new technologies for decades and that is something which really sets it apart. The issue is around strategy, awareness and how we promote that USP."

Oliver Waters, Co-founder, Protospace

"The Milton Keynes tech ecosystem is growing, but it's fragmented and siloed. We have a lot of excellent facilities, people and organisations here, but we still lack a sense of community and collaboration across the commercial sectors."

Richard Wiggins, Co-founder, Pooleyville

"Milton Keynes has so much going for it […] the Bletchley Park legacy, the College, the robotics, the range of companies headquartered here […] it has all of the components. It does just need them to come together to make Milton Keynes even more attractive."

Iain Gallagher, Emerging Talent Senior Manager, Santander UK

"There are lots of tech global corporates with a presence in Milton Keynes and I think that's a real strength for the region – and a brilliant opportunity for impactful collaborations where SMEs and larger firms work together."

Steve Salvin, Chief Executive, Aiimi

"There are places that start-ups and scale-ups can meet to talk to each other but it's not a community as such. We don't have a formal umbrella organisation that brings them all together and supports them."

Paul Clarke, Director, FiguringOutData.com

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Stakeholder Quotes

"We're fiercely proud to have located Xero's UK HQ in Milton Keynes with its tech heritage as the birthplace of the modern computer and the codebreakers at Bletchley Park. In fact, we're so proud of our British roots here that we doubled down on this and dramatically increased our office footprint in the city just last year.

And as a fast emerging tech hub, Milton Keynes boasts the UK's highest startup rates outside of London. With so much investment being poured into the new digital university, from Santander and its innovation centre, from Rightmove, Red Bull Racing and Honda's Formula One teams with their R&D centres, Milton Keynes is blossoming and has a bright future ahead, but it also has a significant past which is so relevant for that future."

Alex von Schirmeister, Managing Director for the UK & EMEA, Xero

"The biggest challenge for Milton Keynes is collaboration. We have so many organisations here that would benefit from technology and innovation, but we struggle to engage them."

Alex Weedon, Executive Director of SME Development, CP Catapult

"Milton Keynes is home to many entrepreneurs who have built up some great businesses but my sense is that they seem to be working in isolation. Compared to other cities there could be more of a community of collaboration, networking and integration which ultimately would drive more success in the scaleup community."

James Syrotiuk, Ex-Investor, Business Growth Fund

"You need a holistic approach to support. Accelerators and incubators are important and so is physical space, but the overall sense of community is what's most valuable."

Pim van Baarsen, CEO, Silverstone Tech Cluster

"There are lots of networks and groups in Milton Keynes but there doesn't seem to be many people that actually run tech start-ups or businesses attending these events. We have struggled to find founders and have had only one referral from anyone we've met at those events."

Yvette Lamidey, Central Arc Angels

"Milton Keynes needs to establish what the problems are that we are trying to collectively solve and the objectives that we should be working towards together as a community. Is it with regards to talent, investment in MK or our sustainability ambitions? Then we can work together to use technology for the benefit of Milton Keynes."

Mark Homans, Director of Strategy and Operations, Santander

"We should be pushing more GreenTech, decarbonisation and the green agenda, it's vital for the smart city objective."

Matthew Napleton, Chief Commercial Officer, Zizo

Stakeholder Quotes

"I feel like we've got to get Milton Keynes back to being brave and innovative again. There's so much potential but there's a lot that needs to be done to unlock it.

Steve Salvin, Chief Executive, Aiimi

"I don't see any particular concentration or cluster of a tech sub-sector in Milton Keynes."

James Syrotiuk, Ex-Investor, Business Growth Fund

"Milton Keynes has a lot of good starting points and ingredients to be known for tech and positioned as a tech hub, but it's not there yet."

Simon Schreyer, Head of IT Controlling, VWFS

"I couldn't tell you a particular strength or capability of Milton Keynes. I imagine there's more niche tech here but we there's a lack of awareness of who's here and an identity as a whole. I think Milton Keynes needs to be more clear about its vision for tech.

Matt Lomax, Associate Director, Mazars

"There is a need for increased collaboration and coming together to support one common vision but whose responsibility is it to create that vision?"

Yvette Lamidey, Central Arc Angels

"Connection, collaboration and trying to get everyone in one room should be a first priority for Milton Keynes, and then recognition of what we already have here in terms of tech."

Alex Warner, Deputy Group Principal, Milton Keynes College Group.

"In the last 10 years, we've seen a massive spike in terms of growth with big corporates choosing to locate in Milton Keynes. In terms of strengths, anything around the robotics side seems to be really thriving, Starship for example have put their roots down here and are doing really well."

Scott Jones, CEO, 123 Internet Group

"We need to define a vision for Milton Keynes, are we going to be like Oxford and Cambridge or are we going to be a tech hub?"

Christian Metzner, Chief Information Officer, VWFS

"There is the opportunity to have a shared vision for technology in Milton Keynes which incorporates factors such as education, attracting investment, the utilisation of empty buildings etc. The council could have a part in creating the vision with contribution from other key stakeholders."

Roz Bird, CEO of Anglia Innovation Partnership, Norwich Research Park

"There seems like there's a lot going on in Milton Keynes, but the strengths need identifying. At the moment, its more anecdotal than evidential. Crystallising the vision and focus for Milton Keynes will be very valuable for its development and future growth."

Pim van Baarsen, CEO, Silverstone Tech Cluster

"It would be great for Milton Keynes to be known as somewhere that's good for tech full stop. If you're too specialised, then it might put certain tech firms off moving here."

Alan Wilson, Co-Founder and Managing Director, More Trees

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Milton Keynes Tech Ecosystem Report 2022

© Whitecap Consulting

Economic Overview

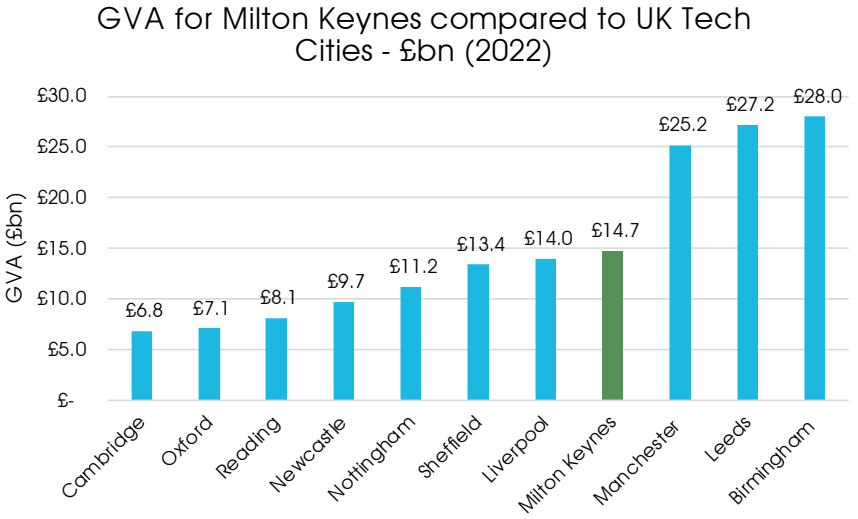
The following estimations have been made by Whitecap Consulting and calculated using GVA data published by ONS – see methodology section for a detailed breakdown of formulas/calculations.[1]

This report is particularly timely given Milton Keynes recent achievement of securing city status, providing a boost to the local economy and community, opening new opportunities and putting Milton Keynes on the international map.

This research has taken place at a time when Milton Keynes has firmly established itself as a dynamic and innovative city with a productive and resilient economy.

Milton Keynes has a productive and resilient economy with a GVA of approximately £14.7bn for 2022.

Milton Keynes has undergone rapid economic development since 1967 when it was built to alleviate housing shortages in London[2] and according to the 2021 Office for National Statistics (ONS) Census, is now home to 287,000 people.[3] Milton Keynes has an estimated GVA of approximately £14.7bn (2022), a CAGR of 1.6% over the previous five years. When compared to the CBRE's 2022 Top Tech Cities (outside of London & excluding Scotland),[4] Milton Keynes has the fourth highest GVA, behind Manchester (£25.2bn), Leeds (£27.2bn) and Birmingham (£28bn).[5]



Estimations by Whitecap Consulting, 2022.

As well as having a significantly higher GVA than some surrounding cities such as Cambridge (£6.8bn), Oxford (£7.1bn) and Reading (£8.1bn), Milton Keynes also has the highest GVA per Worker when compared to the same CBRE's Top Tech Cities (outside of London & excluding Scotland).[6]

1 Whitecap calculation using data from - ONS, May 2022.
Regional gross value added (balanced) by industry: local authorities by ITL1 region & ONS, June 2022. Model-based regional gross value added (GVA) revisions triangle.
2 BBC, 2017. Milton Keynes: The middle-aged new town
3 ONS, 2021. Census – Milton Keynes.
4 CBRE, 2022. Top Tech Cities.
5 Whitecap calculation using data from - ONS, May 2022. Regional gross value added (balanced) by industry: local authorities by ITL1 region & ONS, June 2022. Model-based regional gross value added (GVA) revisions triangle.
6 CBRE, 2022. Top Tech Cities.

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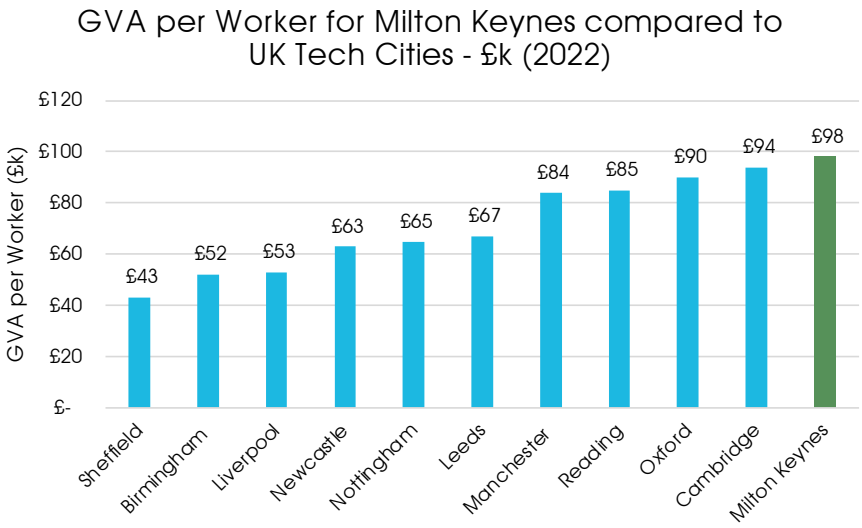
The estimated GVA per Worker for Milton Keynes (2022) is £98k, followed by Cambridge (£94k), Oxford (£90k) and Reading (£85k)[7] demonstrating that Milton Keynes has extremely high levels of labour productivity compared to some of the largest economies across the UK.



Estimations by Whitecap Consulting, 2022.

According to PwC's Good Growth for Cities Index (2022)[8] which ranks 50 UK cities against 12 economic factors, including jobs, income and housing, Milton Keynes scored 0.44 percentage points above the national average, scoring above average on seven of the 12 economic factors and particularly highly in income. As well as this, the latest UK Powerhouse Report by Irwin Mitchell (2022) predicts that "*overseas investment and an economy rich in services and tech-based firms will mean Milton Keynes will be home to one of the UK's fastest growing economies by the end of 2023.*[9]"

This research has highlighted a lack of clarity with regards to the current strengths and capabilities of the Milton Keynes tech ecosystem as well as the vision for tech going forward.

One example of this is the lack of consistency from stakeholders when articulating the key strengths and capabilities that are associated with the Milton Keynes tech ecosystem. For example, when asked - "what would you say are the specific areas of strength within the current Milton Keynes tech ecosystem?" - responses to this question varied greatly, including references to specific technologies such as autonomous vehicles, robotics and 5G to sectors such as high-end automotive engineering, to factors such as location and infrastructure. Although there appears to be a difficulty with establishing what Milton Keynes is currently 'famous for' with regards to tech, this report outlines the strengths and capabilities of the city as well as providing guidance and direction for the Milton Keynes tech vision going forward.

Despite the profound strength and size of the tech sector in Milton Keynes (evidenced through data analysis), the city appears to lack a national and global reputation, failing to feature in the CBRE's Tech Cities Report (2022).[10] The report explores all markets across the UK (excluding London) and scores them based on a number of factors including access to skilled talent, proximity to high quality higher education and providers of tech education, cost of living and cost of employment.

According to the report, the top three UK Tech cities are Manchester, which has a highly skilled graduate population leading to multinational software and data companies investing in the region; Birmingham, for its Computer Science Degree offering and high levels of graduate retention and Glasgow, which has emerged as a UK leader in FinTech with high levels of educational attainment and relatively low house prices. Within the context of the Oxford-Cambridge Arc, Oxford and Cambridge both feature within the CBRE's Top Tech Cities, primarily due to their world leading universities, ranking 9th and 13th respectively.

7 ONS, May 2022. Regional gross value added (balanced) by industry: local authorities by ITL1 region, ONS, June 2022. Model-based regional gross value added (GVA) revisions triangle & ONS, 2021. Local Authority Profile – economically active data for 2021.
8 PwC, 2022. Good Growth for Cities Report.
9 Irwin Mitchell, 2022. Foreign Direct Investment and the UK economy. A UK Powerhouse Report.
10 CBRE, 2022. Tech Cities Report.

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Milton Keynes demonstrates its ambition and commitment towards becoming a Sustainable Smart City through the MK Sustainability Strategy 2050.

Milton Keynes has a number of sustainability priorities and objectives which are articulated in the MK Sustainability Strategy 2019-2050.[11] The three key priorities include: "a green energy revolution; to ensure the most efficient and low impact use of our resources and to create a prosperous circular economy". The Milton Keynes Strategy for 2050[12] which outlines the ambition for Milton Keynes to become "a leading green and cultural city by global standards" recognises that "new technology in the coming years will make these targets more achievable and affordable". However, there may be opportunities for Milton Keynes to work towards becoming a 'Sustainable Smart City' with the current tech capabilities that already exist within the city – collaboration for the benefit of Milton Keynes. The definition of a Sustainable Smart City is as follows:

"A Sustainable Smart City is an innovative city that uses Information and Communication Technologies (ICTs) and other technological means to improve the quality of life, the efficiency of urban operations and services, and competitiveness, while also meeting the economic, social, environmental, and cultural needs of current and future generations."

(The definition was established by UNECE and ITU via a multi-stakeholder approach including over 300 international experts.)

It is thought that Smart Cities could provide a potential solution to the environmental issues that have arisen as a result of increasing urbanisation. Smart Cities facilitate, connect, analyse and action big data using Internet of Things (IoT) devices such as sensors, cameras, lights and meters, along with other digital technologies such as Cloud Computing and Open Data which help to connect different city stakeholders. According to Forbes Technology Council[13], "Success in Smart Cities is built on effective collaboration: sharing IoT and other data between diverse organisations and then working together using that data to create better quality of life."

This would suggest that having a Smart City enabling infrastructure in place as well as creating an environment that fosters and encourages collaboration across the whole tech ecosystem will both be important for the future growth and development of Milton Keynes.

> ***"I think Milton Keynes is trying to position itself as a Smart City and we're heading in the right direction but I'm not aware of a dedicated strategy for it."***
>
> **Alex Weedon, Executive Director of SME Development, CP Catapult**

Five years on from the conclusion of the MK:Smart programme (a large collaborative initiative, partly funded by the Higher Education Funding Council for England and led by The Open University), Milton Keynes remains committed to developing further as a Smart City, as can be seen through the successful installation of the 5G network across the city. Not only did the MK:Smart project put Milton Keynes on the international map at the World Smart City Awards, it also provided learnings for Milton Keynes to build upon.

With this in mind, it is hoped that this research will support and enable Milton Keynes to achieve its ambition of becoming a world leading Sustainable Smart City by helping to identify the current strengths and capabilities whilst also discussing some of the challenges that would allow Milton Keynes to firmly establish itself as a top UK tech destination in both a national and global context.

11 MK Sustainability Strategy 2019-2050
12 MK Futures, 2016. MK Future 2050 Strategy.
13 Forbes, 2021. Smart Cities Are Built On Collaboration.

