

# INSIDER

QUARTERLY INSIGHT ON OXFORDSHIRE'S SCIENCE & TECH SECTORS

EDITION 1 AUTUMN 2018

## RACING TO A SAFER FUTURE

### INSIDER STATS:

Get the inside track on the county's Foreign Direct Investment

### NEWS IN BRIEF:

Space, Unicorns and more

### CHIEF EXEC'S UPDATE:

Nigel Tipple discusses the forthcoming Local Industrial Strategy





Oxfordshire is best placed to be a Living Laboratory for real world testing of Connected and Autonomous Vehicles (CAV) rollout. By retaining the UK's strong global position in Autonomous Vehicle development, revenue to the UK economy is expected to be at least £51bn by 2030, with 320,000 new jobs, 5,000 serious accidents avoided and 2,500 lives saved.

## RACING TO A SAFER FUTURE

Oxfordshire has placed itself at the heart of the connected and autonomous vehicle revolution. Nobody is pushing the technology harder than Banbury-based Roborace.

Imagine ten electric race cars on a track. Five charge clockwise around the circuit, the remainder surge off in the opposite direction. Halfway around they meet, but instead of crashing, they dodge each other by millimetres.

Such self-driving race cars are already being developed by world-leading mechanical and electronic engineers in Banbury, the heart of the UK's 'motorsport valley', by a company called Roborace. More importantly, they have already been proven in public.

Two Roborace cars have participated in a support race to the FIA Formula E all-electric race series, while another has become the first autonomous car to run at the Goodwood Festival of Speed.

But Roborace doesn't exist simply to provide spectacle – it fast-tracks the development of connected and autonomous technology for the road. 'Roborace rests on three developmental pillars: electric, connected and autonomous technologies,' explains chief strategy officer Bryn Balcombe.

The cars exude an eerie, almost alien-like sentient vibe. It's as if they have been built in a galaxy far, far away – not 60 miles up the motorway from London. 'They easily outpace average drivers, and will soon beat professional race drivers,' explains Roborace CEO and former Formula E champion Lucas di Grassi. 'There's a physical limit to how fast the human eye can relay information to the brain, and the brain pass instructions to hands and feet. Computers are already capable of responding 200 times faster than a human.'

Roborace has already performed its first prototype competition format in Berlin earlier this year which saw two teams each consisting of one human and one AI driver competing against each other, with the human and machine as teammates. Similar challenges are planned for 2019, which Roborace refers to as Season Alpha.

'To date we've run ten international challenges, the majority in city centres in partnership with the FIA Formula E Championship including: NYC, Montreal, Hong Kong, Buenos Aires, Berlin, Rome. We also

completed the first ever autonomous run at the Goodwood Festival of Speed hillclimb in the English countryside. The software needs to adapt to each specific environment to make the most from the data streaming from all the different sensors,' explains Bryn, 'and that's the aim of the series, to create challenges that accelerate software innovation and transfer technologies from motorsport to our roads.'

'Perhaps we'll come to think of AI Driver software developers as the next generation of race horse trainers. Days/weeks/years spent behind the scenes that all become essential for that final race day performance,' muses Bryn.

And imagine too such technology used on the road one day, where an autonomous, connected car's ability to react hundreds of times faster than a driver, and execute millimetre-precise manoeuvres, could save human lives.

For further detail about the latest developments visit [www.roborace.com](http://www.roborace.com)



# OXLEP TAKES OXFORDSHIRE'S GLOBAL OPPORTUNITIES TO WESTMINSTER AUDIENCE



**Oxfordshire is 'very much open for business' was the strong message OxLEP took to Central London on 11 September as it staged its first-ever House of Commons breakfast briefing event.**



It was the first of four economic briefings lined-up for London over the next 12 months, which sees OxLEP 'taking the Oxfordshire economy' to a national stage, fronted by the four transformative technologies highlighted in last year's Science and Innovation Audit for the county.

Hosted by North Oxfordshire MP – Victoria Prentis MP – on behalf of all Oxfordshire MPs, the briefing was led by Professor Paul Newman of the University of Oxford, leader of the Oxford Robotics Institute and founder

of its spin-out, Oxbotica – a pioneering autonomous vehicle developer based at Culham Science Centre.

