

# Oxfordshire future mobility

Invest in the UK's innovation engine for  
autonomous, connected, electric and  
shared automotive technologies





# Investing in the future of mobility?

## 10 reasons to choose Oxfordshire

1. Within the UK's Testbed region for developing future mobility.
2. At the heart of the UK's Motorsport Valley.
3. Opportunities to collaborate with exciting spinouts from the University of Oxford.
4. Deploy testing facilities at world-recognised centres of excellence, including the CAV (connected and autonomous vehicle) Pit Lane facility at RACE.
5. Manufacturing, distribution facilities and Grade A office space for businesses of all sizes, with opportunities to scale up.
6. Proven success in attracting international manufacturing and R&D companies.
7. Highly-educated population and technically-skilled workforce in engineering, physics and motorsport.
8. Thriving mobility and energy ecosystems, facilitating knowledge exchange.
9. Part of the UK's flourishing low carbon energy sector, generating around £69.4 billion a year. (source: ONS)
10. Excellent connectivity to London, the Midlands and south coast ports by rail and road, plus easy access to major airports.

# A global hub for mobility solutions

Oxfordshire has some of Europe's most successful clusters in connected and autonomous vehicles, motorsport, and energy storage solutions, each one stimulating innovation through multidisciplinary collaboration.

Home to the [University of Oxford](#) and [Oxford Brookes University](#), it has unrivalled centres of academic research into software, machine learning and AI, robotics, alternative energy sources and advanced engineering.

In the last seven years Oxfordshire has secured over 340 foreign direct investments at a value of over £3.1 billion.

New vehicle technology is a major part of the pioneering work being carried out in Oxfordshire in the sectors that

are vital for the world's future health and sustainability. The region is a powerhouse for the study and application of life-changing technology and is at the heart of collaborative efforts that are driving innovation to find solutions to the world's greatest challenges.

Oxford is at the heart of the UK's [CAM TestBed](#) region, a global centre for the innovation and development of connected and automated mobility (CAM). It offers investors access to an advanced, comprehensive, and coordinated [CAM testing ecosystem](#), a world-class academic research community, a growing industry cluster and an impressive talent base.

Foreign-owned companies which have expanded or established operations in Oxfordshire in recent years include [Tesla](#), [BMW](#), [Hyundai](#), [Kia](#), [Andretti](#), [Zoox](#) and [Mahindra Group](#).

## Companies involved in future mobility in Oxfordshire:



Oxford Brookes University is ranked among the UK's best young universities

(THE Young University Rankings 2023)

# Setting global standards in academic research

Through their world-leading research and teaching, Oxfordshire's universities continue to push the boundaries of technology.

Several departments within the [University of Oxford](#) are making future vehicle technology a focus of their research, including the [Oxford Robotics Institute](#). The University is a global centre for [AI](#) research, and its [chemistry department](#) is actively researching the storage and utilisation of hydrogen in transport.

Some of the region's fastest-growing companies have grown out of the University of Oxford, including universal autonomy developer [Oxa](#). Incoming businesses can benefit from collaboration with an array of exciting and highly-successful University spinouts. The University's commercialisation arm, [Oxford University Innovation](#), has successfully spun out over 200 companies.

Oxfordshire has a successful record in securing investment to promote growth. Oxford Science Enterprises is an £850 million fund designed to help Oxford's outstanding scientists build and grow great businesses that can improve the world. Investors have provided seed and follow-on funding ranging from £100,000 to £10 million.

[Oxford Brookes University](#) runs highly-regarded courses in automotive and motorsport engineering and technology,

and carries out research into cognitive robotics, artificial intelligence and vision. Its [High Voltage and Energy Storage Laboratory](#) specialises in electric motorsports and its outstandingly successful student racing team provides hands-on experience for students preparing to join the electric vehicle and connected and autonomous vehicle (CAV) industry. It has strong links and fruitful partnerships with the county's motorsport companies, and was BMW's academic partner in the [MINI E project](#). The

University is also researching into configuring the urban environment for healthy and sustainable mobility.

The cutting-edge technologies developed by Oxfordshire's Formula One, Formula E and motor racing teams have led to new advances in all forms of road transport as well as aerospace and energy.