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There are numerous global examples of Smart Cities that Milton Keynes could learn from to support its ambitions. These include:

Tel Aviv which is notable for its encouragement of and openness to innovation and to improving the urban experience. A leading technology hub, Tel Aviv has developed highly advanced solutions for urban administration and to increase citizen engagement and public participation. A key project in Tel Aviv is the DigiTel Residents Club - a personalised web and mobile communication platform which provides residents with individually tailored, location-specific information and services. Tel Aviv also won 'Best Smart City in the World' at the Smart City Expo World Congress in 2014.

Kanpur Smart City aspires to leverage its Culture and Heritage by investing in Inclusive and Transformative Solutions that enhance the Quality of Life for its Citizens. With a view to provide easy services to the citizens, Kanpur Smart City has started a profile based online service portal called the Virtual Civic Centre. To benefit from this, citizens need to register and enrol for different services - these will be linked to citizen profiles and will enable them to carry out future transactions quickly whilst also tracking historic transactions.

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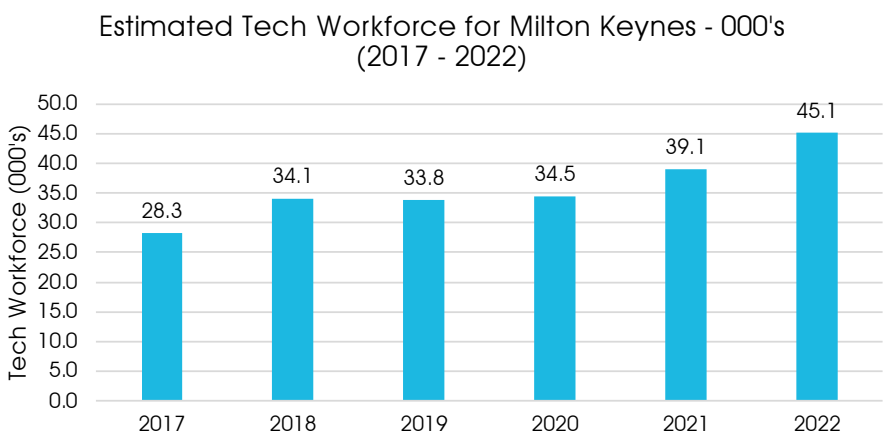
Tech Sector

The following estimations have been made by Whitecap Consulting and calculated using ONS published data for SIC 62, weighted against Tech Nation published data – see methodology section for a detailed breakdown of formulas/calculations.[14]

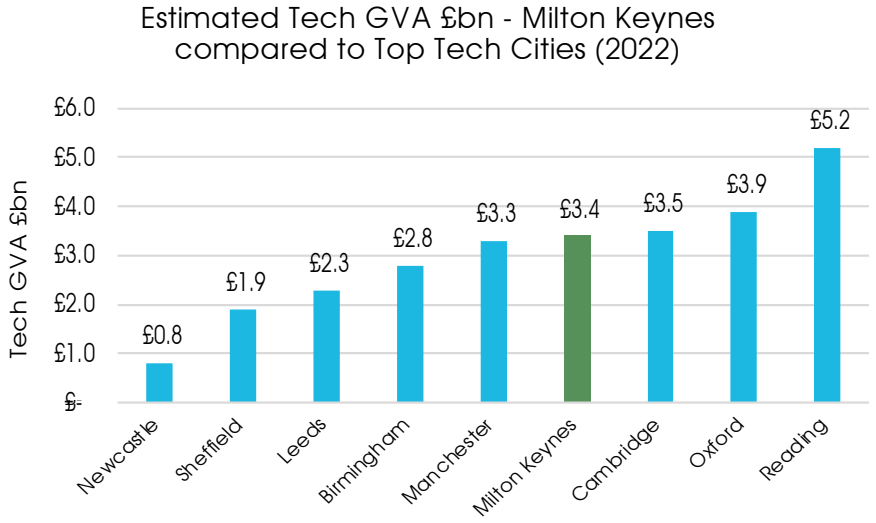
Milton Keynes has a high proportion of tech activity when compared to other UK cities - with an estimated Tech GVA of £3.4bn (2022).

Milton Keynes has a substantial tech sector with a high proportion of tech activity. The sector comprises of an estimated 2400 tech related businesses and an estimated tech workforce of 45,000, making up for 18% of all businesses in Milton Keynes and 30% of the total workforce.

A further indication of the strength of the tech sector in Milton Keynes is the estimated Tech GVA, valued at c.£3.4bn for 2022. This is higher than some of the UK's largest cities such as Birmingham, Leeds and Manchester which have an estimated Tech GVA of £2.8bn, £2.3bn and £3.3bn respectively.



Estimations by Whitecap Consulting, 2022.



Estimations by Whitecap Consulting, 2022.

14 Whitecap Methodology section.

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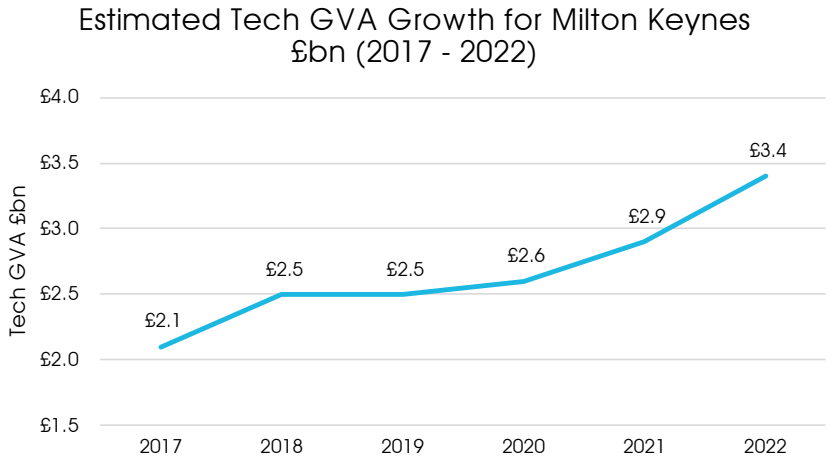
The following graph demonstrates a CAGR of 8% for Milton Keynes tech GVA from 2017 – 2022.



Estimations by Whitecap Consulting, 2022.

Milton Keynes has particular strengths/capabilities in autonomous vehicles and robotics.

Despite some challenges in identifying what Milton Keynes is 'famous for' with regards to tech, robotics and autonomous vehicles were highlighted during the stakeholder interviews as visible strengths for the city:

> ***"I'd say our visible strengths are robotics and driverless vehicles."***
>
> **Harin Sellahewa, Professor of Computing & Dean of Faculty of Computing, Law and Psychology, University of Buckingham**

Autonomous Vehicles

The Connected and Autonomous Vehicles (CAV) market in the UK could be worth between £52 billion and £62 billion by 2035, capturing around 6% of the £907 billion global market, creating tens of thousands of jobs.[15]

With the largest fleet in the world and four years on from the release of Starships delivery robots, Milton Keynes has become accustomed to seeing Autonomous Vehicles driving around the city and making deliveries. Starship robots are advanced autonomous devices with 360 vision which allows them to carry items over short distances whilst safely navigating around pedestrians and other obstacles. Parcels, groceries, food and drink can be directly delivered from stores to customers via a mobile app with the robot's entire journey and live location being monitored and tracked. For security, the cargo bay is mechanically locked throughout the journey and can be opened only by the recipient with their smartphone app. As an electronically powered robot, the service is offering a cleaner, faster and more cost-efficient way to make deliveries. The Milton Keynes operation was the first commercial deployment in the UK with residents being able to download the Starship Deliveries App and order items to be delivered to their door via the autonomous robots. This was particularly useful throughout the Covid-19 pandemic as the multiple lockdowns caused an increased strain on the gig economy delivery drivers.

15 GOV UK, 2020. connected and automated vehicles report.

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Driverless Vehicles

As well as this, a major trial of driverless vehicles on public roads has been taking place in Milton Keynes earlier this year. The Fetch car system trial is operated by Imperium Drive, an innovative start-up which took part in The MK:5G Accelerator, a programme delivered by Connected Places Catapult and True Altitude. The trial, backed by Milton Keynes City Council, enables users to order a car via an app, which is then driven by a remote driver to their location. The customer then drives the car to their desired location, from where a remote vehicle operator takes over and pilots the car back to base or to the next user. The aim of the Fetch trial is to eliminate some of the challenges with public transport such as cost and inconvenience, with the CEO of Imperium Drive stating, "*our goal is to make on-demand door-to-door transport more cost-effective and convenient than every alternative, even privately owned cars.*"[16] Remote driving technology is already being trialled in other countries, but Fetch is the first application in the UK. The trial features a variety of car types including standard saloon cars to electric microcars. The technology uses 5G connectivity which enables remote operators to switch between controlling different cars when required.

5G (Fifth Generation)

A third strength of Milton Keynes includes the investment into 5G connectivity, resulting in a private, standalone 5G network across the city. The MK:5G initiative, led by the council and funded by a consortium, has facilitated the deployment of a 5G infrastructure designed exclusively to support research and development in the context of the Smart City agenda in Milton Keynes. 5G, the fifth generation of wireless technology, can provide higher speed, lower latency and greater capacity than 4G Long Term Evolution (LTE) networks, resulting in more efficient businesses and giving consumers access to more information faster than ever before. 5G speed and its connectivity benefits is expected to have a number of practical applications such as:

- High speed mobile network which will revolutionise the mobile experience.
- Internet of Things – connecting every object, appliance, sensor, device, and application to the Internet.
- Reliable, low-latency autonomous vehicles with real-time communication and data sharing viability.
- Smart City functionality including traffic management, instant weather updates, energy management, smart power grid, smart street lighting of the street, water resource management, emergency response and more.

The 5G network across Milton Keynes will not only improve the running of businesses but the implications for accessibility, the reach of mobile broadband and the improvements in society's safety, health and security have the potential to be much farther reaching, "*5G isn't just another tech innovation, it's the platform that makes other innovations possible.*" CEO of Verizon.[17]

16 Fleet News, 2021. Fetch driverless car-hailing trial starts in Milton Keynes.
17 Verizon, 2022. What is 5G and why does it matter?

© Whitecap Consulting

As well as the compelling contribution of the tech sector to the city's economy, Milton Keynes is also home to the HQ's and UK subsidiaries of a number of global players such as Tech Mahindra, Xero and Volkswagon Financial Services. There are likely to be a number of contributing factors as to why large corporations choose to have a presence in Milton Keynes, many of which are detailed throughout this report.

For example:

- The geographical positioning of Milton Keynes – Proximity to London and Silverstone Tech Cluster, centre of the Ox-Cam Arc, motorway access and connectivity to rest of UK.
- The unique infrastructure and exceptional connectivity including the grid road system, the 5G connectivity and the Redway system which have allowed for the trials and deployment of new technologies and innovations.
- Milton Keynes has been named as one of the UK's top five cities for business startups per 10,000 population which helps corporations speed up innovation cycles, which leads to gains in productivity and performance.

"There's lots of small pockets of tech activity in Milton Keynes and lots of opportunity for innovation and attracting new entrants."

Rakshit Kapoor, Chief Data Officer,Santander

The tech sector has remained strong and robust throughout the Covid-19 pandemic and will continue to be a key a key driver of activity for Milton Keynes.

In 2020, office floorspace taken up by tech firms in Milton Keynes was up 150% compared to 2019, with high tech manufacturing firms taking up twice as much office floorspace in 2020, compared to 2019.[18]

Over the same period, Tech and IT related businesses made up for over 40% of office space take-up, illustrated by the final letting of 56,000 sq ft at 100 Avebury Boulevard to Xero Accounting, a reflection of the growth and resilience of the Milton Keynes tech sector. As well as this, in the NHS England Delivery Plan for Tackling Covid-19 Backlog (2022)[19], it states "In Milton Keynes, surgeons and their teams are using the latest technology, including surgical robots, to deliver more complex surgery with faster recovery times", further supporting the notion that tech will continue to be a key driver of activity for the benefit of the wider community within Milton Keynes.

18 Electronic Specifier, 2020. COVID-19 accelerates Milton Keynes tech transition.
19 NHS England, 2022. Delivery plan for tackling the COVID-19 backlog of elective care.

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Tech Sector Comparison – Milton Keynes and Top UK Tech Cities

Estimated GVA for Milton Keynes and other UK cities

UK Tech Cities	Total GVA 2022 (£)	GVA per worker 2022 (£)	Tech GVA 2022 (£)	% of Total GVA that is Tech driven
Birmingham	28,067,969,594	51,815	2,863,874,727	10%
Cambridge	6,826,569,354	94,030	3,491,790,723	51%
Leeds	27,249,877,294	66,675	2,329,144,597	9%
Manchester	25,210,255,620	83,950	3,271,405,247	13%
Milton Keynes	14,671,161,993	98,398	3,373,641,173	23%
Newcastle	9,653,399,575	63,384	814,575,396	8%
Oxford	7,133,194,895	89,613	3,898,508,553	55%
Reading	8,088,122,599	84,870	5,219,887,304	65%
Sheffield	13,425,603,872	42,934	1,933,591,132	14%

Estimations by Whitecap Consulting, 2022.

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CASE STUDY: Silverstone Technology Cluster

In 2016 research was commissioned to assess whether a cluster existed in the area surrounding Silverstone. A number of remarkable findings were presented in the subsequent report. Firstly, approximately 4,500 Advanced Engineering, Electronics and Software businesses are in the area.

Secondly, the cluster they form is not a motorsport cluster, but rather multi-sectorial as many of the businesses have diversified into a variety of different sectors.

Lastly, in answer to a "magic carpet" question on whether there was a better place anywhere in the world for their business to be successful, virtually everybody responded that this was the ideal area for their business.

Often when clusters emerge, a cluster support organisation is put in place to help foster the economic ecosystem. As such a dedicated organisation was not in place, Silverstone Technology Cluster was founded.

Silverstone Technology Cluster (STC) is a not-for-profit cluster support organisation for advanced engineering, electronics, and software businesses in the wider Silverstone area. The organisation aids its members with promotion, support and thought leadership.

Promotion

STC aims to promote the cluster nationally and internationally, highlighting the power of the network of these highly innovative businesses. To date, STC has hosted several delegations from China and France, next to interest from countries like Italy, Singapore, Malaysia, and South Korea. Significantly, it has also engaged with organisations such as Heathrow Airport, BAE Systems and the UK government who are all keen for STC to be the conduit to access the problem-solving prowess of the companies in the network.

In addition, STC aids companies within the cluster to promote themselves to each other. As the cluster is uniquely multi-sectorial bringing companies together and encouraging them to collaborate is a large part of what the STC does.

Support

STC offers several business growth programmes and events. Most notably, it runs SME Advisory Board and Mentoring programmes in partnership with Be the Business. Together with British Business Bank it hosts a series of Access to Finance events, and it joined forces with Amazon Web Services to deliver an Innovation programme. In addition, it organises various events and webinars.

Thought Leadership

STC has set up Special Interest Groups (SIG) formed by leaders of its member companies. The SIGs are a proven way to accelerate technological development around a chosen topic through effective peer-to-peer discussion, which not only serves to raise awareness of the capabilities in the cluster, but further aids collaboration and the sharing of good practice. Currently, there are four SIGs:

- Digital & Advanced Manufacturing
- Future Mobility
- Design, Simulation & Metrology
- Wearable Technology

Since its inception in January 2017, membership has grown to over 150 companies, while showcase events like the STC Annual Conference and hosting the VIP Lounge at the Advanced Engineering Show help to further raise the profile of the companies in the cluster.

Delivering value to its members is a key aspect of what the STC does, and as the membership grows, so does its capability to develop and deliver valuable programmes. By putting our member's needs at the heart of what we do, we aim to help businesses in the cluster flourish and prosper.

The tech community in Milton Keynes – very much part of the STC as a key city in its geography – undoubtedly has many skills and capabilities that compliment other businesses in the cluster and we look forward to working with this community to bring value to both.

STC was founded by Barclays, Buckinghamshire Council, EMW, Grant Thornton, Hexagon, Silverstone Park and West Northamptonshire Council.

For further information, please visit: www.silverstonetechnologycluster.com or contact pim@silverstonetechnologycluster.com.

