The Buckinghamshire Local Industrial Strategy – Stage 1

Introduction

Buckinghamshire is home to iconic business brands and locations: Pinewood, Silverstone, Stoke Mandeville and Westcott. Our ambition is to exploit these and our other nationally significant assets to increase the economic output of the county and contribute to tackling Britain's productivity challenge.

Major planned housing growth, new East-West road and rail connections, and significant investment across the Cambridge-Milton Keynes-Oxford Growth Corridor create the conditions for sustained economic growth in Buckinghamshire building on our rich entrepreneurial base and promote economic and transport links with London.

Our Local Industrial Strategy will set out the action we need to take to realise this ambition. It will also provide the basis for a new relationship with government and our neighbouring LEPs. This proposition is the first stage in preparing a Local Industrial Strategy (LIS) for Buckinghamshire.

The LIS is considered a local chapter of the National Industrial Strategy (NIS). Developed by BTVLEP, the LIS will chime with the five foundations of productivity and four grand challenges, be relevant for Buckinghamshire, and sit within the Cambridge-Milton Keynes-Oxford Growth Corridor.

In 2030, Buckinghamshire will be a place where:

- the rich tapestry of entrepreneurial businesses benefit from the strength of our iconic brands;
- testing, experimentation and commercialisation of new ideas happen;
- sustained investment in R&D and future technologies drive continuous improvements in productivity.

This will reflect over a decade of concerted action to mobilise our economic strengths and assets by:

- a revolution in education, training and skills development including action to attract, retain and develop the Buckinghamshire workforce;
- making Buckinghamshire an even better place to live and work, creating the buzz and liveability needed to foster entrepreneurialism and innovation;
- creating the conditions in which Buckinghamshire is a living lab testing new ideas and developing them as commercial applications and products.

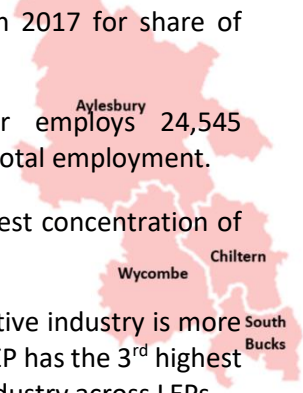
Our Proposition

This proposition is the first stage in preparing a Local Industrial Strategy (LIS) for Buckinghamshire based on a detailed analysis of evidence. It sets out the distinctive economic features of the BTVLEP area and starts to build up actions to drive levels of productivity, ensure resilience in its economy and support a strong start-up culture.

Ultimately, the LIS must be delivery focussed and enable the government and partners to distinguish between places. It will be a key strategic resource for Buckinghamshire, with contributions from central government as thinking evolves. It must be distinctive, focussing on the nationally and internationally significant assets of the place.

BUCKINGHAMSHIRE'S ECONOMY

- BTVLEP outstrips its regional comparators in terms of productivity. The LEP is the 3rd highest among the 38 LEPs, ranking 21st among the 168 NUTS3 regions in the UK and 5th highest outside London.
- Berkshire, Buckinghamshire and Oxfordshire were the NUTS2 area ranked top in Europe in 2017 for share of employment in high-tech sectors.
- Buckinghamshire's high-tech sector employs 24,545 people, which accounts for 10.2% of total employment.
- Buckinghamshire has the fourth highest concentration of high-tech sector out of all 38 LEPs.
- The share of employment in the creative industry is more than twice the LEP average and BTVLEP has the 3rd highest concentration of employees in this industry across LEPs.
- Programmers and software development professionals accounted for the highest proportion (4.2%) of job openings in Buckinghamshire in 2017.
- Stoke Mandeville Hospital was the first unit in the UK to achieve international accreditation for excellence in the care of adults and children with spinal cord injury.
- Buckinghamshire's gross disposable household income stood at a new high of £14.1bn in 2016. At £26,570, Buckinghamshire's per capita gross disposable household income (GDHI) is the 12th highest of the 179 NUTS 3 regions in the UK.



The Buckinghamshire LIS

Our emerging LIS is focusing in particular on five key economic assets that are nationally or globally significant. These assets contribute and have greater potential to contribute further to the delivery of productivity targets across the corridor, amounting to some 700,000 new jobs by 2050, increasing GVA by £163bn[1].