World-leading CAV companies already have a presence in Oxfordshire.

Investments already secured for Oxfordshire, for example in the [CAV Pit Lane](#) at [RACE](#) (Remote Applications in Challenging Environments), are encouraging others to follow and become part of rapidly-growing and thriving ecosystem.

The [Oxford Martin School](#) is researching the economic, social and business impact of autonomous transport systems. The [Said Business School](#) has an acknowledged programme to help the business community understand AI and its true potential.

The University of Oxford is ranked #1 in the world for the past eight years

Times Higher Education 2024

# World-leading science and innovation centres

Oxfordshire has the key ingredients that make up a world-class innovation ecosystem: a flourishing environment for innovation and business creation; world-leading experts in knowledge and technology development; and a dynamic, agile, and skilled workforce. By 2026, over half a million square metres of new office and laboratory space will be added.

Over 225 research and technology companies in health sciences, med tech, space applications and energy operate on **Harwell Campus**. The site houses the UK's largest space cluster of over 100 growth companies. Critical assets include the **Diamond Light Source**, the **Rosalind Franklin Institute**, **Faraday Institution**, **UK Space Agency**, **European Space Agency**, **Rutherford Appleton Laboratory**, and the **National Quantum Computing Centre**.

**Culham Science Centre** hosts over 2,000 scientists carrying out world-leading research into areas such as fusion power and autonomous vehicles. Critical assets include the **Culham Centre for Fusion Energy**, which will design and build the world's first compact fusion reactor by 2040, **RACE** (Remote Applications in Challenging Environments), and the **Culham Innovation Centre**.

Within the **Oxford City Science Area**, key development work is ongoing in sectors such as life sciences, digital health, AI technologies and quantum computing. Key assets include the **Oxford BioEscalator**, the **Jenner Institute**, the **John Radcliffe**, **Nuffield**, and **Churchill Hospitals**, and the **Centre for Applied Superconductivity** alongside innovation hubs including the **Wood Centre for Innovation** and the **Oxford Centre for Innovation**. Also in the city centre are the **Clarendon Centre** and **Inventa and Spires**.

The **Oxford Science Park** is home to more than 100 companies, from start-ups to multinationals, working in areas such as drug and device development and AI within a vibrant R&D and commercial community. It offers a variety of design-and-build office and laboratory accommodation, the latest being the **Iversen Building** and the **Ellison Institute of Technology**.

The University of Oxford's **Begbroke Science Park** focuses on advanced engineering and medical tech for 30+ world leading research & technology companies. By 2032, a

£2 billion programme will co-locate engineering, physical and life sciences research to Begbroke's global innovation campus, to work directly with industry.

**Oxford Technology Park** is a new science and technology park that offers flexible office and R&D space to the north of Oxford. The site is adjacent to London Oxford Airport, with nearby rail access to London.

**Oxford North** is the city's new innovation district. The 64-acre site to the north of the city will provide 300,000 square metres of laboratories workspace, 480 new homes and provide 4,500 new jobs.

**Heyford Park** provides a range of commercial accommodation including warehousing, workshops, lab space and offices and is already home to over 100 businesses.

**ARC Oxford** is an innovation based community close to the city centre and hosts over 60 science, technology and service companies. It offers workspace to suit all sizes of businesses and an amenity rich environment.

The **Bicester Motion Innovation Quarter** will establish a world-leading automotive engineering centre of excellence and offer new accommodation for international technology businesses.

**Howbery Business Park** is the UK's first solar-powered park. It offers specialist research capabilities to spinouts and start-ups in the water and environment sector.

**Abingdon Science Park** is home to scientific, research, and high technology businesses. It currently has lab and office space development opportunities.

**Milton Park** is a science and technology park that is home to 250 companies and 9,000 people and forms one of the largest science clusters in the UK. In 2024 it began to build a £40 million development with flexible R&D spaces.

**Wootton Science Park** New and growing development with laboratories and workspaces.

**Grove Business Park** offers office, R&D and industrial buildings, strategically located between the M4 and the A34 roads.