SILVERSTONE TECHNOLOGY CLUSTER

Stakeholder Quotes – Tech Sector

"I see a maturing tech scene when I travel through Milton Keynes. We have more visible tech (both new and old) than anywhere else in the country and a lot of data companies.

Paul Gartside, Data Coach and Curriculum Developer, South Central Institute of Technology.

"Milton Keynes is a place that has a huge amount of potential, there are some pockets of innovation but there's an opportunity to create a real sense of identity."

Matt Lomax, Associate Director, Mazars

"If there's something that Milton Keynes could be famous for, I think it's digital. It's a very vague word but nonetheless it's a big space which includes businesses that want to run themselves making better use of digital technology."

Paul Clarke, Director, FiguringOutData.com

"We have some pockets of tech in Milton Keynes. For example, we have a well-established AI community, battery technology, autonomous vehicles, big data and analytics and we have the University Hospital as well."

Brian Matthews, Head of Transport, MK Council

"There are strengths in all areas of tech in Milton Keynes but the ones with a lot of visibility are autonomous vehicles and AI. I wouldn't say there's one thing that's obvious to me that Milton Keynes is known for in tech though."

Steve Henson, Business Development Director, Barclays

"Tech strengths in Milton Keynes include VR, driverless and autonomous vehicles and AI."

Majid Al-Kader, CEO, MX Reality

"With the launch of electric driving, Milton Keynes is becoming known for being the centre of excellence for electrification of cars. It's an attractive place for people that want to work in that field."

Katie Benson, Head of HR Services VWFS

"In my opinion, I don't think Milton Keynes shouts enough about how good it is and how good the people are. It doesn't have the reputation that other places do."

Alex Warner, Deputy Group Principal, Milton Keynes College Group.

"I don't think people who live in Milton Keynes think they live in a high-tech place, and I don't think people in other cities necessarily view Milton Keynes as high-tech. Outside of the UK though, I do think the region is recognised for its tech."

Dr Julie Mills OBE, CEO and Group Principal of Milton Keynes College Group.

"Even though there is a lot going on in tech in Milton Keynes, it doesn't get the recognition that other UK regions do. It's difficult to sell Milton Keynes because you don't quite know what it should be famous for."

Richard Wiggins, Co-Founder, Pooleyville

"We need a clear strategy with a common goal to help cultivate meaningful collaboration across the city. The city's brand should provide a strong story about what differentiates Milton Keynes and the opportunities it provides – if it's a testbed for innovation, then let's invest in marketing that."

Oliver Waters, Co-founder, Protospace

"From an industry perspective, there's so much variety in terms of maturity, reach and size. HealthTech is an area that Milton Keynes could really excel in but it's not there yet."

Anita Nadkarni, Technology Strategy Leader, PwC

"There's a lot going on in Milton Keynes tech wise and from what we've seen, there are some really exciting prospects. There's lots of potential but it feels like a lot of the work goes on under the radar and you have to seek it out. We're not sure of the goal or high-level objective that steers all the elements "

Anonymous, HMGCC

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Welcome

CASE STUDY: University of Buckingham

Developing the next generation of human capital in advanced digital and technology skills and Knowledge exchanges.

Professor Harin Sellahewa, Dean of Faculty of Computing, Law and Psychology, University of Buckingham

The University of Buckingham is proudly independent and not-for-profit, and offer courses in Allied Health, Business, Computing, Education, Humanities, Law, Medicine, Psychology and Security and Intelligence. Located approximately 13 miles from Central Milton Keynes, Buckingham is home to the Two-Year undergraduate degree.

Ranked Top 20 in the UK for Computing (Guardian University Guide 2022), and joint 12th for Overall Student Satisfaction (NSS 2022), the School of Computing at Buckingham offers innovative programmes that blend theory with practice to ensure students are knowledgeable, enterprising, and digitally skilled to meet the requirements of industries of the future. Our aim is to empower students to achieve their full potential.

The next generation of human capital

Taught by research active academics, Buckingham offers a range of two-year (Hons) bachelor degrees in computing with pathways in artificial intelligence and robotics, cyber security, games development and immersive technologies, as well as software development to suit wide-ranging interests and career aspirations. A range of full-time postgraduate degrees in computing that suit graduates from different backgrounds and interests are also offered at Buckingham. Our MSc programmes in Applied Computing, Innovative Computing, and Applied Data Science are ideal routes for Milton Keynes tech talent, including the expatriate community, to reskill or upskill.

Our master's level integrated degree apprenticeship programme has successfully trained over fifty data scientists since 2020 with another forty currently in learning. Our apprentices are employees representing a wide range of sectors from banking, finance, insurance, digital marketing, telecommunication, public health, local and central government. We are able to support organisations in and around Milton Keynes develop their expertise in data science and machine learning to help achieve their strategic business objectives.

Research and Knowledge Exchanges

The School of Computing have successfully completed four Knowledge Transfer Partnerships (KTP), part funded by Innovate UK. Two KTPs were with Deepnet Security in Bletchley Park where we developed novel biometric authentication systems for person authentication. The other two KTP projects were with Russell IPM where we developed automatic image analysis solutions for smart pest monitoring and control, and new wireless communication techniques for low-powered data transmission.

Among our partners are Zizo, an industry leader in Edge analytics based in Milton Keynes. We are due to complete a five-year £1.7 million R&D programme funded by TenD.AI Medical Technology (Shanghai) to develop Deep Learning techniques to automatically analyse ultrasound images to detect cancers.

State-of-art facilities and Tech Startups

The School of Computing launched its Centre of Artificial Intelligence and a suite of brand new labs for cyber security, games development and robotics in September 2021. An immersive tech lab and an incubator for tech startups will be launched in July 2023. This is a £3.2 million investment in Computing and AI at Buckingham, part funded by a £1.6 million Local Growth Fund Grant from Buckinghamshire Local Enterprise Partnership (BLEP).

Our expertise, facilities and state-of-art equipment such as the Boston Dynamics Spot are available for organisations in the region to work on collaborative projects to solve business problems.

To find out more, please contact harin.sellahewa@buckingham.ac.uk

Testbed Location

Milton Keynes has a unique reputation for being known as a testbed location for trialling new innovations and technologies.

According to Nesta,[20] "*testbeds can be used by the public sector, inward investment organisations or business representative organisations (such as chambers of commerce) to market an area to investors, talent and businesses, and support local economic development*". Milton Keynes is different by design and has been building its testbed reputation since the 1980s when the city hosted the world's first modern energy efficient housing as well as being the first UK city to have kerbside recycling.[21] In 2010, Milton Keynes was the first place to test public electric vehicle charging points and in 2018, as part of the UK Autodrive Project, (a government backed competition that trialled automated vehicle technology to support the introduction of self-driving vehicles into the UK),[22] the final trials of autonomous vehicles took place on the streets of Milton Keynes, now becoming a regular sight for the residents.

Starship Robots provide a good example of Milton Keynes being used as a blueprint for rolling out new technologies to other cities.

Again in 2018, Starship launched its emission-free delivery robots in Milton Keynes which have expanded ever since, particularly during the Covid-19 pandemic as many vulnerable members of the community relied on the robots to deliver necessities throughout the multiple lockdowns. According to the Head of UK Operations,[23] "*the delivery robots have fully ingratiated themselves with the local community and the town has really embraced us.*" As well as delivering necessities, Starship Robots were also used throughout the pandemic to cheer up lonely citizens and in 2021, Starship launched its first singing delivery robot, a development that was so successful it has now been rolled out globally.

Starship Robots provide a good example of Milton Keynes being used as a blueprint for rolling out new technologies to other cities as they have confirmed plans, in partnership with Co-op, to extend their robot delivery service to five new towns and cities including Upper Cambourne in Cambridgeshire, taking their fleet up to a total of 500 robots.

> ***"Milton Keynes has always been a place for revolution, excitement and trying out new things. You can see it with the robots and autonomous vehicles. The fact that large companies use Milton Keynes as a testbed location for new innovations is a good thing for the city."***
>
> **Richard Wiggins, CoFounder, Pooleyville**

A noticeable strength of Milton Keynes and a key focus for the local authority has been optimising the transport system within the city.

A noticeable strength of Milton Keynes and a key focus for the local authority has been the transport system within the city. In 2021, Milton Keynes City Council began the roll out of a new demand-responsive transport system (DRT) in a bid to offer a more efficient and cleaner way to get around the city. The service, coined "MK Connect", is the largest project of its kind in the UK and is an innovative public transport option for residents who aren't served by a bus route, or when other choices like cycling might not be appropriate. MK Connect will be able to pick up passengers within minutes of their initial booking and take them to their destination.

A further example of Milton Keynes City Council focus on mobility and transport is the Lime Electric Scooters trial, an innovative national scheme which started in 2020 that had the ultimate goal of providing a more affordable and greener travel option for the residents of Milton Keynes. Recent developments have now seen Lime e-scooters integrate with the Uber app in order to make the service more accessible and to encourage the active take-up of more sustainable travel options. Not only do these transport and mobility initiatives help with accessibility throughout the city but they also contribute towards achieving the targets within the MK Sustainability Strategy by providing more efficient and greener ways for people to get around the city.

> ***"Milton Keynes was one of the first councils to have consolidated data view which collects information around transportation, garbage collection, citizen led information and much more."***
>
> **Anita Nadkarni, Technology Strategy Leader, PwC**

20 Nesta, 2019. Milton Keynes – a testbed for innovative transport solutions.
21 Milton Keynes Sustainability Strategy 2019-2050
22 UK Autodrive, 2018. UK Autodrive Project.
23 Buckinghamshire Live, 2021. Starship Robots on why Milton Keynes was the 'perfect place' to launch in the UK.

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The most recent developments for Milton Keynes as a testbed location are MK:5G and MK:5G Create.

The MK:5G project is an initiative led by Milton Keynes City Council and a number of consortium partners which has led to the design and build of seven 5th generation (5G) masts across Milton Keynes, creating a private, standalone 5G network. 5G technology provides connectivity with vast improvements to bandwidth, latency and reliability, transforming a multitude of industries such as transport, manufacturing, health and tourism and supporting the growth of new markets and emerging technologies. The project has led to the creation of a dedicated 5G infrastructure and data hub facility which will focus on trialling applications across three core themes: Mobility, Health & Wellbeing, and Energy. The focus of the 5G trials in Milton Keynes will be primarily on advanced mobility and hospitality logistics, driving research in the field of automation. The use cases will include autonomous vehicles, drones and robotics.

MK:5G Create builds on the testbed facilities developed in the MK:5G project, with the aim of using 5G to support a major international and sporting venue. Connected Places Catapult, which is headquartered in Milton Keynes, is working with a high-tech consortium on the MK5G Create project, funded in part by the Department for Digital, Culture, Media and Sport (DCMS). The host site is Stadium MK which includes a 30,400-seat stadium, 5000 seat indoor arena, 304 bed hotel and 1300 parking spaces. The site also hosts a multiplex cinema, gym complex, restaurants and major retail park. The project will install 5G infrastructure to support multiple 5G use cases including:

- **Autonomous vehicles** for moving people and goods across the stadium site and wider retail park.
- **Teleoperated vehicles** for moving people around the stadium site and the wider area.
- **Autonomous surveillance vehicles** and drones for enhancing security on the stadium site.
- Supporting hotel guests with **robot assistants**.

Milton Keynes City Council has been a key facilitator in the city being used as a testbed location for new technologies and innovations.

For Milton Keynes to have built this unparalleled reputation for being a testbed location for new technologies and innovations, the city has required a number of facilitating factors including the grid road system, which contributed to the successful deployment of autonomous vehicles and robots; Milton Keynes City Council, which has demonstrated continued enthusiasm to test and trial new technologies and innovations around the city and the culture of Milton Keynes, which according to MK Creative & Cultural Strategy 2018-2027[24], has been embracing of "creativity, experimentation and risk-taking with a bold and pioneering spirit."

> ***"I really do think Milton Keynes is a great place for companies to trial their new products and innovations. When you think about the grid system and the 5G capability, it's an ideal location for an innovation testbed."***
>
> **Steve Salvin, Chief Executive, Aiimi**

This is seen by many as a key unique selling point for the city with a number of stakeholders suggesting that Milton Keynes should capitalise on this USP and use it as a source of competitive advantage by positioning the city as the UK testbed location for trialling new technologies and innovation. How Milton Keynes ensures that it maintains this USP going forward is a consideration for the city as a dedicated strategy may be required to ensure Milton Keynes continues to encourage and facilitate the testing and trials of new technologies and innovations.

24 MK Creative & Cultural Strategy 2018-2027

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Stakeholder Quotes – Testbed Location

"The grid system and modern transport infrastructure alongside MK Council's support for innovation have played an important part in the trial of robotics, autonomous vehicles and last-mile transit solutions across the city."

Simon Wright, Co-founder, Protospace

"The fact Cityfibre made its 5G investment here says that organisations see Milton Keynes as a place they can come and trial things. There's a pioneering spirit in MK for building something new and doing things differently, I hope we keep that spirit going."

Dr Julie Mills OBE, CEO and Group Principal of Milton Keynes College Group.

"There's lots of innovation going on in Milton Keynes and it's positive that it's used as a testbed location for technology."

Pim van Baarsen, CEO, Silverstone Tech Cluster

"If you're going to trial new technologies and innovations in the UK, Milton Keynes is the best place to do it. We have the fastest city-wide adoption and acceptance of new technologies, it's a real unique factor about Milton Keynes."

Kristian Mackie, Innovation Hub Manager, MK:U

"You could say Milton Keynes is unique because of the technology and innovations that are piloted here."

Stuart Goldwater, Managing Director, PRAGMATIQ Solutions

"In Milton Keynes you have the 5G towers, robots, autonomous vehicles and drones all being trialled here. There's the space and the infrastructure for it."

Paul Gartside, Data Coach and Curriculum Developer, South Central Institute of Technology.

"MK Council sees itself as an enabling local authority, we're encouraging of all ideas and try to remove any barriers we can. There are authorities in the country that wouldn't be so enabling and encouraging of new ideas."

Sophie Lloyd, Strategic Lead: Economy and Policy, MK Council

"Milton Keynes prides itself on a 'have a go' approach and enjoys a culture that's encouraging of trying new things. It might be the newness of the place that lends itself to being open to trialling fresh technologies."

James Howarth, Partner, Howes Percival

"Milton Keynes is now the first fully completed city for CityFibre's full fibre roll out, offering new affordable products for residential and businesses."

Stuart Hogben, Business Development Manager, Triangle Network

"Milton Keynes is a place where you can test new technologies and business models, working alongside the local authority. MK Council were key to making autonomous vehicles and the 5G network successful. They have a testbed approach and they have the regulatory infrastructure to support it."

Alex Weedon, Executive Director of SME Development, CP Catapult

"Not many other cities can say that they are a testbed location and have real deployment of new technologies and innovations."

Harin Sellahewa, Professor of Computing & Dean of Faculty of Computing, Law and Psychology, University of Buckingham

"The unique infrastructure in Milton Keynes means that you can plug in new technology a lot easier than for most traditional cities."

Roz Bird, CEO of Anglia Innovation Partnership, Norwich Research Park

"It's a positive for Milton Keynes that it's used as a testbed for innovation."

James Syrotiuk, Ex-Investor, Business Growth Fund

"Milton Keynes is somewhere that people want to try new things, it has an appetite for innovation. You see the Amazon robots on the streets here."