Our strategy will be delivery focussed, but it will be much more than a bidding document. The three phases to the co-production of the LIS include:

- **The Proposition,** including a draft economic vision, a draft set of core propositions relating to the economic assets and a narrative on the relationship between the county and the corridor.
- **The Prospectus,** including a refined vision; the core propositions; emerging thinking on action internationally, nationally, pan corridor and locally to deliver the propositions.
- **The LIS.**

The detail in the LIS will identify action to develop those priorities and secure maximum benefit from them for the national, corridor and local economies to raise productivity and support growth. The LIS will use an evidence-base to identify and bolster the economic strengths in Buckinghamshire that will contribute to this growth and set the actions needed to address any weaknesses.

The Buckinghamshire LIS will focus on how to strengthen and exploit BTVLEP's most important economic assets, assets that are distinctive to Buckinghamshire and are significant nationally and internationally. The LIS and the process by which it is produced will raise the profile of Buckinghamshire, local businesses and its economic assets and potential.

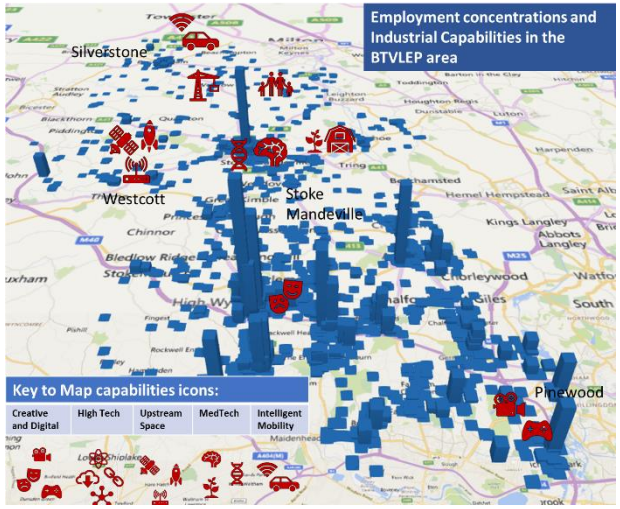
As a local chapter of the National Industrial Strategy, the LIS will set out the key drivers of Buckinghamshire's economy in 2030 and towards 2050. It will highlight the current economic capabilities, identify future growth opportunities and set out where investment is needed. Locally based but nationally and internationally significant assets will be exploited to deliver against productivity challenges and progress action towards the Grand Challenges.

It is intended that the Local Industrial Strategies will take a longer timeframe perspective than Strategic Economic Plans concentrating on actions to bring forward growth and enhanced collaboration between businesses, research organisations and the public sector at a BTVLEP and corridor level. This document will inform a deal based programme, incorporating funding opportunities from government and the private sector, and linking with place based strategies and the overall corridor vision.

The Buckinghamshire LIS will not replace the recently refreshed SEP and it will not seek to duplicate the housing growth strategy, corridor strategy

[1]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/598767/170308_Strategic_Planning_and_Governance_Discussion_paper_prepublication.pdf

or infrastructure plans. A key objective for the LIS will be to create the conditions in which the other strategies recognise, contribute and exploit Buckinghamshire's key economic assets.