## Innovation clusters across Oxfordshire

Western Europe's highest concentration of science research facilities





## Testing facilities

The CAV Pit Lane at Culham Science Centre enables vehicle manufacturers and self-driving vehicle developers to improve and test advanced driver assistance systems (ADAS) and autonomous systems. Over 80 R&D projects have used the facility since it opened in 2019.

Culham's RACE facility operates jointly with Millbrook in nearby Bedfordshire as a proving ground for the development of CAV technologies. Together, the two sites offer controlled and real-world testing urban environments over 90km of roads on secure sites, along with 5G, data storage, digital modelling, vehicles and simulation, purpose-built workspaces with integrated accommodation.

Harwell's Space Cluster, which encompasses major assets of national and international significance such as the European Space Agency, provides a range of test facilities. At Culham Science Centre, hypersonic propulsion company Reaction Engines is pioneering technologies that can be applied to automotive and energy as well as aerospace.

# Manufacturing, distribution and office space

**Banbury**, in the north of the county, is one of the most central towns in the UK. The former market town, located next to the M40, with access to motorway connections in all directions, has been developing at an exciting rate in recent years to become a prime distribution centre and manufacturing hub, attracting companies such as Prodrive. The brand new Catesby Tunnel aerodynamic testing and vehicle development facility is located nearby.

**Bicester**, Oxfordshire's eco town and home to the famous retail outlet Bicester Village, is becoming the centre of the county's low-carbon innovation. The Bicester Motion Innovation Quarter will establish a world-leading automotive engineering centre of excellence and offer new accommodation for international technology businesses.



Motorsport and advanced engineering group Prodrive is based in Banbury



Prodrive helped Volta Trucks create the world's first purpose-built full-electric 16 tonne truck in just 10 months.

# Leading advances in... Connected and autonomous vehicles

**Oxfordshire is a global centre for CAV development, including simulation and modelling.**

By 2035, the UK market for connected and automated mobility solutions (CAM) technologies will be worth £6.4 billion, part of a £100 billion global market.

The county is a key part of the CAM Testbed UK, which offers six world-leading facilities for the modelling, simulation, testing, development and deployment of connected and automated mobility solutions. This is enabling technologies to be developed, tested, and proven ready to deploy in global markets.

Oxa, a spin-out from the University of Oxford, builds software that enables any vehicle to be self-driving. (see case study, over)

StreetDrone in Oxford was the first company globally to offer subscription-based autonomous driving software, and the first in Europe to run an open-source self-driving

vehicle on the road. Its technology will make it faster and safer to deploy autonomous vehicles at scale.

Bringing together the best minds in AI, engineering and mobility, Five AI's Oxford site is developing a platform for autonomous vehicle development and safety assurance. Having raised \$78 million in funding, it was acquired by Bosch in 2022.

The Darwin Satcom Lab at Harwell is exploring blending terrestrial and satellite communications for autonomous cars and testing the technology with its two onsite connected and autonomous vehicles. Led by telecommunications company O2, it is backed by the UK and European Space Agencies.

The global market for CAV technologies will be £907 billion by 2035

Transport Systems Catapult

## Case study Oxa

Oxa was spun out from the University of Oxford in 2014 and has grown from a UK robotics start-up to one of the world's leading companies in autonomous vehicle software. Headquartered at ARC Oxford, Oxa's product is a software platform providing Universal Autonomy™ - the ability of any vehicle, of any size, in any place to operate autonomously, safely and sustainably. Fast to deploy, low energy, hassle free, hardware agnostic autonomy is applicable to a vast array of vehicle types both on and off road. Oxa has a proven record of breakthrough innovations which represent vital advances in commercialising AV technology. These include Europe's first zero-occupancy trial on a publicly accessible road in May 2022, and metaverse-based testing and collaborative alliances with the insurance sector, amongst others.

In January 2023 Oxa announced that it had raised \$140 million in Series C investment from financial and strategic partners from North America, EMEA and APAC. Oxa has raised approximately \$225 million to date.

The funding will drive Oxa's geographical expansion in North America, EMEA and APAC, and accelerate the deployment of its ground-breaking autonomy operating system in domains where there is both urgent need and potential to scale, such as agriculture, airports, energy, goods delivery, mining and shared passenger transportation.