Matt Lomax, Associate Director, Mazars

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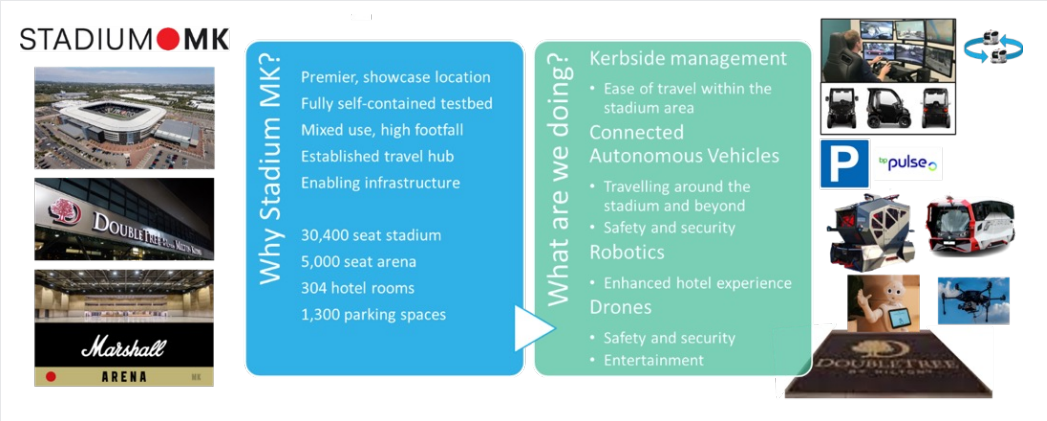
CASE STUDY:

Smart City Consultancy & Milton Keynes City Council on MK:5G/ MK:5G Create

Smart City Consultancy

For almost a decade, we have worked with local government in and around Milton Keynes to deliver Smart City innovation, from concept to market, and aligned to the net zero agenda. Most recently, we led the MK5G: Create project, building on earlier work which included:

- **MK Smart**, an Open University partnership, showing the potential for Smart Cities
- **CityLabs,** working with the Open University and ZTE to cultivate SME partnerships, driving Smart City innovation
- **MK5G**, leading a SEMLEP-funded project demonstrating how 5G could support city operations, in areas of energy, health and transport
- **MK5G Create**, leading a DCMS-funded project, demonstrating how 5G could transform the travel and transport experience



MK:5G Create

This DCMS-funded project used 5G to trial advanced mobility and hospitality logistics, driving research in the field of automation. The use cases included autonomous vehicles, drones and robots and delivered ground-breaking applications illustrating how major venues could fundamentally change their future operations.

The host site – Stadium MK – was selected to showcase how the new technologies could be deployed city-wide, and includes a 30,400-seat stadium, an indoor arena, a hotel, multiplex cinema, gym complex, restaurants, retail park and parking. The implementation included a standalone 5G network, use of drones to undertake structural surveys, use of robots in a range of hospitality settings, linked CCTV and AI capabilities to show live car parking space availability, connected sensors at road junctions to support traffic-flow monitoring, and establishment of an autonomous 10-seater shuttles connecting with local rail stations as well as autonomous pod and driverless car provision around the complex.

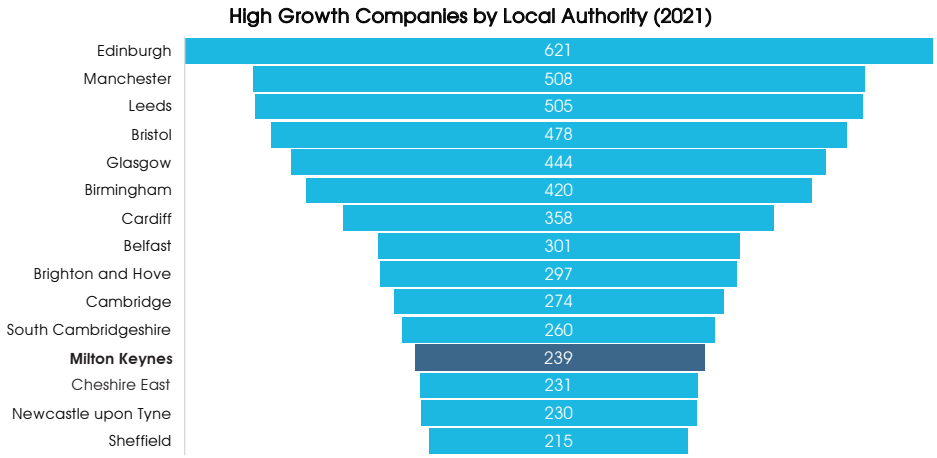
We are now focused on how we take this work onto the public highways across Milton Keynes to create a fully-integrated travel ecosystem to benefit citizens and visitors to the city, and creating a Smart City Experience Centre to showcase the work.

Startups and scaleups

Milton Keynes has one of the highest startup rates in the UK and has a large number of high growth companies.

Milton Keynes has been named as one of the UK's top five cities for business startups per 10,000 population[25] and according to a study by Paymentsense (2021)[26], Milton Keynes ranks 12th place, with a score of 69 out of 100, in the 50 most innovative towns and cities across the UK. For comparison, Reading scored 73, Cambridge scored 72 and Northampton scored 72 ranking 7th, 8th and 9th place respectively.[27] The study scored each location on factors such as startup activity, proportion of qualified workforce, professional knowledge and entrepreneurialism. According to the data collected, there are 74 new business startups per 10,000 people in Milton Keynes and 44% of workers are qualified with an NVQ4 or above.

As well as this, according to the Unlocking Growth Report by Eagle Labs (2021), which uses Beauhurst data to rank cities with the most high-growth companies, Milton Keynes had 239 high-growth companies in 2021, ranking 12th for the number of high-growth companies across UK local authorities (see chart).[28]



Beauhurst, 2021

25 MK Council, 2019. Economic Development.
26 MKFM, 2021. Milton Keynes named one of the most innovative places in the UK.
27 Business Cloud, 2021. UK's 20 most innovative cities revealed – and there are a few surprises.
28 Beauhurst, 2021 Top 10 Startup Hubs in the UK | 2021 Ranking.

There is an opportunity for a more coordinated approach to support for startups and scaleups.

Through the stakeholder interviews we have identified a potential opportunity for Milton Keynes to create a more coordinated approach to support for startups and scaleups. As previously discussed, there are a large number of separate networks and meetup groups in Milton Keynes that host tech focused events, offer support and advice and facilitate networking and relationship building within their small communities. However, there is no allocated organisation or group that sits above these networks that can 'tie together' the activity across the whole tech ecosystem and offer a coordinated approach to support for startups and scaleups, regardless of the tech they are offering or the sector they are operating in. This can make it difficult when trying to signpost startups and scaleups to the relevant support. Specifically, support around access to funding was frequently mentioned throughout the interviews as a key challenge for startups and scaleups, particularly with regards to navigating the funding landscape as it can be complex and confusing: *"if a startup asked me where they should go to for support in Milton Keynes, I wouldn't know who to signpost them to."*

Therefore, there appears to be appetite for a more coordinated approach to support, preferably within a physical space which could manifest itself as a technology hub, which startups and scaleups are aware of and can go to access support including information on funding; support with how to commercialise/monetise ideas and innovations; mentorship and guidance from supporting services such as the legal sector and involvement/support from large, well-established businesses within the local area.

> ***"It seems like once people have started up their business, there's a lack of support and ability to scale it up."***
>
> **Yvette Lamidey, Co-Founder of Central Arc Angels**

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A further challenge that scaleups appear to face in Milton Keynes is the perceived lack of collaborative working spaces and 'office hubs' that you visibly see in other thriving cities. According to the stakeholder interviews, Milton Keynes has limited options when startups and scaleups are looking for a collaborative, 'buzzing' but affordable space to work and hot desk. As well as this, according to CBRE's Top Tech Cities Report 2022[29], the flexible office space market in Milton Keynes is "lacking large space of which we have seen demand for", the report also states that going forward, *"flexible office space will play a significant role in building selection for tech companies."*

However, in reality, with 26 coworking spaces across the city, an average workstation rate of £260 and approximately 13,000 startups, Milton Keynes compares well to the top UK cities for collaborative working. For example, according to research conducted by Money Supermarket[30], the top UK cities for collaborative working are Leeds, Bristol and Birmingham (see below):

- Leeds – 61 coworking spaces across the city, an average workstation rate of £264 and approximately 29,000 startups.
- Bristol – 47 coworking spaces across the city, an average workstation rate of £260 and approximately 19,000 startups.
- Birmingham – 59 coworking spaces across the city, an average workstation rate of £232 and approximately 37,000 startups.

Examples of spaces/hubs in Milton Keynes that have been designed to facilitate collaboration by offering a space for businesses and students to come together include MK:U's Innovation Hub; the Milton Keynes College Chaffron Centre and the SCIoT's Hub of Innovation and Technological Advancements.

Enabling the commercialisation of products through targeted business support could help to remove barriers to growth and enable more firms to successfully scale up.

This challenge was also highlighted during the interviews with a number of stakeholders making particular reference to the difficulties businesses face when trying to scaleup: "There's lots of support for startups, but when they're ready to scaleup and grow, they face a lot of challenges." One of the most common reasons that was identified was the inability to commercialise a new product or innovation which leads to a number of stagnant or failing startups. This was identified as a key barrier to growth by stakeholders when asked what support was lacking amongst the startup and scaleup community.

When comparing this to surrounding regions, according to the Spotlight on Spinout report (2022)[31], Oxford has been named the top UK city for commercialising academic research and innovation into spinout companies thanks to the University of Oxford's commercialisation arm. The multiple success stories from Oxford, including the development of the Covid-19 rapid test technology, demonstrate the city's ability to commercialise innovations for both social and economic benefit. In order for cities to provide hospitable environments for businesses to grow, they need an array of benefits and resources for entrepreneurs including affordable fees, accessible funding, support and guidance with commercialisation and a strong supply of skills and talent.

Whilst Milton Keynes has extremely strong links to education providers in surrounding regions, this is yet another supporting notion towards the establishment of MK:U as having a resident anchor Higher Education institution within the city would significantly increase access to talent whilst also playing a key role in delivering incubator/accelerator space, coaching entrepreneurs and providing skills and support for early stage startups and scaleups.

> ***"At times there can seem to be an inability to commercialise ideas. Whether that's because of a lack of market awareness or a lack of support I'm not sure. There is also more support for startups than there is for scaleups."***
>
> **Brian Matthews, Head of Transport, MK Council**

Although there are a number of accelerators and incubators in Milton Keynes and the surrounding regions, they are agnostic rather than tech focused. For example, there are a number of examples of incubators and accelerators in Milton Keynes and the surrounding regions that offer elements of this support. For example, Barclays Eagle Labs in Cranfield which offers coworking spaces and growth programmes; NatWest Entrepreneur Accelerator which focuses on supporting entrepreneurs through coaching and mentorship and SEMLEP Growth Hub which offers business support resources and services (see ecosystem map for more).

29 CBRE, 2022. Top Tech Cities.
30 Money Supermarket, 2022. The UK's best cities for co-working.
31 Beauhurst, 2022. Spotlight on Spinouts.

© Whitecap Consulting

However, the majority of programmes available to the startup and scaleup community are not tech focused and are agnostic to all businesses, resulting in a number of stakeholders citing this as a potential barrier to growth.

> ***"Milton Keynes is missing a tech focused accelerator/incubator. When we mapped the ecosystem, we didn't find any that were tech focused."***
>
> **Mark Homans, Director of Strategy and Operations, Santander**

Ultimately, when looking at other cities that have thriving startup and scaleup communities, according to research published by the Entrepreneur & Innovation Exchange (2020), there are three key attributes of a successful entrepreneurial community: cultural, social and material. In more detail these include:

- **Cultural** - a supportive culture with a history of entrepreneurship.
- **Social** – worker talent, investment capital, networks, mentors and role models.
- **Material** – policy and governance, universities, support services, physical infrastructure and open markets.[32]

The research paper states that a region's entrepreneurial ecosystem is shaped by the relationships between these three attributes and the strength of their connections. If the attributes are lacking or the connections are weak, the region may struggle to attract startups and scalepups.

Examples of successful tech-focused accelerators:

Digital Catapult

- Digital Catapult is the UK authority on advanced digital technology.
- Centres in London, Brighton, Northern East Tees Valley & Northern Ireland with 3000 companies involved with the programmes.
- £4bn attracted in investment funding by companies and a total of £320m raised by startups.

Ignite North East

- Programmes for early stage North East startups and scaleups.
- Pre-accelerator – for early-stage technology companies that are in development or have only just launched.
- Accelerator – For established technology companies that need help with scaling and raising further investment.
- Raised over £100m in early stage VC funding.

32 Entrepreneur & Innovation Exchange, 2020. Entrepreneurial Ecosystems: What They're Made of and How They Work.

© Whitecap Consulting

Examples of entrepreneurial cities that have thriving startup and scaleup communities:

Atlanta has a vibrant tech ecosystem with a number of billion-dollar businesses, also known as 'unicorns', and venture capital investments surging to $2.1 billion from 2016 – 2021.[33] This is indicative of the entrepreneurial talent coming from the network of private and public schools across the region like Georgia Tech, the University of Alabama, Auburn and the University of Georgia. Other contributing factors to Atlantas success include affordable office rates, a large number of co-working and collaborative working spaces, affordable cost of living and an array of funding opportunities.[34]

Toronto is home to the highest concentration of AI startups in the world. Recent Ai investments include Uber which plans to invest more than $200 million in Toronto over the next five years, Etsy which has chosen Toronto as the location for its newest Machine Learning Centre of Excellence, Samsung which has opened a new R&D office in Toronto and General Motors which has committed to growing its engineering workforce to focus on autonomous vehicle software.[35] According to PwC, from 2020 to 2021, investments in AI Canadian start-ups had increased by 88% with the majority being seed and early stages. Contributing success factors that have been identified include the venture capital and funding market, the rich and diverse talent pool and the proximity to the USA.[36]

33 Tech Crunch, 2021. How did Atlanta become a top breeding ground for billion-dollar startups in the Southeast?
34 tlanta Small Business Network, 2018. Five Reasons Atlanta is Ideal for Start-ups.
35 Toronto Global, 2018. TORONTO REGION IS HOME TO THE HIGHEST CONCENTRATION OF AI STARTUPS IN THE WORLD.
36 Toronto School of Management, 2021. Why Toronto is home to the highest number of AI start-ups in the world.

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Stakeholder Quotes - Startups and Scaleups

"The support for start-ups and scale-ups in Milton Keynes falls short of what the community needs. We need to figure out how we simplify and accelerate the many forms of investment that are out there to help these companies. We also need a coordinated approach that lowers barriers to sell their products and services to both local private sector and local public sector organisations"

Steve Salvin, Chief Executive, Aiimi

"There's a lot of talented people here but there's a lack of commercial awareness that leads to a lot of stagnant ideas and products that aren't being monetised. There's no guidance on how to take them forward and make a profit."

Alan Wilson, Co-Founder and Managing Director, More Trees.

"There are a number of small groups or clusters of start-ups that meet-up but don't talk between each other."

Alex Warner, Deputy Group Principal, Milton Keynes College Group.

"We don't have enough accelerators or incubators in Milton Keynes, if we want to get involved in things like that then we go to London. I don't know what start-ups exist in Milton Keynes whereas in London, they're so much easier to find."

Christian Metzner, Chief Information Officer, VWFS

"Scale-ups appear to be in a poorer state. I imagine the majority of those scaling aren't getting the support from within Milton Keynes, they are most likely utilising support from elsewhere."

Paul Clarke, Director, FiguringOutData.com

"Research that the LEP has done has indicated across the SEMLEP region, there's an issue around scaleups. There's lots of support for startups but when they're ready to scaleup and grow, they face a lot of challenges."

Sophie Lloyd, Strategic Lead: Economy and Policy, MK Council

"There's lots of empty office space here and it's a shame we're not capitalising on it because it would be a great place to house new startups. We seem to be building more and more and not utilising what's already here."

Paul Gartside, Data Coach and Curriculum Developer, South Central Institute of Technology.

"Outside your traditional funding routes, I would say options are limited. BGF was the only investor that had a permanent base in Milton Keynes when we established our office here. Even today, Milton Keynes lags behind other innovation hubs like Oxford and Cambridge in terms of having an established and varied Angel, VC and PE investor base"

James Syrotiuk, Ex-Investor, Business Growth Fund

"Having a tech focused incubator or accelerator may convince investors to come to Milton Keynes because there's already a flow of potential companies to invest in."

Alex Weedon, Executive Director of SME Development, CP Catapult

"Despite the growing number of start-ups in Milton Keynes, we simply don't have a proliferation of tech-focused investment funds. As a comparison, over in Cambridge, they are numerous tech funds, no doubt in part driven by the demand created by the spinouts from Cambridge University. Whilst there is interest from tech funds based further afield, we just don't have the same level of ecosystem locally – but it will be an interesting area to watch given MK's new-found City status."

Mark Clement, Director, Grant Thornton

"The startup and scaleup community struggles in Milton Keynes because there is not enough support, so they end up going to Cranfield."