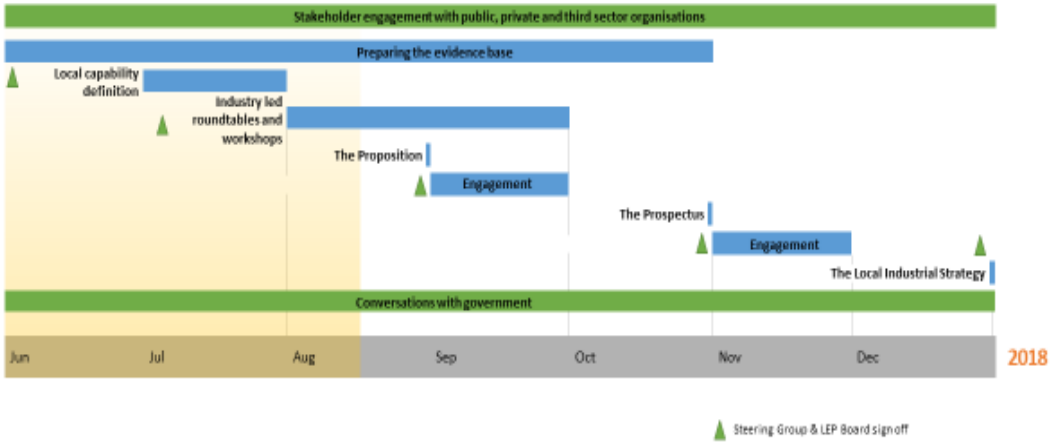


Reflecting the five foundations at a national level, the BTVLEP stakeholders have determined a set of drivers that better represent Buckinghamshire. These drivers link and underpin the nationally significant assets and opportunities to address the grand challenges. The actions that will be determined as a result of this work will deliver a step change in the local economy.

Strategic Growth Corridor Vision

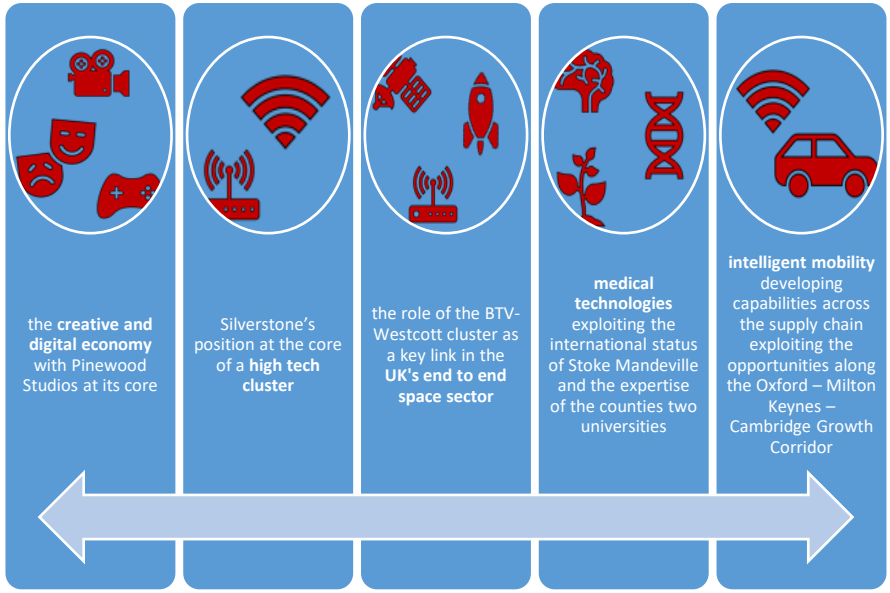
BTVLEP as part of the Cambridge-Milton Keynes-Oxford Growth Corridor, has been selected as a national pilot area for the development of the Local Industrial Strategy. The theme of this regional strategy is the development of the business ecosystem and the opportunities for developing the international capacity and export potential of businesses from across the Corridor. We see significant potential in the concept of the corridor and in working across wider economic areas such as this. This wider agglomeration of areas will be important for collaborating with central government.

A steering group comprising LEP Board members and other key stakeholders from local businesses and organisations is overseeing the work.



The Assets

The analysis of our evidence base, and further informed by early discussions about what those assets might be, have guided our focus to what we believe are internationally significant assets within the area. This proposition aims to highlight those assets and work with businesses, sector-led groups and local authorities to set out how local capabilities can be developed to deliver the future of the economy.



Creative & digital economy

Pinewood Creative Industries Cluster

Asset: Pinewood is renowned across the globe for excellence in state-of-the-art film and TV production. The Pinewood brand has itself been exported internationally including to studios in the United States and Malaysia. Pinewood offers the creative industries a unique complement of world-class facilities, services and expertise. The National Film and TV Centre School is also of national significance with the country's only 4K television studio and film studios.

Proposition: Maximise Pinewood's potential as a catalyst for new and growing highly innovative creative content and technology companies to support a cluster of national and international importance, well connected with other local and Cambridge-Milton Keynes-Oxford Growth Corridor strengths, including in high performance technologies, with a particular focus on attracting international investment and driving up exports.