Oxbotica has promised trials of their autonomous vehicles on the M40 between Oxford and London during 2019.

Around 65 guests attended the exclusive event, including investors, foreign embassy representatives and companies working in AI and autonomous vehicle technologies.

Each briefing will highlight a transformative technology and how it could bring major global opportunities to Oxfordshire.

The county's Science and Innovation Audit has suggested that Autonomous Vehicles, Space and Satellites, Quantum Computing and Digital Health has the potential to add £180billion GVA growth to the UK economy by 2030.

And, with world-class research and development capabilities that benefits both the regional and national economy, OxLEP emphasised that Oxfordshire is a key driver of 'UK PLC'.





Nigel Tipple – chief executive of OxLEP – said: “The key message we took to our first House of Commons briefing was that we are very much open for business.

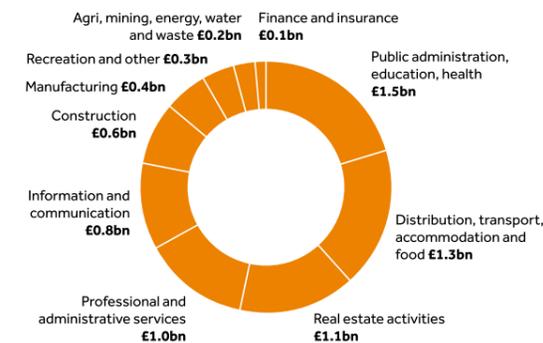
“With a GVA of £23 billion per annum, we are one of only three net contributors to the Exchequer and – being home to two of the UK’s 13 ‘unicorn’ (\$1 billion) tech businesses in Oxford Nanopore and the Milton Park-based Immunocore – we have a track record of nurturing genuine innovation and taking it 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-focused economy.”

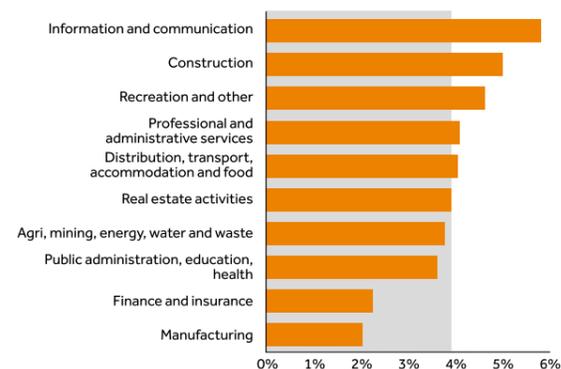
# INSIDER STATS

## GROSS VALUE ADDED

Oxfordshire’s contribution to GVA growth by sector, 2006-2016



Annual average growth by sector, 2006-2016



Source: PwC and CNS

## FOREIGN DIRECT INVESTMENT 2017-2018

- Overall number of foreign direct investment ‘projects’ rose by 181% in comparison to the previous financial year
- 66% of investments in Oxfordshire were new investments
- Oxfordshire was responsible for 9% of all English investment.
- OxLEP secured five ‘multi-region’ foreign direct investment projects

As a direct result of Foreign Direct Investment;

- More than 1,300 new jobs created in the county over the past 12 months and 403 jobs safeguarded
- Increase of 122% during the past financial year
- 93 foreign direct investment ‘projects’ were secured during the last fiscal year (2017/2018)
- High proportion attributable to retail including the £440m redevelopment of Westgate Oxford and the opening of 30 new stores at Bicester Village.
- Other sectors benefiting from investment also include; biotechnology and pharmaceuticals, business and consumer services and the aerospace sector.

For the full report please visit <https://www.gov.uk/government/statistics/department-for-international-trade-inward-investment-results-2017-to-2018>

**Oxfordshire GVA grew by 47% (+£7.3bn) between 2006 and 2016**

# NEWS IN BRIEF

To receive regular news updates from OxLEP, please email [robert.panting@oxfordshirelep.com](mailto:robert.panting@oxfordshirelep.com)

## MINISTER OPENS £13M SCIENCE BUILDING

Sam Gyimah, Minister for Universities, Science, Research and Innovation attended the official opening of the Schrödinger Building in the Oxford Science Park, a £13m office and laboratory building.

