QUANTUM COMPUTING: NOT JUST LIFE-CHANGING, BUT ‘CIVILISATION CHANGING’

INSIDER STATS:
EU extension granted, but how can Oxfordshire shape the UK’s future?

NEWS IN BRIEF:
Scale-up recognition, SME growth and Oxfordshire space gets NASA approval

CHIEF EXEC’S UPDATE:
Our transformative technologies have global impact and is braced to do more
QUANTUM COMPUTING IN OXFORD: NOT JUST LIFE-CHANGING, BUT ‘CIVILISATION CHANGING’

How would you describe quantum computing? Is it fair to say that the general public doesn’t understand the full potential of it, what it means and what it could mean for our future way of living?

Many working within the industry describe quantum computing – and the technologies underpinning it – as not just life-changing, but in fact ‘civilisation changing’.

The Oxfordshire Transformative Technologies Alliance’s Science and Innovation Audit – published in the autumn of 2017 – says that ‘quantum technologies will profoundly change the world, and our lives, by 2030.’ It adds that ‘the UK has a strong, but fragile, global position in the race to develop a quantum computing capability.’

International potential exists, but support is needed to get the UK to this position, potentially led by the major sector influencers that are based in Oxfordshire.

Networked Quantum Information Technologies (NQIT) – an organisation led by the University of Oxford and involving nine other UK universities and over 30 companies – state on their website: ‘The realisation of a practical quantum computer will be one of the biggest scientific and engineering achievements in this century.’

The desire to get the UK to a world-leading position is undoubtedly driven by Oxfordshire.

It’s not just the desire though that’s driven by Oxfordshire. The commercial potential is huge too with the Science and Innovation Audit believing that by establishing a ‘Quantum Valley’ in Oxfordshire could create up to 10,000 UK jobs, including in supply chains.

Technologies underpinning quantum computing, together with the three other transformative technologies that were identified in the Science and Innovation Audit – namely connected and autonomous vehicles, space-led data and digital health – has the collective ability to generate in the region of £180billion to the UK economy by 2030.

This is around six per cent of the global economy in these four technologies.

Globally-significant and emerging quantum computing companies and research bodies are attracted to Oxfordshire to set up home, including the likes Oxford Quantum Circuits. Companies benefit from a cluster of highly-skilled professionals and academics based in the county.

As we move towards a more international-facing economy, Oxfordshire presents the UK with another major opportunity that can not only drive forward our economy – but also, ensure the UK lead the way in possibly the biggest technological change the world has ever seen.
A look back on our fourth House of Commons economic briefing, focussing on Oxfordshire’s strengths in quantum computing.
OXLEP ONCE AGAIN TAKES OXFORDSHIRE’S GLOBAL OPPORTUNITIES TO WESTMINSTER AUDIENCE

Oxfordshire’s ‘world-class’ quantum computing capabilities are ‘open for business’ – that was the message the Oxfordshire Local Enterprise Partnership (OxLEP) took to Central London on 21 May, as it staged its fourth House of Commons economic briefing.

This was the latest briefing held in Westminster, which sees OxLEP ‘taking the Oxfordshire economy’ to a national stage. Each event has seen OxLEP promote one of the four transformative technologies highlighted in the county’s 2017 Science and Innovation Audit.

This briefing focused on technologies underpinning quantum computing and was hosted by Banbury MP Victoria Prentis, on behalf of all Oxfordshire MPs.

The event highlighted some of Oxfordshire’s internationally-competitive quantum computing assets, including keynote discussions led by Dr Rupesh Srivastava – Technology Associate at National Quantum Information Technologies (NQIT) and Dr Andrew Mackintosh – Chairman of Oxford Quantum Circuits.

Around 65 guests attended the exclusive event, including investors, foreign embassy representatives and companies working in quantum computing.

The series of House of Commons briefings have highlighted how Oxfordshire’s four transformative technologies, alongside the county’s world-class research and development capabilities, could bring major global opportunities boosting the UK economy.

The county’s Science and Innovation Audit has suggested that the transformative technologies of connected and autonomous vehicles, space and satellites, technologies underpinning quantum computing and digital health collectively has the potential to add up to £180billion GVA growth to the UK economy by 2030.

OxLEP’s first economic briefing took place in September last year, with a focus on connected and autonomous vehicles – highlighting global, Oxfordshire-based influencers Oxbotica and Street Drone – with a second briefing in January looking into the economic potential of space and satellites.

A third briefing – which looked into Oxfordshire’s digital health capabilities – took place in March.

Nigel Tipple – Chief Executive of OxLEP – said: “The key message we will continue to take to Westminster is that Oxfordshire is very much open for business.

“With a GVA of £23billion per annum, we are one of only three net county contributors to the Exchequer, with a track record of nurturing genuine innovation and taking it to a world-stage.

“Oxfordshire is recognised globally as a place that can support innovation-led growth, greater productivity and major ‘place potential’ as we move towards an ever-increasing internationally-focussed economy.”

May’s event has directly-led to follow-up discussions with investors, government departments and foreign embassies.
INSIDER STATS

Having been granted an initial extension of the Article 50 process until 12 April, European Union leaders have now backed a six-month extension – up to until 31 October – on the UK’s EU withdrawal, meaning global economic strengths and assets have arguably never been more important to the UK economy.

So, what can Oxfordshire bring to an internationally-facing UK economy?