BTV's share of employment in the creative industry is more than twice that of the LEP average and BTVLEP ranks 3rd/ 38 LEPs for proportion employed. Buckinghamshire is also more specialised in certain sub-sectors of the creative sector compared to the national level: music, performing and visual arts; film, TV, video, radio and photography; IT, software and computer services; publishing; and advertising and marketing.

Computer consultancy (by 5-digit SIC in the creative industry) has the largest portion of employees across BTVLEP. This sub-sector also appears in the high-tech sector classification. Digital technology is driving creative

growth, and the performance and growth of digital in Wycombe, Chiltern and South Bucks since 2010 is three times that of Aylesbury (28%, 29%, 33% compared to 10%), highlighting the need for infrastructure to enable the otherwise similar populations of skills and entrepreneurs to deliver sustainable growth across the BTV area.

As a key link to the international film and TV industry, gaming and other new-media sectors, Pinewood is in a key position to translate this greater enablement of digital and creative sectors onto a number of global industry stages, linking domestic innovation more closely to global demand markets. The ability to have closer proximity to higher numbers of creative innovators also helps secure and sustain the business environment for a key national industry asset.

We believe action is needed to:

- Maximise economic and business benefit of Pinewood's existing and future expansion plans with an opportunity for a connected Innovation Park capitalising on the increased access to an expanded Heathrow Airport and Western Rail Access to Heathrow.
- Build on the work done by StoryFutures (SF) project led by Royal Holloway College in collaboration with Pinewood-Shepperton, Sky VR, Heathrow and the National Film and TV School.
- Develop next-generation storytelling, producing compelling content for emerging creative technologies to exploit crossover of the UK's 2nd largest export (television) and the significant rise in Bucks of IT, software and computer services.
- Exploit connections with other technology strengths including High Performance Technologies where collaborative R&D in high value manufacturing has focused on ways to improve paediatric R&D and engagement with older population. This could include wholesale role out of digital connectivity (5G and/or ultra/ super-fast broadband).
- Develop a programme of investment in and around the High Wycombe Station Quarter as hub for creative industries reinterpreting historic industrial buildings and strengthening links with university and industry partners to help capitalise on the burgeoning e-games industry growth to support competition locations.
- Address barriers to growth in the sector identified in the Bazalgette Review: including planning policies and insufficient supply of skilled crews, which is a barrier to inward investment from the major studios.

High-Tech cluster

Silverstone Park Innovation Centre

Asset: The Silverstone Technology Cluster, with the Silverstone Park Innovation Centre at its heart, is a world-leading cluster of high-tech engineering businesses. Over 4,000 companies operating in precision engineering are based within a one-hour radius of Silverstone bringing benefits of co-location, networking and a specialist skills pool with strong local roots. These include the cluster of Formula 1 and other motorsport

businesses. The concentration of talent serves a wide variety of sectors reliant on state-of-the-art technologies, cutting edge design and manufacturing. These sectors include aerospace, automotive, defence, electronic sensors, marine medical devices and motorsport. The Silverstone University Technical College is a centre of excellence for young people seeking a career in high performance engineering.

Proposition: Emerging as a high-tech super cluster, this proposition aims to exploit Silverstone's international brand and world-leading motorsport and technology cluster to attract international investment and drive the growth of the wider high-performance technologies sector across the Corridor and nationally. It will be in a position to take advantage of opportunities presented by the further development of Silverstone to build a manufacturing base with linkages across the automotive and advanced engineering sectors and diversification into aerospace, space, defence, healthcare, materials and electronic sectors. This will include identifying and exploiting opportunities for innovation transfer and collaboration with other sectors that underpin the Grand Challenges including Future Mobility and Artificial Intelligence.

Enabling the growth of high value manufacturing is key to delivering the government's Industrial Strategy. There is potential to enable the further growth of this sector in Buckinghamshire, with a particular focus on high performance technologies. Buckinghamshire has a strong track record of growth in this sector having achieved the 6th highest proportional increase across all 38 LEPs and it is 4th best performing LEP in terms of the concentration of employment in high tech industries.