Richard Wiggins, Co-Founder, Pooleyville

"There isn't enough support for startups and scaleups, there's definitely more that can be done."

Elizabeth Sheldon, Executive Director, CCL Solution Group

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CASE STUDY: Mazars

At Mazars Milton Keynes, we are proud to be a part of and are active members of the local community. We're passionate about supporting key business networks, to help build a prosperous city and future for its people.

We are members of Milton Keynes Business leaders, a group aiming to develop the business interests of Milton Keynes through collaborative partnerships with decision-makers in the public, private, and voluntary sectors.

We are also part of the Chamber of Commerce and the My MK – Business Improvement District - a business-funded partnership that gives businesses within the Central Milton Keynes area the power to get together, decide what improvements they want to make in their city centre and how they will be managed.

Our tax specialists, financial accountants, and audit experts at our firm in Milton Keynes have the skills and experience to work with clients from all sectors and as an organisation we have significant expertise and a deep interest in the technology sector.

As our office continues to grow, we are committed to contributing to a thriving and sustainable community in MK, which is capable of attracting the best talent and organisations. This ambition will be best achieved by collective efforts of those organisations with a vested interest in the area.

Collaboration

There is an opportunity to create a more connected and cohesive tech ecosystem in Milton Keynes.

There is an opportunity for the tech ecosystem in Milton Keynes to become more connected and collaborative, creating an environment of knowledge and technology sharing. Through the stakeholder interviews, the current tech ecosystem was often characterised as being partly "fragmented" and "disparate", with a lack of collaboration being cited as a key barrier to growth.

> ***"There's lots happening, but it's fragmented. There are some key high-profile innovators/ions and lots of under the radar activity but there are too many silos."***
>
> **Henry Kafeman, Consultant and Director, HDK Solutions Ltd./ Director, Biztech Forum**

Milton Keynes has a large number of networks and meet-up groups that are tech specific, **MKAI, Made in MK, BizTech, Protospace and MK Geek Night**, to name just a few, all with the purpose of bringing together all or parts of the tech ecosystem. However, the stakeholder interviews revealed that these networks face the common challenge of reach and engagement as there is a lack of awareness surrounding the innovative technologies and projects that are currently ongoing in Milton Keynes as well as what tech firms are based in the region. Milton Keynes may benefit from a platform or forum where organisations can become a member and share their key tech challenges or latest technologies and innovation projects, in order to provide an accessible platform for tech companies and entrepreneurs to engage with the wider ecosystem to support its growth.

A further challenge associated with such networks is the resource required to run them as many of these initiatives have been created by members of the tech ecosystem, who in goodwill, take time out of their primary business activities to run the groups as a side project, presenting an opportunity cost and limiting the amount of resource they can dedicate to growing these groups city-wide.

The tech ecosystem appears to be made up of small, innovative firms and large global players that operate in silos, with a lack of wider engagement.

Of the estimated 2,400 technology related businesses in Milton Keynes, a small number of them are large global players such as Tech Mahindra and Xero both of which have their head offices based in the city. According to an article citing the Managing Director at Xero[37], the "good transport links and infrastructure were key factors in the decision to stay in Milton Keynes", a sentiment strongly echoed in the interviews as transport and infrastructure were often mentioned as key strengths of the city. When looking at the economic contribution that large businesses make to Milton Keynes, the MK50 report (2020)[38] which analyses the financial performance of the top 50 publicly and privately owned businesses in Milton Keynes, revealed that in the 12 months from 2019, turnover of the top 50 largest businesses in MK increased by 6% to £18.7bn, with employment numbers rising 4.9%. According to the Head of Advisory at Grant Thornton's Milton Keynes office[39], "the largest companies have really prospered in the past year, with the ten biggest firms trading far stronger than the rest."

> ***"I think Milton Keynes has a strong tech sector and a good ecosystem. You see a lot of the big firms coming to Milton Keynes and using it as a central hub for their innovation and development."***
>
> **Scott Jones, CEO, 123 Internet Group**

The report also highlighted the diversity with regards to international ownership in Milton Keynes with many large international businesses locating their UK subsidiaries in the city. For example, of the top 50 businesses, c.16% are German owned, c.25% are American owned and c.34% are UK-owned. This is also a finding supported by the stakeholder interviews as Milton Keynes appears to be known as a hub for international business activity, due to a long-standing tradition of global players locating their UK subsidiaries in the city.

37 Insider Media, 2014. XERO MOVES TO NEW MILTON KEYNES HQ.
38 BusinessMK, 2020. International focus helps large firms to thrive.
39 BusinessMK, 2020. International focus helps large firms to thrive.

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Although these large global players contribute significantly to the Milton Keynes economy, there appears to be a desire from the local tech ecosystem for these large tech businesses to become more involved and engaged with the startups and SMEs that are based in the area. The stakeholder interviews also highlighted the opportunity for all businesses within the Milton Keynes tech ecosystem to become less "inward looking" and more open to collaboration.

There is an opportunity in Milton Keynes to create a tech steering group which pulls together the existing networks, facilitates collaboration and determines the future tech strategy.

There is an opportunity in Milton Keynes to create a tech steering group or 'go-to' organisation which pulls together the existing networks and groups, coordinates activity across them and facilitates collaboration across the whole tech ecosystem. This group would need to have the required resource as well as city-wide reach in order to maximise engagement across Milton Keynes. Creating a tech steering group that is made up of representatives across the ecosystem could also help to determine the future tech strategy for the city.

> ***"There are a lot of small but really innovative tech firms that are under the radar, and we need to find a way of reaching those firms and getting them engaged with the networks. How can firms collaborate if they don't know whose here?"***
>
> **Steve Henson, Business Development Director, Barclays**

There may be an opportunity in Milton Keynes for a physical space which encourages collaboration such as a technology hub.

There is an opportunity in Milton Keynes to establish a physical space where tech firms, innovators and entrepreneurs can go to partake in knowledge and technology sharing with interconnected businesses such as education institutions and suppliers in order to reinforce and support the growth of the wider tech ecosystem.

The lack of a dedicated "physical space" for technology and innovation was frequently cited in the interviews as a potential barrier to collaboration, "having a physical space such as a tech hub would be great for fostering collaboration." In other cities, this often manifests itself through:

- **Technology Hubs** - a physical space which has been developed to help technology startup companies succeed.[40]
- **Technology/ Science Parks** - a purpose-built cluster of office spaces, labs, workrooms and meeting areas designed to support research and development in science and tech. [41]
- **Technology Clusters** - a concentration of technology-related business concerns, institutions of higher education, or nonprofit institutions, that reinforce each other's performance in the areas of technology development through formal or informal relationships.[42]

In cities where technology parks or science parks exist, they play a key role in growing the local economy as they stimulate a culture of innovation, increase productivity and attract world-class talent. For example,[43]

- **Cambridge Science Park** is one of the oldest science parks in the UK and the 152-acre site has played a crucial role in transforming Cambridge into the leading global tech hotspot it is today. It is home to over 140 companies, with around 60% of the companies originating in the area.
- **Oxford Science Park** has become one of the most influential science and tech environments in the country, fostering an environment of creativity, innovation, and collaboration. The park has over 100 companies and c.3,500 employees.
- **Silverstone Park** is situated on the Northamptonshire/Buckinghamshire border, at the heart of the Silverstone Technology Cluster. Silverstone Park has grown into a science and technology park and provides a global destination for innovation, business development and engineering.
- **Future Space** in Bristol offers support for businesses and organisations working in robotics, health tech, biosciences, digital and creative industries. There are over 100 innovative businesses that have contributed almost £17m to the local economy.[44]

40 GI Global, 2022. What is a Tech hub?
41 Bidwells, 2019. What is a Science Park?
42 Cornell Dictionary, 2022. Technology Cluster.
43 Startus Magazine, 2018. These Are The UK's Top Science Parks For Startups.
44 UWE Bristol, 2022. University Enterprise Zone supports over 100 innovation start-ups and contributes £17m to Bristol economy, report shows.

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Stakeholder Quotes – Collaboration

"It's fragmented. There's lots of different groups and pockets of tech all doing their own thing. You've also got a lot of large tech companies here, but you never see them at events."

Jeremy King, Director, New Socks Media

"I think the tech ecosystem is fragmented in Milton Keynes; you have lots of pockets of tech with no central coordination. Educating people on what firms exist in Milton Keynes will uncover any synergies and opportunities for collaboration."

Pim van Baarsen, CEO, Silverstone Tech Cluster

"The tech ecosystem does seem disparate. You have lots of groups working in silos. There have been a number of attempts to bring everyone together, but so far they haven't been successful. It's important to get large tech, potential scale ups and innovative start-ups in one place. Having a physical space such as a tech hub would be great for fostering collaboration."

Yvette Lamidey, Co-Founder of Central Arc Angels

"When I think of the tech sector in Milton Keynes I think mostly of innovative entrepreneurs and start-ups and then large tech corporates who don't necessarily engage as much as they could do with the local community."

Dr Julie Mills OBE, CEO and Group Principal of Milton Keynes College Group

"There are a lot of small but really innovative tech firms that are under the radar, and we need to find a way of reaching those firms and getting them engaged with the networks. How can firms collaborate if they don't know who is here?" **Steve Henson, Business Development Director, Barclays**

"Milton Keynes really needs its own technology park; I think it would really benefit the region."

Elizabeth Sheldon, Executive Director, CCL Solution Group

"Milton Keynes needs to make the firms that are based here less inward looking and more open to engagement. We've got lots of big corporates here, but they all look inwards and work separately. There's no collaboration."

Roz Bird, CEO of Anglia Innovation Partnership, Norwich Research Park

"Having a Tech hub or a space within the centre of Milton Keynes where the tech sector can come together may be helpful, it feels like it would be more beneficial to have it in the centre, close to good transport links and the 'vibe', rather than the outskirts."

Anonymous, HMGCC

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Stakeholder Quotes – Collaboration

"There are lots of large tech companies in Milton Keynes, but they don't get involved with the local community, their priorities are global rather than local."

Alan Wilson, Co-Founder and Managing Director, More Trees

"The grid system and modern transport infrastructure alongside MK Council's support for innovation have played an important part in the trial of robotics, autonomous vehicles and last-mile transit solutions across the city."

Simon Wright, Co-founder, Protospace

"There are several large corporates that have their HQs based in MK, although I don't think apart from their CSR strategies that they get much involved with the local community."

Stuart Hogben, Business Development Manager, Triangle Network

"There are a number of large companies here which is a strength, but the tech sector is fragmented, you don't know who's here and how to access them, they're not easy to find."

Dr. Mark Addis, Associate Dean Knowledge Exchange, The Open University

"There are inadequate efforts towards collaboration amongst the tech ecosystem in Milton Keynes. Businesses mostly work in silos and could benefit from each other's knowledge and scale with better collaboration.."

Anita Nadkarni, Technology Strategy Leader, PwC

"In Cambridge there's an organisation geared around collaboration and finding opportunities within the ecosystem for collaboration, I don't see that in Milton Keynes."

Matthew Napleton, Chief Information Officer, Zizo

"We need more local involvement and engagement from large corporates. Currently, they're really hard to access and they don't have much involvement with the local tech community."

Richard Wiggins, Co-Founder, Pooleyville

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CASE STUDY: Santander

Santander will open a new, state of the art campus in Milton Keynes in the Spring of 2023. The new office, which represents an investment of over £150m and a long-term commitment in the city, will be Santander's flagship UK technology hub. Unity Place will bring together people from local businesses and the wider Milton Keynes community and function as a focal point to help keep Milton Keynes at the heart of technology and innovation.

The world-class working environment will be a modern workspace designed to encourage collaboration and offer a range of facilities to support health and wellbeing. An open ground floor will house world class facilities available to members of public. These include a bookable townhall space for the community, education facilities and wider Santander employee events. Flexible collaboration space will be offered to local businesses and community organisations including an 'Urban Market' providing a variety of food and drink.

We believe Unity Place will provide us with excellent future access to talent and opportunities for staff to develop their skills. Milton Keynes is already home to a number of innovative education and training providers including MK:U. We are delighted to have agreed a long term, strategic education partnership with MK:U who will power the Santander Learning Centre within Unity Place.

This state-of-the-art facility will provide a world class development for Santander colleagues and will be accessible to local businesses and the wider community. It will provide a pipeline of talent and fantastic development opportunities for our staff in key areas including data science, artificial intelligence and cyber security. We have been part of the local community in Milton Keynes for several decades and we are incredibly pleased to be further developing our presence in the City.

Talent and Skills

Across the UK, basic digital skills are now essential skills and the demand for advanced digital skills is also rising.

With the ever-increasing advancement and adoption of technology by consumers and businesses, the national demand for digital skills is rising. Alongside literacy and numeracy, basic digital skills have become essential skills for the modern world of work. According to the Disconnected report by World Skills UK (2021), 92% of businesses require a basic level of digital skills and 82% of job vacancies now explicitly ask for basic digital skills.[45] However, research conducted by FutureDotNow reveals that approx. 11.8 million workers in the UK are lacking basic digital skills, with the former education minister stating "employers both large and small are crying out for more people to be trained in digital skills."[46]

In addition to the national demand for basic digital skills, many employers across the UK now require advanced digital skills, with 27% stating that they require workers at this level. Demand for advanced digital skills has increased in recent years and is set to rise with 60% of employers expecting their reliance on advanced digital skills to increase in the next five years. A survey conducted by The Department for Education's Employer Skills (2020),[47] found that employers facing digital skills shortages suffered from: an increased workload for other staff (84%), difficulties in meeting customer service objectives (49%), increased operating costs (45%) and lost business to competitors (40%).

> ***"There's a national tech skill shortage, we're all after the same skills at the same time. There's not a huge talent pool of these people, especially based in Milton Keynes. We have a real shortage of analysts across the board."***
>
> ***Katie Benson, Head of HR Services, VWFS***

In line with the national trend, Milton Keynes suffers from a tech talent shortage.

In line with the national trend, Milton Keynes also suffers from a digital skills shortage. According to a report by South Central Institute of Technology (2020)[48], between 2010 and 2020, the number of digital job roles increased by 21%, outpacing digital job growth across the country as a whole. Additionally, according to the SEMLEP Local Skills Report (2022)[49], vacancies for jobs in the tech/digital sector across the SEMLEP region have increased 68% from 2020 to 2021, with the highest number of vacancies being for software developers and engineers. This data is in line with the findings from the stakeholder interviews which often cited the tech talent shortage as a key barrier to growth for the city: "There's definitely a lack of tech skills and talent in Milton Keynes" and "there's 100% more that can be done."

The increase in remote working has resulted in employers needing to offer competitive salaries to tech talent, an issue particularly prevalent for Milton Keynes.

Driven by a rise in demand of tech talent and a shortage of supply, the increasing competitiveness has resulted in an affordability challenge, particularly for small businesses that do not have the financial resource to pay the inflating salaries. According to TechNation, tech salaries are nearly 80% higher, on average, than salaries for non-tech jobs in the UK and the average tech salary is £62,000, which is more than double the average household income in the UK.

This appears to be a particular challenge for Milton Keynes given its proximity to London as the introduction of remote working has meant that talent can enjoy a London wage whilst working remotely from Milton Keynes, rarely having to do the commute, "London pays much higher salaries compared to Milton Keynes, so firms have to fight for talent." From 2020 to 2021, salaries across the tech sector saw an increase of around 12%, outstripping the average pay rise of 5% across the UK. Entry-level salaries in tech related roles also saw a rise of 13%, suggesting firms are also having to compete for fresh graduates by not only offering them a high wage but offering additional employee benefits.[50]

> ***"Pre-Covid, people that didn't want to travel to or live in London would've taken jobs in Milton Keynes. Now, the option to work from home means that people are getting London jobs and being paid London wages but working from home which has decreased the supply of talent to Milton Keynes."***
>
> ***Majid Al-Kader, CEO, MX Reality***

45 World Skills UK, 2021. Disconnected?
46 BBC, 2022. UK tech talent shortage threatens to stifle growth in the industry.
47 Gov UK, 2020. Employer skills survey 2019.
48 South Central Institute of Technology, 2020. An analysis of digital pathways in the region.
49 SEMLEP, 2022. Local Skills Report.
50 Employee Benefits, 2021. Pandemic drives growth in tech industry salaries.