## TOAD LEAPS AHEAD AT OBAS

The Oxford Artisan Distillery (TOAD) was named OxLEP New Business of the Year 2018 and was also a runner-up in the Retail Award category at the Oxfordshire Business Awards. In less than 12 months, TOAD has secured over 200 ‘points of sale’ in Oxfordshire and the south of England.

## HARWELL SPACE CLUSTER BLASTS OFF

The Harwell Space Cluster, home to start-ups and scale-ups, celebrates growth to 80 organisations employing 800 people as it works towards a target of 200 organisations employing 5,000 people by 2030.

## PICKMEUP SERVICE LAUNCHED

The Oxford Bus Company has launched PickMeUp, a new service avoiding the need to change buses in the city centre, utilising a network of virtual bus stops, available on demand.

## TWO UNICORNS IN THE STABLE

Oxfordshire is home to two of the UK’s thirteen tech unicorns (private companies worth in excess of \$1bn), further evidence that the county is a key driver of UK PLC.

## Q&A KICKS OFF AT KASSAM

Over 50 Oxfordshire business leaders gathered at the Kassam Stadium on 10 July to take part in the latest OxLEP Q&A event, debating ‘How can Oxfordshire businesses make an impact – nationally and internationally – by embracing innovation?’. The next Q&A event take place on 10 October at Witney Lakes Resort.

## OXFORD NORTH PLANS EXHIBITED

More than 200 people visited the public exhibition where Thomas White Oxford, on behalf of St John’s College, unveiled its proposals for Oxford North, a planned new urban district focused on innovation and sustainability.



**THE NEXT HOUSE OF COMMONS BREAKFAST BRIEFING WILL TAKE PLACE ON 15 JANUARY, WITH A FOCUS ON SPACE-LED DATA APPLICATIONS.**

To register interest for future briefings please email [info@teamtala.com](mailto:info@teamtala.com)

# REFLECTION ON A 'GAME-CHANGING' YEAR FOR OXLEP



Some of the county's leading businesses – as well as members of the general public – gathered at Harwell Campus for the Oxfordshire Local Enterprise Partnership's annual review on 25 September, reflecting on a 'game-changing' last 12 months for the county's economy.

The event – which took place at the Satellite Applications Catapult – saw OxLEP update visitors on its current work and support programmes and also reflect on a year that saw developments such as the Housing and Growth Deal, as well as the Oxfordshire Local Industrial Strategy and the Oxford-Cambridge Corridor, emerge.

OxLEP also officially launched its annual report for 2017/18 and held a 'market place' event, where delegates found out more about its everyday work supporting economic growth.

**Annual Report 2017/18:**

<https://www.oxfordshirelep.com/sites/default/files/uploads/OxLEP%20Annual%20Review%202018.pdf>

**Annual Review Presentation Pack:**

<https://www.oxfordshirelep.com/sites/default/files/uploads/OxLEP%20Annual%20Review%202018.pdf>

## CHIEF EXECUTIVE'S UPDATE

It is essential that we continue to attract and nurture businesses with a positive approach to innovation, working toward the ambitious goals that will be set out in the forthcoming Local Industrial Strategy. Oxfordshire has proven to be an area of the country that values innovation, shunning the tendency to create 'more of the same' and focusing on key growth sectors in science and technology, and is now home to two of the UK's 13 'unicorn' tech businesses. For example, the Harwell Space Cluster has seen start-ups and scale-ups grow at an impressive rate, with the 80 strong group of public, private and academic organisations aiming for a 10% share of the global market by 2030.

The county continues to prove an attractive investment opportunity with 93 foreign direct investment projects being secured in the last year. Not only has this created 1,315 new job

for Oxfordshire, but the level of investment will act a further reassurance to business leaders as the UK gets set to leave the EU.

We continue to work to maximise the opportunities afforded by the Oxford-Cambridge Corridor, linking two internationally-renowned cities that serve as magnets for investors. The strong business growth across Oxfordshire, Northamptonshire and Cambridgeshire means the corridor already contributes an impressive £90.5billion to the UK economy.

**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](mailto:sadie.patamia@oxfordshirelep.com).**



For further information about investment opportunities please contact Sebastian Johnson, Head of Innovation and Inward Investment

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Oxfordshire Local Enterprise Partnership