We believe action is needed to:

- Develop the innovation ecosystem to improve B2B connectivity between businesses and universities and other centres of research excellence.
- Deliver a unique new approach to skills provision in Buckinghamshire that brings all schools, FE and HE providers together with business at scale. This would include new schools and academies focusing on practical tech and STEM skills, majoring on employer involvement, a year in trade, work experience etc. but be imbedded within mainstream provision.
- Develop the role of Aylesbury Vale Enterprise Zone in building sector assets and supply chains including a network of High Tech Super Clusters linked to the capabilities of available at Silverstone Park advancing the development of over 300,000 sq. ft. of development space within the Enterprise Zone site.
- Enable foreign direct investment in new technologies through international trade links, capitalising on the strong brand of Silverstone.
- Develop a vehicle for opportunities for knowledge sharing and spill overs to support and promote commercialisation of ideas.

End to End Space Sector

Westcott Venture Park – Space

Asset: Westcott Venture Park, formerly the Rocket Propulsion Establishment, is a prime growth opportunity for UK space propulsion. The site has a growing nucleus of space-based activities and forms part of a much wider base of Space focused companies within Buckinghamshire

and further benefits from proximity to Harwell Space Catapult, providing local and complimentary capabilities to the research and development activities undertaken at the Catapult. The UK Space Agency is investing over £4m in a National Propulsion Test Facility at Westcott. Westcott Venture Park has a heritage of innovation in the sector, with several globally significant upstream capabilities recently relocating there, and further expressions of interest leading to a requirement to expand the facilities at the site.

The facility will allow UK companies, UK space organisations and academia to test and develop space propulsion engines. Buckinghamshire Thames Valley LEP are investing their own funding in an Innovation / Incubation Centre and a skills training hub – both of which will support the space sector.

Proposition and evidence: Upstream Space is a nationally significant sector, underpinning national infrastructure security and 'downstream' value growth chains across nearly all sectors.

Upstream is primarily a manufacturing sector, and the BTVLEP has a location quotient of 2 with respect to the national sector in terms of this type of manufacturing employment, and a location quotient of 2.89 for Upstream Space Innovation investment as a further specialism within that. A £26.3bn expansion in upstream to reach £40bn by 2035 will yield £250bn in downstream value chains, generating an annual £47.5bn return to the exchequer.

To maximise the economic benefit of the investment in the National Propulsion Test Facility, 5G Catapult centre and Innovation/Incubation Centre at Westcott with potential for cross-over with other sectoral strengths including future mobility technologies. The national centre and business facilities should act as a catalyst for inward investment, innovation and research collaboration with universities and other centres of research excellence across the Corridor.

This proposition will complete Westcott's role as the strategic location to facilitate cross over and new business models (integrate up and downstream) and translate into commercial value providing a formal network link between downstream entrepreneurs and upstream capabilities.

We believe action is needed to:

- Develop an in-orbit service demonstration centre at the Westcott site, the first in the country, to harness SME innovation, sector collaboration and international investment.
- Formalise the BTV-Westcott cluster as a key link in the UK space supply chain with internationally unique capabilities linked to early stage propulsion testing & drone applications, providing resilience for the UK Space sector in light of increasing international competition, establishing special interest groups to drive opportunities.
- Create a dedicated education centre supporting corridor level STEM and degree level apprenticeships – a space academy – to not only keep pace with 'augmented' sector growth rate but also drive talent through specialist PhD programmes such as a research-based Space Propulsion Partnership.
- Support the benefit from Aylesbury Vale EZ for future business growth, attracting inward investment, and increasing export opportunities and capitalising on the

status of the site as the chosen location for the ground-breaking Reaction Engines Sabre Test Facility.

- Exploit benefits of 5G Catapult centre for innovative, high-growth SMEs, linking AI and CAV testing, trialling, and capitalising on 'beyond-line of sight drone testing' capability for applications within new urban settlements, rural communities and in orbit operations.

- Support through the Westcott development plan access to clean energy 'fuel cell testing' for LCV development building on the sites current status as the first carbon positive business park within the UK.