"The UK is potentially more AI-ready compared with the global average"

McKinsey.





Electric motor development at Yasa

No other location worldwide offers so much relevant motorsport technology

# Formula E and the motorsport factor

Motorsport technology has powered many advances that are now deployed in everyday motoring and in other sectors. With close proximity to [Silverstone](#), Oxfordshire's distinguished track record in motorsport is continuing to contribute to smart mobility. There is no other location worldwide that offers so much relevant automotive sports technology.

Metals in 2022, it is setting up advanced battery plants for heavy vehicles in Kidlington and Banbury.

[Jaguar TCS Racing](#) has set up its new technical headquarters at the Fortescue WAE building in Kidlington.

[Mahindra Racing](#) is one of the ten founding teams – and the only Indian team – of the FIA Formula E Championship. Its manufacturing base is in Banbury. Mahindra Group is one of India's largest companies.

US motorsport business [Andretti Autosport](#) relocated its UK-based Formula E team operations to Banbury to be at the heart of the motorsport valley and to benefit from the region's skilled workforce.

Chinese automotive manufacturer [NIO](#) has based its Formula E performance technology research centre and advanced engineering group at [Begbroke Science Park](#).

[Pursuit Racing](#) in Bicester is focused on preparing cars and drivers for historic racing, and has a racing simulator.

Formula E, the motorsport championship that uses only electric cars, is a testbed for electrification and new technologies that are being transferred into prototype vehicles and road cars and several practitioners have made Oxfordshire their base. [Prodrive](#), one of the world's most successful multi-disciplined motorsport businesses, includes Formula E in its portfolio.

[WAE](#) has created high performance batteries which are at the cutting edge of performance and management for Formula E. WAE's development work in motors and materials has found commercial applications in electrical vehicles from the Brompton E-bike to mining trucks as well as in solar-powered aircraft. Acquired by Fortescue

its headquarters to the Innovation Quarter at [Bicester Motion](#), where £200 million is being invested in building a mobility technology cluster to accommodate the brightest minds shaping the future of transportation.

[Prodrive Advanced Technology](#) has helped [Volta Trucks](#) create the [Volta Zero](#), the world's first purpose-built full-electric 16-tonne commercial vehicle. The project was completed from a clean sheet to a fully running demonstrator vehicle in just 10 months.

A [centre of excellence](#) for thermal propulsion, set up by the University of Oxford's engineering department in partnership with Bath University, Siemens and Jaguar Land Rover, is helping to make electric vehicles more efficient and affordable.

Tesla, one of the biggest names in passenger electric vehicles, has chosen Bicester for its first presence in Oxfordshire, taking a 24,000 sq ft facility in [Catalyst Bicester](#) technology cluster.

## Flight

Oxford is also set to become a lead centre for all-electric flight. [Volare](#) will use London Oxford Airport as launch operator for German aerospace company [Lilium](#), developer of the first all-electric vertical take-off and landing jet.

[Evolito](#) is using YASA's core technology to develop commercially viable electric flight. Airbus is investing \$50.5 million in new facilities at London Oxford Airport, and Oxford will also be at the centre of a proposed [drone superhighway](#).

# Electric vehicles

**Oxfordshire companies are contributing to a \$623 billion global market\* – and growing – market in electric vehicles.**

BMW initially chose the iconic Cowley plant in Oxford to make its first electric [MINI](#) and began manufacture in July 2019.

[Saietta](#) is a UK electric drive company that has developed the AFT – an innovative and patent pending axial flux based electric motor technology, that is low cost and built for mass market production. Saietta's AFT series modular design electric motors can power a wide variety of electric vehicles ranging from scooters, motorbikes, cars, marine engines through to larger vehicles. Saietta's initial focus will be mopeds, motorbikes, and small three and four wheeled vehicles such as tuk tuks, ATVs and last-mile delivery vehicles. It now uses its original low volume production site at Heyford Park as a light duty test centre, complementing its manufacturing site in Sunderland. In July 2021 it floated on the London Stock Exchange's AIM market.