INSIDER HAS THE LATEST ECONOMIC STATISTICS FOR THE COUNTY:

- £23bn GVA per year, one of just three net County contributors to the exchequer
- A significant player in the Oxford-Cambridge Arc, which contributes over £111bn GVA per year, with potential to do more
- Around 50,000 new jobs have been created in Oxfordshire between 2011/12 and 2016/17
- Home to the number one 2018 Times Higher Education’s globally-ranked university
- £600m: The largest fund for university spin outs in Europe via Oxford Sciences Innovation
- The number one concentration of science research facilities in Western Europe
- The UK five-year survival rate for businesses born in 2011 and still active in 2016 was 44.1%, Oxfordshire averaged 49.3%
- £180bn global potential for the UK economy through the four transformative technologies identified in our Science and Innovation Audit

NEWS IN BRIEF

OXFORDSHIRE’S SPACE STRENGTHS ‘TAKING OFF’ WITH NASA

The Harwell Campus-based company Oxford Space Systems won a prestigious NASA competition in April at the Space Symposium in Colorado, USA.

Its CEO, Mike Lawton, successfully-pitched to a judging panel of senior NASA officials, investors and space industry executives in NASA’a ‘Tech Ignite the Night’ competition – a competition to find technologies that can save costs and shape the future of space exploration.

OSS have now become one of just 25 semi-finalists where – if they progress through the next round – would go forward as one of the top-10 finalists to pitch at the 2019 NASA iTech Cycle Forum in Pasadena, California in July.

480 OXFORDSHIRE COMPANIES GAIN SCALEUP RECOGNITION

There are now 480 companies in the county that meet the definition of ‘scaleup’ because they have increased turnover or employment by more than 20 per cent annually, research from the ScaleUp Institute has revealed.

In the county, the top five scaleups by employment growth are; Virtua, Silbury, AgilityWorks, Oxford Economics and YASA Motors, while the top-five for turnover growth are Oxford Nanopore, Rebellion, Gigaclear, Circassia and Virtua.

Oxfordshire scaleups are now employing a total of 49,000 staff and their turnover is worth an estimated £5.2 billion.

OXFORDSHIRE 2040 AND GENERATION Z: ARE EDUCATION PROVIDERS AND YOUNG PEOPLE PREPARED FOR THE JOBS OF TOMORROW?

Around 50 business and education leaders from across Oxfordshire came together on 25 April at OxLEP’s latest Q&A event, discussing whether or not education providers and young people are prepared for the jobs of tomorrow (pictured above).

The event, chaired by radio presenter Howard Bentham, and held at Blenheim Palace – included panelists; Nigel Tippie – OxLEP’s Chief Executive, Kate Berman – Co-founder of Olamalu, Dominic Hare – Chief Executive of Blenheim Palace, Ali Adams – Partnerships Manager at UTC Oxfordshire and Leona Weston – OxLEP’s PR and Communications Apprentice.

Second Oxfordshire Property Festival once again brings ‘thriving sector’ together to celebrate success

Dozens of property professionals and key decision makers gathered for the return of The Oxfordshire Property Festival featuring walks, talks and awards as part of the event.

It follows a successful 2018 festival that saw property professionals from across the UK gather in the county. UK Property Forums – one of the country’s best-established property sector experts – once again led the festival, with the support of OxLEP.

The event centred around two of Oxfordshire’s best-known locations – Keble College and Bicester Village – focused on the changing landscape of the Oxfordshire property scene.

To receive regular news updates from OxLEP, please email robert.panting@oxfordshirelep.com

Harwell Campus
What represents genuine global impact?

Assets such as the University of Oxford and its world-class research programmes, Harwell Campus, Culham Science Centre and a thriving automotive sector already have considerable worldwide reach and are internationally-established.

That said, it’s undeniable that Oxfordshire’s four transformative technologies are demonstrating global impact too.

We are world-leaders in the technologies of digital health, space-led data applications, autonomous vehicles and technologies underpinning quantum computing. Our science and innovation audit – carried out by the Oxfordshire Transformative Technologies Alliance in 2017 – suggested that, if fully-utilised, these four technologies alone could potentially add £180bn GVA growth to the UK economy by 2030.

Let’s consider connected and autonomous vehicles.

Oxbotica – founded as a spin-out from Oxford University’s Department of Engineering Science Mobile Robotics Group in 2014 – have already built a strong reputation, not just in the UK, but internationally too.

Last September, it was announced that they had secured £14million-worth of investment to support its global growth. The investment will be used to accelerate its ambition as it develops software behind autonomous systems in sectors including aerospace, automotive, construction, logistics and mining.

The investment will also see Oxbotica double its workforce – possibly to up to 200 employees worldwide – as well as supporting their search to open new offices in Silicon Valley, Japan and Australia, as well as potentially China and a further North American destination too.

Regarding space and satellites, UK space exports are set to grow to £25bn in the next decade, meeting an industry and government target for space exports to make up 60 per cent of the UK’s space sector revenue by 2030.

Growing demand is being met by companies such as the Harwell Campus-based Oxford Space Systems, who say around 70 per cent of their business is coming from the United States.

Global impact like this presents significant potential for the UK economy, particularly in the context of a post-Brexit economy – but to maximise this potential, collaborative working across all stakeholders, is absolutely essential.

As a county, our track record of nurturing genuine innovation and taking it to a world-stage is also proven. We are home to ‘unicorn’ ($1 billion) tech businesses – including health companies Oxford Nanopore and the Milton Park-based Immunocore.

Given that our four transformative technologies do have the collective ability to significantly boost the UK economy, it’s important that – working with partners – we continue to promote these technologies, not only demonstrating the significant achievements to-date, but really emphasising the true potential they all have and the ability to do more.

Nigel Tipple
Chief Executive

If you would like to take a closer look at what is going on in Oxfordshire, please contact our Executive Assistant Sadie Patamia and we can arrange a visit. Email: sadie.patamia@oxfordshirelep.com.

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