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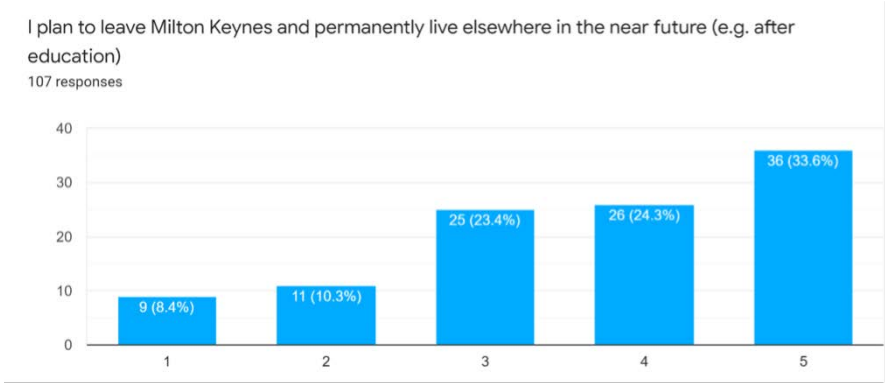
There appears to be a challenge surrounding the attraction and retention of talent within Milton Keynes.

The attraction and retention of talent has been identified through our stakeholder interviews as a key challenge for Milton Keynes, particularly with regards to young talent. Manchester, despite offering relatively low graduate salaries at an average of £20,900, is only second to London with regards to attracting and retaining talent. The city retains over 50% of graduates that study in Manchester and attracts back 57% of graduates that leave Manchester to study elsewhere.[51] Data from ONS also shows that Manchester has the highest percentage of young adults at 39%, followed by Nottingham (38%) and Bristol (35%). For comparison, data shows that in Milton Keynes, the 18-24-year-old population drops significantly, before steadily rising again for over 25-year-olds and peaking around the 35–44-year-olds.[52] Since Milton Keynes currently does not have a well-established local university, it is to be expected that the city will continue to lose a proportion of 18-24-year-olds whilst they study elsewhere. Interestingly, the city does appear to have a particular pull for over 35-year-olds which is a finding that aligns with the stakeholder interviews: "Milton Keynes appealed to me once I started a family and no longer wanted to be in London, but I imagine for fresh grads, elsewhere is more appealing."

"Young people think that they need to leave Milton Keynes in order to study and fulfil their career goals and that's an issue with the reputation of the region. I think there's talent here that we need to unlock to drive the growth of tech ecosystem in Milton Keynes."

Dr Julie Mills OBE, CEO and Group Principal of Milton Keynes College Group.

A recent survey of 18–29-year-old residents provides some context around the flight for talent in Milton Keynes. The following chart shows the outcome of their intentions, showing that 57.9% either agreed or strongly agreed that they plan to leave Milton Keynes in the near future.[53]



(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral/Unsure, 4 = Agree, 5 = Strongly Agree) (Skew -0.59, S 1.28, Mean 3.64)[54]

There is a perception that Milton Keynes lacks the 'vibrancy' that can be seen in other cities.

Despite its intangibility, the concept of 'vibrancy' was mentioned multiple times throughout the stakeholder interviews, "Milton Keynes lacks that vibrancy that attracts talent to the city." The definition of 'vibrancy' is "being full of energy and life"[55] and according to the most recent Top Cities: Vibrancy Ranking Report (2022)[56] , Leeds is ranked as the most vibrant city in the UK, with Manchester, Birmingham, Liverpool and London all featuring in the top 10. The ranking is based on sales data from the hospitality industry including restaurants, clubs and bars to assess markets for eating and drinking out. This suggests that the perception of vibrancy is somewhat connected to the hospitality offering of a city, which may provide an understanding of why stakeholders feel that Milton Keynes is lacking.

"Milton Keynes lacks that vibrancy that attracts tech talent to the city, especially young talent. It's difficult challenge because you need the university to create vibrancy, but you need the vibrancy to attract young people. What should come first?"

Anita Nadkarni, Technology Strategy Leader, PwC

51 Centre for Cities, 2019. Why does Manchester attract and keep so many graduates?
52 Milton Keynes City Council. Milton Keynes Demographic Modelling Analysis
53 The Creative Class Thesis in New Towns: A look at Talent Attraction and Retention in Milton Keynes, James Gerring
54 The Creative Class Thesis in New Towns: A look at Talent Attraction and Retention in Milton Keynes, James Gerring
55 Cambridge Dictionary, 2022. The definition of Vibrancy.
56 CGA Strategy, 2022. Top Cities: Vibrancy Ranking.

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Florida's Creative Class Theory proposes that there is a link between a city's creativity and vibrancy, and talent attraction and retention. "A creative city will pilot new innovations and foster creativity to retain talented individuals who, through new technologies, can tackle the issues facing the city" (Kyrre 2021; Starr 2017).[57]

Florida's Creative Class Theory suggests that the creative class should be nurtured and that cities should develop a "people climate" first, to then attract enterprises (Florida 2002a: 13; Florida 2014). The theory also suggests that "cities must become trendy, happening places in order to compete for talent" and in order to attract talent, "cities must spend heavily on cultural amenities and pursue progressive social legislation". Whilst there is little economic evidence to support the idea that the creative class directly leads to thriving economies, there appears to be a general consensus that in the most part, young talent wants a hospitality offering full of options as well as a diverse society that is tolerant and accepting.

There are a number of high-quality education providers within Milton Keynes and the surrounding regions, offering a strong supply of talent.

Although Milton Keynes does appear to face a challenge with the attraction and retention of talent, the city has a strong reputation for high-quality education providers. For example, 30 schools in the area are Ofsted rated 'outstanding' with a further 66 rated as 'good'.[58] As well as a great variety of state-funded schools, there are also numerous grammar schools and a few highly regarded independent schools.

> ***"Geographically, Milton Keynes is beautifully positioned near to London with super-fast links to Oxford and Cambridge. The knowledge and talent that surrounds Milton Keynes is amazing."***
>
> ***Paul Gartside, Data Coach and Curriculum Developer, South Central Institute of Technology.***

With regards to Further and Higher Education, Milton Keynes was chosen as one of 12 locations for the South Central Institute of Technology (SCIoT), designed to enhance digital skills for young people. The SCIoT provides higher level technical qualifications, apprenticeships and short courses to over 1000 learners per year with the aim of bridging the digital skills gap and understanding business needs. The SCIoT is providing Milton Keynes with a supply of talent with technical expertise, employability skills and real industry experience. MK College is also providing a supply of high-quality talent through a broad variety of qualifications, including vocational courses, apprenticeships, higher education, professional certificates as well as employability skills and community training. Both MK College and SCIoT were referenced in the stakeholder interviews in an extremely positive light, having strong relationships with the local business community and an active interest in how the skills they are providing students aligns with the needs of businesses.

Higher Education providers include The Open University, headquartered three miles from the city centre, offering over 200 highly respected qualifications in a range of subjects and a global reputation for driving innovations in teaching. Milton Keynes is also within an hour driving distance from two world-leading universities, University of Oxford and University of Cambridge, both renowned for producing high-quality talent, ranking second and third respectively in the QS World University Rankings 2022. For Computer Science and IT related courses, University of Oxford ranks 6th and University of Cambridge ranks 8th in the world.[59]

In other surrounding regions, there is a supply of talent from University of Buckingham – pioneer of the 2-year accelerated degree course (including a Level 7 degree apprenticeship in data science) and home to the Centre for AI as well as the iHub, which contains labs, equipment and space for startups; University of Cranfield - the postgraduate research university specialising in science, engineering, design, technology and management and University of Bedfordshire - a dynamic and modern university becoming recognised for its diversity.

However, Milton Keynes is also unique, as it is currently the largest UK urban area (by population) not to have an undergraduate university (Enenkel and Sells 2021).[60] However, through MK:U, Milton Keynes will have a new world-class university offering degree apprenticeships that will specialise in science and technology. A well-performing undergraduate university acts as an 'aggregator' for talent, suggesting that the lack of a university could be contributing to a brain drain.[61]

57 City Journal, 2004. The Curse of the Creative Class.
58 Good Move, 2021. 7 Reasons to Live in Milton Keynes.
59 QS Top Universities, 2022. Oxford and Cambridge?
60 The Creative Class Thesis in New Towns: A look at Talent Attraction and Retention in Milton Keynes, James Gerring
61 The Creative Class Thesis in New Towns: A look at Talent Attraction and Retention in Milton Keynes, James Gerring

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CASE STUDY: The South Central Institute of Technology

SOUTH CENTRAL INSTITUTE OF TECHNOLOGY

The area's best kept tech training secret

The South Central Institute for Technology (SCIoT) in Bletchley is ready and equipped to train a thousand people a year with the tech skills in shortest supply in the region. The SCIoT is open as a talent pipeline for the region's businesses and offers courses in the most sought-after areas from data analytics, cloud computing, games and animation, digital marketing and of course, cybersecurity. In the past twelve months 39% of UK businesses and 30% of charities have fallen victim to cyber-attacks of increasing sophistication, making these modules among the most popular.

The quality of the education and training on offer is illustrated by the myriad partners behind the project from global brands like Microsoft and KPMG to important local businesses like CCL Evidence Talks and the National Museum of Computing.

Yaseen Akhtar is Director of Curriculum, and he says the variety of courses available cover a specialist range of the skills most in demand in the Milton Keynes area and the wider region. "We know we can fill the gaps so many companies are struggling with because they help to write the curriculum so we can tailor what we deliver to their needs," he says. *"This is the only place in Milton Keynes offering higher technical qualifications equivalent to university level, flexible Apprenticeship delivery, professional short courses such as those from Microsoft, which demonstrates our innovative approach. We are a one-stop shop for digital technology training."*

"It's a great opportunity to offer Continuing Professional Development (CPD) as a staff retention incentive at the same time as significantly improving the skills levels within a business," Yaseen says. *"We work with our partners to enable industry experts to deliver and mentor our learners as part of the Dual Professional scheme leading to 'Visiting Lecturer' status. Everything we offer is absolutely up-to-date – no mean feat in such a fast-evolving industry."* Employers can access free Microsoft professional programmes, receive support with Apprenticeships funding and discuss manageable payment plans for our programmes.

It's not just the education and training which is cutting edge as the SCIoT is furnished with some of the latest equipment. For example, those working in games and animation can take advantage of the Tesla suit and bespoke gaming facility with all the associated hardware and software. Furthermore, you will greeted by "Pepper" the robot who is programmed by our learners to develop Artificial Intelligence (AI) knowledge and skills.

Many classes are available online but the SCIoT is also perfectly located to make it easy to get to for those who choose to attend in person, effectively next door to Bletchley Railway Station and with ample free parking. The Institute is currently housed in existing buildings on the College's Bletchley campus but a purpose-built home is already under construction on the site which will be ready to move into later this year.

To find out more, please contact
iot@mkcollege.ac.uk

Stakeholder Quotes – Talent and Skills

"Despite being surrounded by world-class talent, Milton Keynes appears to attract entrepreneurs that have made their money, lived the fast-paced life and are now looking to give something back to the local community by supporting local businesses."

Kristian Mackie, Innovation Hub Manager, MK:U

"My perception is that it is difficult to attract and retain talent in Milton Keynes. The city doesn't seem to have the same appeal and draw to graduates that other cities do."

James Syrotiuk, Ex-Investor, Business Growth Fund

"Milton Keynes often hires from outside the region whereas we really need to take responsibility for growing our own talent. I don't think people that live here are aware of the opportunities that exist in Milton Keynes."

Alex Warner, Deputy Group Principal, Milton Keynes College Group

"We don't have enough tech talent in the region, and like Buckingham, Milton Keynes struggles with talent retention."

Harin Sellahewa, Professor of Computing & Dean of Faculty of Computing, Law and Psychology, University of Buckingham

"London pays much higher salaries compared to Milton Keynes, so firms have to fight for talent. Milton Keynes appeals to me more since I started a family and no longer want to live in London, but I imagine for fresh grads, elsewhere is more appealing."

Matt Lomax, Associate Director, Mazars

"One barrier to growth we've personally experienced is the shortage of skills. There's still a misconception that people think they need to be in London or somewhere else to get into this arena when actually, MK has got a lot to offer."

Scott Jones, CEO, 123 Internet Group

"Milton Keynes has to think about what a tech ecosystem needs to be attractive to young talent. it's not like we don't have a supply of really good talent and skills but being able to attract them to MK will be harder without its own university."

Alex Weedon, Executive Director of SME Development, CP Catapult

"There's definitely a lack of tech skills and talent in Milton Keynes. I think it's more difficult to attract people here than it is for other regions. Without that buzz and things for people to do outside of work, it will always be difficult to attract people here."

Richard Wiggins, Co-Founder, Pooleyville

"Milton Keynes is surrounded by world-class talent. One approach could be to form an effective attraction strategy aimed at the graduate entrepreneurs coming out of universities such as Oxford and Cambridge.."

Richard Foster- Fletcher, Executive Chair, MKAI

The city has a good quality of life and a strong pool of talent surrounding it. However, there is an opportunity for Milton Keynes to increase its attractiveness to talent – perhaps through more targeted marketing about the amazing amenities and quality of life."

Roz Bird, CEO of Anglia Innovation Partnership at Norwich Research Park

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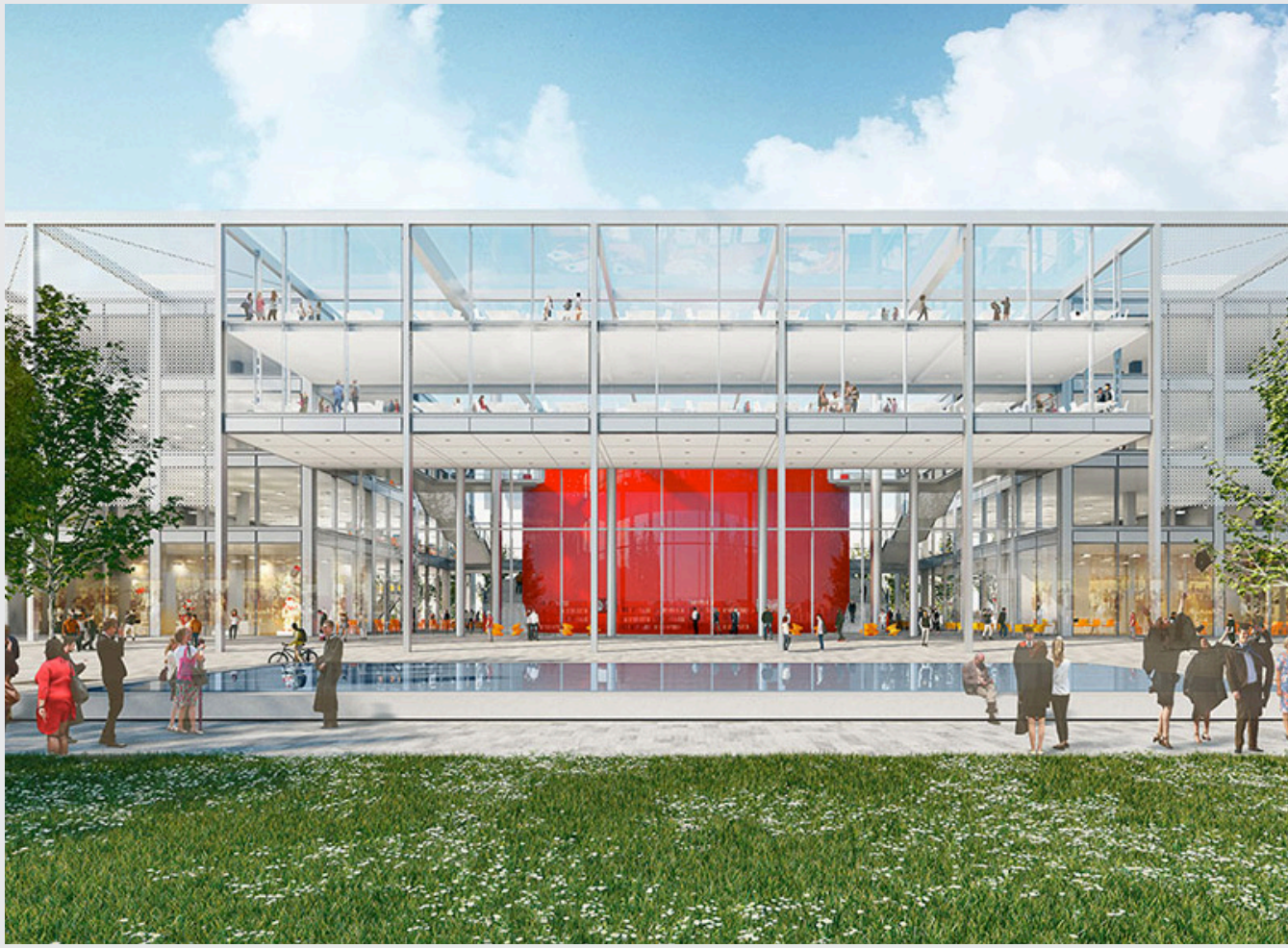
CASE STUDY: Milton Keynes University (MK:U)

MK:U is committed to supporting the Milton Keynes tech ecosystem by providing a new world-class university that will specialise in science and technology. It will work closely with local businesses, entrepreneurs and educators to ensure that the city has the skilled workforce it needs to compete in the global economy.