[YASA](#) can produce up to 100,000 compact, lightweight, efficient and powerful electric motors every year at its manufacturing site in Kidlington. The motors have applications in automotive, industrial, marine and aerospace. YASA raised more than £46 million from investors after being spun out from the University of Oxford in 2009. In 2021 it was acquired by Mercedes-Benz. It now has its own spin-out, [Evolito](#), which is developing electric motor technology and IP in aerospace. It is moving



\*Source: www.statista.com/outlook

# Battery and energy technology

With 145 million electric vehicles projected to be on the roads by 2030, demand for ever-more efficient batteries is growing. Pioneering work in battery technology is putting Oxfordshire in the vanguard of breakthrough electrical storage solutions.

The [Culham Centre for Fusion Energy](#) and the [Faraday Institution](#) at Harwell are the wellsprings of the UK's expertise in energy.

At Harwell's [EnergyTec Cluster](#), 80 organisations and 1,400 people contribute to the UK's research into electrochemical energy storage. The [Faraday Battery Challenge](#), led by Innovate UK, is investing in research and innovation projects, and facilities, to drive the growth of a strong battery business in the UK. With an overall budget of £541 million, it aims to develop battery technologies that are cost-effective, high performing, longer range, faster charging, long-lasting safe and sustainable. It has supported innovators such as [Nextrode](#), a consortium of five university and six industry partners, led by the University of Oxford, a project to revolutionise the way battery electrodes are manufactured and to make EV batteries longer-range and more durable.

[Nexeon](#), based in Milton Park, is a world leader in engineered silicon materials for battery applications. Its Li-ion battery anode technology uses silicon instead of graphite, and enables a dramatic improvement in the performance of EV rechargeable battery technology. It has raised £30 million and has offices in Oxford and Yokohama, Japan, as well as Oxford.

[WAE](#), acquired by Fortescue Metals in 2022, is creating advanced battery plants for heavy vehicles in Kidlington and Banbury.

[Johnson Matthey](#) chose [Culham Science Centre](#) to support its Hydrogen Business Unit, which is accelerating the scale-up of its growing green hydrogen business and future battery materials technology.

[Rimac Energy](#), a specialist in Battery Energy Storage Systems (BESS) technology and part of Croatian company [Rimac Technology](#), chose Witney as its base.

Spanish company [Bold](#), which develops high-performance batteries to scale electrification technology for aerospace, motorsport and marine applications, chose Heyford Park Innovation Centre for its UK office.

*“The UK aspires to be a world leader in the development of new battery technologies in both the automotive and other energy storage sectors.”*

Ian Ellerington, Head of Technology Transfer, Faraday Institution.

## Skills

Whether you are setting up a new business or investing in Oxfordshire's mobility sector, you will find a skilled and experienced workforce and a large pool of talent to tap into.

- Around 4,000 of the 23,000 people employed in manufacturing in Oxfordshire are involved in the automotive sector
- Over 9,000 people are employed in the low carbon economy
- 51,000 net jobs have been created between 2011-2020
- 56% of the working age population is qualified to degree level or above

## Case study Engineering a future in e-drive

Melissa Chigubu was a degree apprentice specialising in automotive electric drive systems. She combined her work at the [GKN Innovation Centre](#) at Abingdon, south of Oxford, with studying at the University of Warwick. She grew her interest in engineering during a B-Tec engineering course in school and went on to complete a Level 3 apprenticeship, which led to a placement at GKN Automotive, a leader in drive system technologies.

Named in 2019 as one of the UK's top 50 women in engineering, Melissa has been a ground-breaker from the start. She was the first woman to complete the foundation course at the Advanced Manufacturing Training Centre and was one of the first wave of apprentices at the at the GKN Innovation Centre. She worked on all aspects of the electrical drive system such as designing, developing, electronics, software, vehicle



integration, and testing – her favourite part. “I really enjoy working in the testing department and believe that the work we do here at the innovation centre will help make the future electric by making electric engines more efficient and affordable.”

Passionate about engineering, she was an OxLEP Apprenticeship Ambassador, visiting schools in the county and inspiring more young people – girls in particular – to consider a career in engineering.