Through its Innovation Hub, based at its premises in the city centre, MK:U will support the tech community by providing a dedicated space for businesses to test and implement new technologies, as well as offering mentorship and guidance to start-ups and small businesses. The Innovation Hub will also provide a platform for the community to come together, share knowledge and ideas, and attend regular networking events.

MK:U's degree apprenticeships will provide a fantastic opportunity for businesses in Milton Keynes to upskill and reskill their workforce. We currently offer four Level 6 apprenticeship programmes – Chartered Manager, Cyber Security, Data Scientist and Digital Technology Solutions – which are delivered through a blend of online and face-to-face problem-based learning, and allow businesses to tailor them to meet their specific needs.

These programmes will also give businesses access to a pool of talented and ambitious employees, who will be able to hit the ground running and make an immediate impact in their roles.



CASE STUDY: The Open University

Using technology to unite us, not divide us

Technology has brought the world closer together than ever before. However, today it is often blamed for creating social division. Professor De Liddo believes it doesn't have to be this way and is creating intuitive online tools to help us build consensus, even when we disagree, and to make sense of and co-create innovative solutions to complicated challenges.

There are no simple solutions to complex societal challenges. Whether it's climate change or addressing the devastating impacts of the coronavirus pandemic, the questions these issues pose to humanity do not have a single correct answer. Tackling them requires collaboration from governments, charities, companies and individuals. Nevertheless, at a time when society seems dominated by dogma and discord, building consensus about what action to take can feel like the greatest hurdle to overcome.

Building consensus

The online Contested Collective Intelligence (CCI) tools Professor De Liddo has built harness the power of technology to enable people worldwide to build consensus – even when they may disagree. Using advanced computational methods, such as Natural Language Processing, to 'mine' online conversations (with people's consent), these easy to use tools identify both stated and unstated points of agreement to help summarise complex debates. They then generate visualisations of these points of understanding, which we can show people to help them reflect on each other's ideas and make better informed collective decisions. Mining online conversations also produces a wealth of data we can analyse further to understand the fundamental nature of sensemaking, the social and cognitive process through which humans make sense of their collective experience.

Bridging divides and healing divisions

Society's division and disagreement are no more evident than in the political arena. Working with colleagues from The Open University's Knowledge Media Institute and The University of Leeds, Prof De Liddo applied her research to build a new collective intelligence platform to help people think critically about political and societal issues and challenge their prior assumptions. These are crucial skills people need to bridge divides and reduce social conflict.

The Democratic Reflection web app harnesses real-time audience feedback on live or recorded events, such as televised election debates. It allows users to engage with the political debate in a truly personal and immersive way, empowering them to express their spontaneous reactions, reflections and feelings in real-time before group dynamics can bias them. Users watch political broadcasts in the app, on their computer, tablet or mobile device while simultaneously expressing their reaction by clicking digital flashcards representing their views. The app then records, aggregates and automatically analyses users' feedback to produce personal learning analytics that they can explore at the end of the debate. This aggregated feedback also offers valuable insights on citizens' trust, democratic entitlement and nuanced reactions to political debates.

Crowdsourcing community capabilities

The same methods can also help professional communities to pool resources, expertise and crowdsource solutions to problems. Since 2014, Prof De Liddo has worked with the UK's professional body for health visitors, the Institute of Health Visiting (iHV), to create and manage The Evidence Hub. The online platform allows iHV members to share, reflect on and develop their professional practice based on the latest scientific evidence and their collective experience in the field. The network has created opportunities to collate evidence and present it to public health policymakers.

Contact Anna and her team via IDea - kmi

Professor Anna De Liddo, The Open University

Location Advantage

Milton Keynes is extremely well-located for businesses and commuters, with excellent connectivity to the rest of the UK.

Milton Keynes is extremely well-located, at the centre point between London, Birmingham, Oxford and Cambridge. According to recent research,[62] Milton Keynes is "the best place in the UK for commuting" based on factors including average commute time and the cost of getting to work, as well as green factors including the number of electric vehicles and charging points on the roads. Only 55 miles from London, the commute from Milton Keynes takes under 35 minutes by train. However, the report states that while many who live in Milton Keynes do commute into London, the city is also well set up for easy and green commuting within Milton Keynes itself. The city had the highest number of electric vehicle charging stations (134.7 per 100,000 people) and a short average commute of just 14.1 minutes. As well as being an ideal location for commuting, Milton Keynes has excellent connectivity to the rest of the UK with great motorway access, being minutes away from the M1, and within 90 minutes of five international airports.

> ***"It's all about the location of Milton Keynes as it's a national crossroad. Connected well with London, West Midlands and the research centres of Oxford and Cambridge - which is ideal for development and connectivity. The transport links also allow Milton Keynes to flourish."***
>
> **Brian Matthews, Head of Transport, MK Council**

Milton Keynes is situated at the centre of the Oxford-Cambridge Arc and within 30-minutes of the Silverstone Tech Cluster, presenting a potential future growth opportunity.

Milton Keynes is also situated at the centre of the Oxford-Cambridge Arc, which the government have labelled as "a globally significant area" supporting over two million jobs and contributing over £110 billion to the economy every year.[63] The Arc is formed of five counties: Oxfordshire, Bedfordshire, Buckinghamshire, Northamptonshire and Cambridgeshire and has the ultimate aim of building a better economic, social and environmental future for the area. However, despite its geography within The Arc, the stakeholder interviews have highlighted the current lack of prominence and national/international recognition that Milton Keynes has compared to both Oxford and Cambridge, indicating a potential growth opportunity for the city: "if we can use our tech ecosystem to put us on the map within the Ox-Cam Arc, then that would be great." That being said, recent questions have been raised about the future of The Arc with the executive director of the Oxford-Cambridge Arc Leadership Group stating there had been a "change in focus" from the government, moving away from the previous top-down approach to being driven more locally.[64]

> ***"From a Milton Keynes perspective, if we can use our tech ecosystem to put us on the map within the Ox-Cam Arc then that would be great."***
>
> **Steve Henson, Business Development Director, Barclays**

As well as the Oxford-Cambridge Arc, Milton Keynes is a 30-minute drive away from Silverstone Tech Cluster (STC), situated on the border of Buckinghamshire and Northamptonshire, identified in a well-documented report as being home to an industry cluster of 3,500 businesses with an exceptional pool of specialist skills in high-tech engineering. According to SEMLEP[65], "*Silverstone Technology Cluster not only has the potential to be economically significant for the South East Midlands region, but also on a wider, more global scale.*" In recent developments, nine high profile business clusters, including the STC, have agreed to work together, as a 'Super Cluster', across the Oxford-Cambridge Arc, to explore ways of connecting the high-tech businesses and to unlock the potential between the networks. Although at present Milton Keynes appears to be rarely mentioned in the context of the Super Cluster, according to STC, there may be an opportunity for the city to have involvement with the knowledge and technology transfers that take place across the cluster, so long as Milton Keynes can demonstrate its value, "If Milton Keynes could identify its own strengths and clusters and demonstrate the added value, then that network would naturally be included in the Super Cluster.[66]"

62 MK Citizen, 2021. Milton Keynes is the best place in the UK for commuting.

63 Gov UK, 2021. Oxford- Cambridge Arc.

64 Oxfordshire Live, 2021. Oxford-Cambridge Arc Plans.

65 Business Matters,2016. Significance of Silverstone Technology Cluster recognised by finance and business community.

66 Stakeholder Interview for Milton Keynes Tech Ecosystem Analysis

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The quality of life and affordable living, compared to surrounding regions, could help to combat the challenge of talent attraction and retention.

In addition to the geography of Milton Keynes making it ideal for commuting and a strategic location for businesses, according to research conducted by One Family (2022)[67], Milton Keynes ranks fourth in the UK's best places to live, work and raise a family. The city has a high satisfaction score of 23/35 and is the most cost-efficient place to live, with living costs falling well below the average income. For comparison, Milton Keynes scores a higher satisfaction score than the top three ranked UK best places to live, work and raise a family (Sunderland, Leeds and Aberdeen, scoring 1/35, 8/35 and 21/35 respectively). As well as the green open space and over 200 parks in Milton Keynes, according to PwC's Good Growth for Cities Index (2019)[68], the city scores particularly highly for housing affordability, as it is ranked in the index as the seventh city for highest house prices to earnings ratio behind London, Cambridge and Bristol. According to Limestone MK, the average property price in Milton Keynes is £340k, almost half of the average property price in London at £640k.[69]

The grid road, Redways and 5G infrastructure all make Milton Keynes unique by design and showcase the city's innovation.

A further key differentiator of Milton Keynes is the unique infrastructure demonstrated through the grid road system and the Redways. The grid road system uses street hierarchy principles with grid roads running in between districts rather than through them. The Redway System consists of 290km of off-road cycleways and pedestrian footpaths intended to provide safer opportunities for cycling and walking away from the grid roads. This innovative infrastructure has been a key enabler of Milton Keynes becoming a testbed location for new technologies. For example, the grid system allowed for the UK's largest self-driving car project to be based in the city and the Redway system facilitated the successful deployment of delivery robots by Starship, now being rolled out to other cities.

"Milton Keynes has untapped gold in terms of its infrastructure and location. I'd love to see more organisations making the most of this to recruit and retain great talent and develop the region's tech sector long-term."

Steve Salvin, Chief Executive, Aiimi

As well as the transport infrastructure, Milton Keynes has a private, standalone 5G network, providing around 90% of the city (c.90,000 homes) with access to CityFibre's Full Fibre network.[70] Milton Keynes was the first location to benefit from CityFibre and Vodafone's strategic partnership with the network serving businesses, the public sector and supporting an innovative testbed site at Stadium MK. For example, Milton Keynes hospital uses the 5G network to support robotic surgery as well as the digital transformation of back-office functions. The network also underpins the MK Council led MK:5G Create project, which seeks to illustrate the near-term technological benefits of 5G including autonomous vehicles, drones, and robots.

67 OneFamily, 2022. What are the best places to live and work in the UK?
68 PwC, 2019. Good Growth for Cities 2019 index
69 Limestone, 2021. The benefits of living in Milton Keynes – why people love MK and what attracts people to move to the area & Plumplot, 2022. Milton Keynes property prices.
70 MK Citizen, 2022. CityFibre completes full fibre broadband rollout in Milton Keynes after four years of digging up streets.

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CASE STUDY: Aiimi

We are Aiimi
– a tech enterprise proud to be part of MK

Birthplace of modern computing, Bletchley Park and its codebreakers pressed ahead with determined egalitarianism to accomplish one visionary goal. Cracking Enigma. This iconic team of diverse people put their heads together to decipher realms of code. In doing so, Bletchley pioneered the very first hackathon, showing how skills from logic through creative thinking to teamwork can achieve incredible outcomes when united. Together, they devised a winning solution.

Inspired by Bletchley's blueprint and Milton Keynes' ideal location, Aiimi moved its London HQ to an incredible new building close to MK Central in 2020. Our open-plan design and Hack Zone produce an inviting space that pays homage to local history, with codebreaking graphics, personally illustrated skateboards (a nod to MK's skateboarding age), and a Marshall's jukebox taking centre stage.

It's a lively personalised space that encourages collaborative knowledge sharing, future-focused technology solutions, and brand-new opportunities for MK. And we're proud to host local charity and UK Youth events, nationwide innovation festivals, and Google GDCs, with more in store.

Our open workspace, natural outdoor environment, and strong community spirit have also boosted the imagination, energy, and wellbeing of our growing data, digital, and creative team. Aiimi's workforce has doubled since we put down roots in MK – and we aim to hire a further 400 people over the next five years (50% locally based). We're stronger than ever at developing our Aiimi Insight Engine software platform and Services to connect even more people to valuable data insight.

It's only a matter of time before more AI, data, and technology companies catch on and make the same strategic move to MK. As our CEO, Steve Salvin, says: "Milton Keynes has untapped gold in terms of its infrastructure and location. I'd love to see more organisations making the most of this to recruit and retain great talent and develop the region's tech sector long-term." And where the UK's talented crowd of creative, AI, data, and digital people choose to settle will undoubtedly attract new-found start-ups.

And that means even more talented people will get to walk, wheel, cycle, or scoot to work on our traffic-free Redways, catch a fast train from London Euston, or hop on the Oxford to Cambridge rail link soon to intersect MK for a short commute. Less time spent travelling means more time spent thinking and creating to spearhead data-driven results and transform MK into the UK's leading technology and digital hub. Join us.

Stakeholder Quotes - Location Advantage

"The location of Milton Keynes is a strength: there is easy motorway access, the Ox-Cam link and plentiful rail services. It's very well connected to London and other major locations in the UK."

James Howarth, Partner, Howes Percival

"Milton Keynes is attractive because it's so close to London, so a lot of people live here and commute to London."

Katie Benson, Head of HR Services, VWFS

"The reason I moved to Milton Keynes to start my business was the cost, quality of life and proximity to London. It was cheaper to start-up here and still have easy access to the diverse businesses, networks and communities that London offers."

Oliver Waters, Co-founder, Protospace

"If Milton Keynes could identify its own strengths and clusters and demonstrate the added value, then that network would naturally be included in the Super Cluster."

Pim van Baarsen, CEO, Silverstone Tech Cluster

"The location of Milton Keynes provides some great opportunities. For example, being situated in between Oxford and Cambridge and being so close to London."

Sophie Lloyd, Strategic Lead: Economy and Policy, MK Council

"The challenge is that Milton Keynes is so close to L ondon that people think they may as well be in London because that's where the investment is. You also have Silverstone tech cluster nearby which gets a lot of interest over Milton Keynes."

Alex Weedon, Executive Director of SME Developent, CP Catapult

"People probably drive past Milton Keynes on the M1 and think we're just a warehouse and distribution centre. You can be forgiven that given the size of the distribution units that overlook the motorway, but Milton Keynes is actually also a hive of start-up businesses, many of which help service the larger sectors ."

Mark Clement, Director, Grant Thornton

"Milton Keynes has ambitions to be a productive part of the Ox-Cam Arc and it is a fast growth area."

Mark Homans, Director of Strategy and Operations, Santander

"If we want more technology entrepreneurs to be based in MK, we must make Milton Keynes an attractive place to live and spend time for young, wealthy, successful people. It's not just about having the best technology available; we need MK to have culture and quality, for example, more art galleries, exhibitions, pop-up shops, an artisan market, fine-dining, and world-class hotels etc. These types of people want to live somewhere that exudes quality, and unless they happen to really like Nandos, Milton Keynes doesn't currently offer this."

Richard Foster- Fletcher, Executive Chair, MKAI

"Milton Keynes is well located given its proximity to London (40 minutes on the train), its closeness to the Sciene, Technology and Engineering clustomers of Oxford & Cambridge and Silverstone and its easy access to the M1"

James Syrotiuk, Ex-Investor, Business Growth Fund

"I think it's a good thing being relatively close to London with easy access because people can still enjoy what London has to offer without having to live there."

James Howarth, Partner, Howes Percival

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Appendix

Online Survey
Data Analysis and Methodology
Data Tables
Participating Organisations

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Online Survey

As an input into the project, we conducted an open online survey to gain insight on the Milton Keynes Tech Ecosystem from the wider community. From the survey, we hoped to gain a deeper understanding on the perception of the tech ecosystem, the supply and demand of tech talent and skills, the strength of the startup and scaleup community and the current barriers to growth. Unfortunately, we only gained 27 responses and so the findings have limitations. However, key headlines are outlined below:

Key Stats – Milton Keynes Tech Ecosystem

- 30% of the respondents feel that collaboration within the current MK Tech ecosystem is weak or very weak.
- 30% of respondents believe that the supply of talent to MK Tech ecosystem is strong.
- 30% of respondents believe that the support available in MK for startups and scaleups is weak.

According to the survey, the three key strengths of Milton Keynes regarding tech are:

- Artificial Intelligence (48%)
- Software Development (48%)
- Robotics (41%)

The three biggest barriers to growth for the MK Tech ecosystem identified in the survey were:

- Collaboration (52%)
- Lack of funding (52%)
- Lack of skills and talent (41%)

According to the survey, the proximity to London has a negative effect on the following:

- Salary expectations (59%)
- Ability to retain talent (48%)
- Supply talent (33%)

Specifically, regarding support available for startups and scaleups in Milton Keynes, the biggest challenges include:

- Support with accessing funding (74%)
- Lack of guidance (48%)
- Lack of tech focused incubator/accelerator (37%)

Survey Question:

"If you could change one thing that would support the growth of the tech ecosystem in Milton Keynes, what would that be and why?"

Answers:

"A building or space that's dedicated to the tech community and provides a central and open Hub for tech-based businesses from early-stage startups through to scaleups. A single space with all the resource required including co-working space, hot desks, office space, events space, food. This would be extremely desirable."

"Milton Keynes needs to focus on commercial tech scaleups that solves local, national and global problems."

"Engage more entrepreneurs or attract them from other cities."

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Data Analysis and Methodology

Gross value added (GVA) is an economic productivity metric that measures the contribution of a corporate subsidiary, company, or municipality to an economy, producer, sector, or region[71].

Calculation for Milton Keynes GVA 2022:

- The most recent GVA figure for Milton Keynes published by Office for National Statistics (ONS) is for 2019 = £14,027,000,000[72].
- ONS also publish the quarterly percentage change to GVA for each UK region, the most recent being 2022 Q1[73].
- The 2020 published GVA has therefore been adjusted according to each quarterly percentage change, to arrive at the 2022 Q1 GVA stat for Milton Keynes of £14,671,161,993.
- This methodology has been replicated for the GVA stats for other UK regions cited in this report.

Calculation for Milton Keynes 2022 GVA:

Milton Keynes GVA (2020)	x	Regional Quarterly Percentage Change

Working Example:

	2020 (Base GVA)	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q1 (Est. GVA)
Milton Keynes	£14,027,000,000	-1.3%	4.3%	-0.4%	1.3%	0.7%	£14,671,161,993

Calculation for Milton Keynes Estimated Tech GVA:

Estimated Tech GVA is derived from the number of tech workers in a region times the Average UK GVA per Worker (UK GDP / UK Workforce).[74]

Estimated Tech workforce for Milton Keynes	x	Average UK GVA per worker Milton Keynes
(45,084)		(£74,830)

Calculation for Milton Keynes Estimated Tech Workforce

To estimate the number of tech workers in Milton Keynes, we used a formula which uses SIC codes (62) as a weighting against the more exhaustive Tech Nation UK data. SIC 62 includes computer programming activities, ready-made interactive leisure and entertainment software development, business and domestic software development, computer consultancy activities, computer facilities management activities, and other information technology and computed service activities.

However, this does not include typically include X-Tech sector organisations which make up major part of the tech economy. Despite this, we found SICs to be proportional to true tech workforce numbers. Therefore, they are used as a weighting against Tech Nation's more exhaustive UK estimation.

The most recent data published by Tech Nation for UK Tech Workforce is for 2022 (4.7m).[75] However, the most recent data published by ONS for UK and city SIC 62 workforce is for 2021. Therefore, in order to ensure consistency, we have used a CAGR from 2017 – 2021 to forecast the UK and Milton Keynes SIC 62 workforce for 2022.

Milton Keynes Employment in SIC 62 / UK Employment in SIC 62	x	Tech Nation Total UK Workforce

71 Investoopedia, 2022. Definition of GVA. https://www.investopedia.com/terms/g/gross-value-added.asp
72 ONS, 2021. Regional GVA.
73 hhttps://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/regionalgrossvalueaddedbalancedbyindustrylocalauthoritiesbyitl1region & ONS, 2022. GVA quarterly percentage change by region. https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/modelbasedregionalgrossvalueaddedgvarevisionstriangle
74 Statista, 2022. UK GDP.
75 Tech Nation, 2022. UK Tech Workforce. https://technation.io/people-and-skills-report-2022/#tech-job-vacancies

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Calculation for Milton Keynes Tech Businesses

A similar approach has been taken to estimate the number of tech companies in Milton Keynes. Tech Nation[76] published data for the number of tech businesses in the UK has been used as a weighting against ONS published data for SIC 62 business counts for the UK and Milton Keynes.

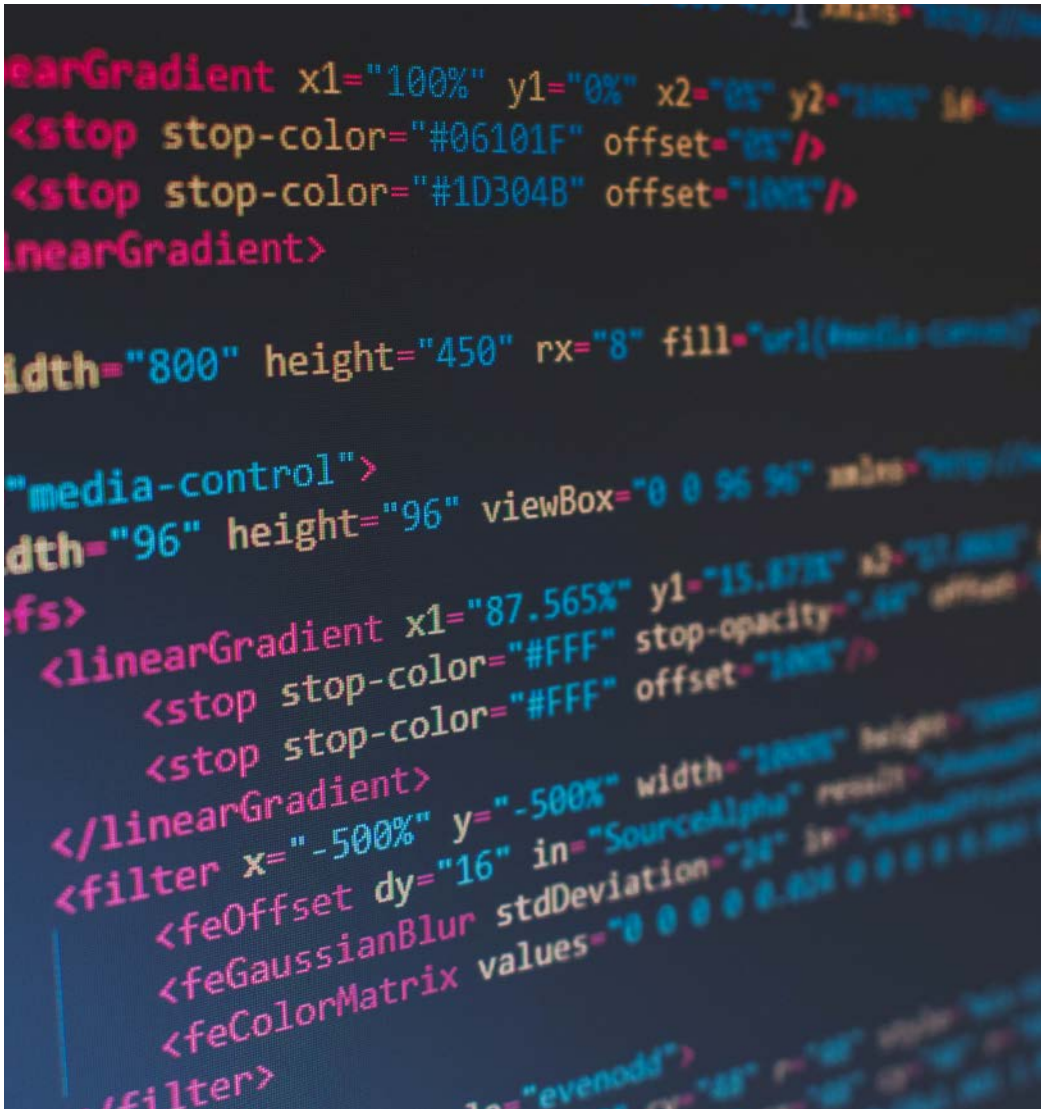
$$\frac{\text{Milton Keynes business count in SIC 62}}{\text{UK business count in SIC 62}} \times \text{Tech Nation Total UK Workforce}$$

Ecosystem Map

The ecosystem map has been created to provide a high-level view of the tech ecosystem in Milton Keynes but is not an exhaustive list of the companies that are based in the city.

During the stakeholder interviews, it became clear that there is a lack of knowledge surrounding what tech firms are based in Milton Keynes, particularly SMEs, and there was a strong desire from interviewees for Whitecap to try to map out the tech ecosystem. However, there is no official directory of tech firms that exist in Milton Keynes and according to our estimations, there would have been too many to manually find with the resource that was available. Therefore, we took the following approach:

- Beauhurst data – High growth companies that exist in Milton Keynes.
- List of stakeholders that we interviewed from contacts.
- Desk-based research approach.



76 Tech Nation, 2021. Tech Nation 2021 – UK Spotlight

© Whitecap Consulting

Data Tables

Estimated GVA for Milton Keynes and other UK cities

UK Tech Cities	2017	2018	2019	2020	2021	2022
Birmingham	£ 26,789,000,000	£ 27,914,000,000	£ 28,398,000,000	£ 27,906,000,000	£ 27,928,327,954	£ 28,067,969,594
Cambridge	£ 5,904,000,000	£ 5,981,000,000	£ 6,364,000,000	£ 6,429,000,000	£ 6,779,115,546	£ 6,826,569,354
Leeds	£ 24,918,000,000	£ 26,585,000,000	£ 27,660,000,000	£ 26,794,000,000	£ 27,033,608,426	£ 27,249,877,294
Liverpool	£ 12,797,000,000	£ 13,026,000,000	£ 13,895,000,000	£ 13,773,000,000	£ 13,922,603,579	£ 14,020,061,805
Manchester	£ 22,860,000,000	£ 23,741,000,000	£ 25,533,000,000	£ 24,766,000,000	£ 25,035,010,546	£ 25,210,255,620
Milton Keynes	£ 13,563,000,000	£ 14,161,000,000	£ 14,672,000,000	£ 14,027,000,000	£ 14,569,177,749	£ 14,671,161,993
Newcastle	£ 9,221,000,000	£ 9,169,000,000	£ 9,488,000,000	£ 9,122,000,000	£ 9,576,785,292	£ 9,653,399,575
Nottingham	£ 10,045,000,000	£ 10,164,000,000	£ 10,519,000,000	£ 10,565,000,000	£ 11,067,917,699	£, 11,167,528,958
Oxford	£ 6,053,000,000	£ 6,335,000,000	£ 6,886,000,000	£ 6,820,000,000	£ 7,083,609,628	£, 7,133,194,895
Reading	£ 7,817,000,000	£ 8,714,000,000	£ 8,632,000,000	£ 7,733,000,000	£ 8,031,899,304	£, 8,088,122,599
Sheffield	£ 12,546,000,000	£ 12,644,000,000	£ 13,241,000,000	£ 13,201,000,000	£ 13,319,051,461	£ , 13,425,603,872

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Estimated Tech GVA for Milton Keynes and other UK cities

Cities		Tech GVA
Birmingham	£	2,863,874,727
Cambridge	£	3,491,790,723
Leeds	£	2,329,144,597
Manchester	£	3,271,405,247
Milton Keynes	£	3,373,641,173
Newcastle	£	814,575,396
Oxford	£	3,898,508,553
Reading	£	5,219,887,304
Sheffield	£	1,933,591,132

Estimations by Whitecap Consulting, 2022.

Estimated GVA per Worker for Milton Keynes and other UK cities

UK Tech Cities		GVA per worker (2022)
Birmingham	£	51,815
Cambridge	£	94,030
Leeds	£	66,675
Liverpool	£	52,549
Manchester	£	83,950
Milton Keynes	£	98,398
Newcastle	£	63,384
Nottingham	£	64,852
Oxford	£	89,613
Reading	£	84,870
Sheffield	£	42,934

Estimations by Whitecap Consulting, 2022.

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Sponsor Profiles

Sponsor	Description	Website
Mazars	Mazars is a global audit, accounting and consulting group. At Mazars Milton Keynes, we are proud to be a part of and are active members of the local community. We're passionate about supporting key business networks, to help build a prosperous city and future for its people.	https://www.mazars.co.uk/
Milton Keynes City Council	Milton Keynes City Council is the local authority of the Borough of Milton Keynes in Buckinghamshire. Milton Keynes City Council as a unitary authority provides the majority of local government services for Milton Keynes, having the powers of a non-metropolitan county and district council combined. The borough is divided into 19 wards, electing 57 councillors.	https://www.milton-keynes.gov.uk/
Milton Keynes College Group South Central IOT	The SCIoT is a project led by Milton Keynes College, working with a consortium of world-leading brands including Microsoft, KPMG, McAfee, Activate Learning, and Cranfield University and is part of the national network of Institutes of Technology. SCIoT offers a hub of innovation and world-leading technological advancements with relentless dedication to future-proofing the lives and skills of diverse learners.	https://mkcollege.ac.uk/ https://southcentraliot.ac.uk/
Protospace	Protospace launched in 2021 and aims to encourage closer collaboration between individuals, businesses and organisations to support, connect and grow the tech community in and around Milton Keynes. Protospace will champion local digital innovation, connect the community, and support the exploration of new ideas, the development of new skills, and opportunities for new collaborations.	https://protospace.uk/
Santander	Since its entry into the UK market in November 2004, Santander UK has transformed, moving from its heritage of three former building societies to a full-service retail and commercial bank. We are a large customer-focused bank and we play an important role in the UK economy and in the communities in which we operate.	https://www.santander.co.uk/
The Open University	The Open University has pioneered distance learning for over 50 years, delivering exceptional teaching and outstanding support to students across the UK and the world. Through world-leading academic research and the latest pedagogic innovation and collaborative partnerships we are focused on transforming the design, content and delivery of supported, flexible open learning.	https://www.open.ac.uk/
Univeristy of Buckingham	It is the only independent university in the UK with a Royal Charter, and probably the smallest with around 2,700 students. Honours degrees are achieved in two intensive years of study. We keep class sizes small, with a student:academic staff ratio of 10.4:1 and the Oxbridge style tutorial groups are often personalised and always exhilarating.	https://www.buckingham.ac.uk/

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Participating Organisations

123 Internet Agency
Acuigen Ltd
Ad Valorem
Alchemetrix
Aiimi
Barclays
Be Braver
British Growth Fund
CCL Solution Group
Celaton
Central Arc Angels
Checkfer Ltd
Clearview Intelligence
CP Catapult
Cranfield University
Dynamatix Ltd
Factoree
Female Techpreneur
Figuring Out Data
Fire Squared Ltd
Grant Thornton
HDK Solutions
HMGCC
Howes Percival
Insights for Innovation
Mazars
MEPC
Milton Keynes College Group/ South Central IoT
Milton Keynes City Council
MKAI
MK:U
More Trees
MX Reality
Natwest
New Socks Media
Orbit
Pooleyvile
PRAGMATIQ Solutions
Protospace
Provit Solutions
PwC
Santander
SEMLEP/SEMTech
Silverstone Tech Cluster
Swallows Connections Limited
Talisman Technology
The Open University
Triangle Network
University of Buckingham
Volkswagen Financial Services
WorkBuzz
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