# A vibrant and diverse place to live

## 10 reasons to live in Oxfordshire

**Communities steeped in history:** The UNESCO World Heritage site at [Blenheim Palace](#), Oxford's dreaming spires, and Banbury Cross of nursery rhyme fame are just a few of the landmarks dotted around the county.

**Beautiful outdoor spaces:** Many towns and villages sit within the Cotswolds, North Wessex Downs and Chilterns Areas of Outstanding Natural Beauty. Rivers and canals add to the landscape as well as offering water-based activities.

**Supremely well connected:** The city of Oxford is an hour's drive from London and 45 minutes from [London Heathrow](#), the UK's largest airport. Trains run frequently from Oxford's two mainline stations, linking it to London in less than an hour as well as to Birmingham, and the north and the south coast.

**A fusion of traditional and modern living:** The historic streets of Oxford and thatched cottages in rural hamlets don't mean you have to live in the past - 97% of properties benefit from fibre broadband.

**Museums and culture:** A wide range of museums, galleries and theatres means you are never short of cultural opportunities to explore, including the [Ashmolean Museum](#) in Oxford and several National Trust and English Heritage properties.

**Retail therapy:** The new [Westgate Oxford](#) shopping centre and [Bicester Village](#) offer a wide range of global brands alongside exceptional dining and leisure facilities. Small independent traders can be found on many high streets, offering boutique products manufactured locally and from further afield.

**Excellent educational opportunities:** In addition to the two universities, there are many fantastic schools in the state and private sector, ensuring choice for all.

**Safe and welcoming communities:** Newcomers are welcomed by communities, with many people willing to offer help and advice, and the county also benefits from low levels of crime.

**Literary, TV and film connections:** Home to filming locations for productions including: [Inspector Morse](#), [Harry Potter](#), [His Dark Materials](#) and [Downton Abbey](#). The annual Oxford Literary Festival celebrates world-class writers in the city of Lewis Carroll, CS Lewis, JRR Tolkien and Phillip Pullman.

**Gastronomical delights:** From high end cuisine offered by Michelin starred restaurants to a pint of locally brewed Hooky Ale poured in the village pub, there is no shortage of places to eat and drink.



# Oxfordshire's commitment to low carbon

The city of Oxford is leading the way in encouraging low carbon transport. It was the first UK city to introduce a zero emission zone and aims to be a zero-carbon city by 2040. The City has the only licenced LEVC electric taxi service in the region and is converting its fleet of refuse collection vehicles to be electric, in a project funded in part by the £41 million Energy Superhub Oxford project.

Energy Superhub Oxford (ESO) is one of four demonstrator projects part-funded (£10 million) through the government's Prospering from the Energy Revolution Challenge. ESO showcases electric vehicle charging and smart energy management technologies and it has funded

six EVs for Oxford City Council to trial. Its partners include Invinity Energy Systems, Kensa Contracting, Habitat Energy, and Pivot Power. Fastned, a Dutch-owned network of low cost fast charging stations, chose Oxford as one of its earliest locations in the UK.

OxLEP, working with the University of Oxford, helped secure £600,000 of investment for The Energy Systems Accelerator (mini-TESA) a world-leading multi-disciplinary hub for energy transition and green innovation, based in central Oxford's new Innovation District.

The Bicester Motion Innovation Quarter, where £200 million is being invested in a mobility technology cluster, will establish a world-leading automotive engineering centre of excellence and offer new accommodation for international technology businesses.

The site will also be the location of the UK's first vertiport testbed operated by Skyports. It will include a passenger terminal, making the centre a critical facility for testing ground infrastructure and flight operations, and for enabling the next generation of electric, low-noise aviation in the UK.

# Comprehensive support for investors

## Support for businesses investing in Oxfordshire

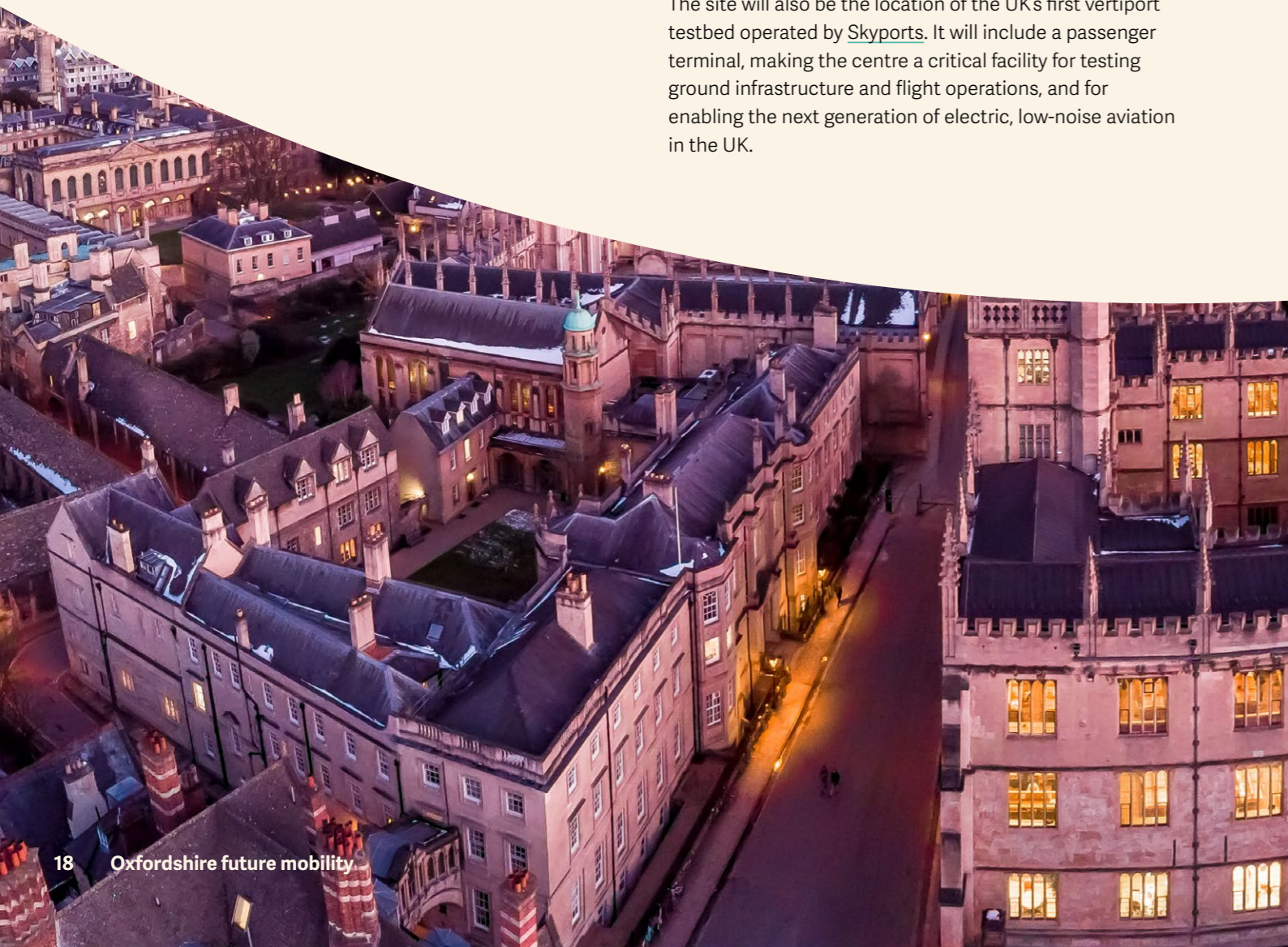
We provide comprehensive tailored assistance to help companies from across the world establish their new operation in the area.

Our Inward Investment team offers a range of support including:

- Identifying commercial premises and co-ordinating property viewings.
- Facilitating introductions to the University of Oxford and Oxford Brookes University.
- Making introductions to Oxfordshire's science and research facilities.

- Connecting businesses with professional service providers, business support organisations and sector specific networks.
- Offering assistance with graduate recruitment and training support including apprenticeships.
- Providing ongoing support to Oxfordshire-based companies.

The UK government has made an £18.5 million fund available to UK companies to strengthen the UK's connected and automated mobility supply chain





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