Revolutionising Health and Care – Medical technology & AI

Emerging opportunities within the sector

Assets: Stoke Mandeville is the UK's national spinal centre. There is a medtech innovation hub at Bucks New University and the county is home to the first private medical school at the University of Buckingham. Buckinghamshire is in the first wave of 8 Integrated Care Systems which will bring forward care improvement locally. The planned major housing growth, in the area around Stoke Mandeville at Aylesbury Vale Garden Town, provides massive living lab opportunities in new med-tech.

Proposition: To exploit these assets to enable the creation and growth of businesses to support the transformation of health and care in the context of the med tech capabilities across the corridor, the ageing society and significant housing growth.

The UK, in common with most other countries, faces a major challenge in putting the health and care system on a sustainable footing. Existing new technologies have a proven capacity to make a major contribution to meeting this challenge, but the health and care system is poor at adopting these technologies at the speed that is required.

In Buckinghamshire, a combination of developments creates the opportunity to accelerate the adoption of these technologies and commercialise to international levels. The county is at the forefront of the development of integrated care systems. Stoke Mandeville is committed to developing a more entrepreneurial approach and the Buckinghamshire Research and Innovation Partnership is well placed to bring these strands together with local businesses and exploit the expertise across the corridor.

The BTVLEP area is underpinned by key capabilities that can address the challenge of application of new technology within the sector:

- The ability to deliver innovation supporting MedTech applications through the commercialisation of horizontal application of technology already developed in the motorsport (HPT) industry, digital-AI (for example current AVDC work with Alexa), and bespoke additive manufacturing.

- Through the commissioning of innovation at scale to address ageing population and other growing population

needs. Stoke Mandeville has a heritage legacy of pioneering innovative and technology-based approaches and the Buckinghamshire Research and Innovation Partnership has the institutional capability to draw together these multiple strands.

- Through improved approaches to skills delivery at scale to create a productivity revolution in the delivery of health and social care (i.e. utilising new skills and technologies in combination).

We believe action is needed to:

- Expand the capacity to support business spin-offers from the Health Care Trust and the Universities.
- Improve quality HE/research input to develop some 'state of the art' thinking around commercialisation and taking products to market.
- Utilise heritage as the birthplace of the Paralympic Movement to position Buckinghamshire as the "medical tech adoption accelerator" with dedicated pathways for at scale product testing and dedicated medical device regulation degree apprenticeship programmes.
- Expand the UK's first Independent Medical School at the University of Buckingham and develop a cross curricular programme looking at the use of artificial intelligence in healthcare applications.
- Nurture collaboration between businesses and health and care providers to support the operation of the Integrated Care System and the use of technology in adult social care.
- Exploit the opportunities offered by housing growth in the Aylesbury Garden Town and surrounds to test the application of new technologies to provide care in people's homes.
- Shift activity from telehealth and telecare to connected digital home, adapting the 'public sector' health and social care sector, particularly within the Aylesbury Garden Town Programme and intervening in the vocational skills sector rather than stimulating research into BIM, Smart homes, connected digital home technologies etc.

Future transport

Corridor-wide ambition

Assets: Buckinghamshire's strengths in high-performance technologies - including the Silverstone Technology Cluster and the motorsport cluster, the 5G Catapult centre at Westcott and proximity to Milton Keynes as a potential centre for 'Smart, Shared, Sustainable Mobility' - mean that it is well-positioned to make a major contribution to the Future Mobility Grand Challenge. Major developments in Aylesbury Vale Garden Town could also provide an ideal opportunity for trialling and rollout of new technology including CAVs in partnership with MK.

Proposition: With significant investment in transformational infrastructure across BTVLEP area, local capabilities have the ability to use this opportunity for future mobility and transport solutions. Innovation capabilities around Lithium Ion battery development supported by investment through Innovate UK exist in the BTVLEP area. The forecast reduction in the energy-unit-costs of Lithium Ion battery technology is set

to have a significant effect in terms of the international and global demand. The 85% reduction in the unit cost of energy from batteries 2010 to 2030 is also set to drive a comparable increase in technological penetration from 3% to 27% of the global private car market by 2030, with the EU and UK set to lead demand (and therefore achieve higher penetration rates earlier).

Innovation capabilities around Hydrogen Fuel Cell testing and development have also been identified within the Westcott Business Plan – making BTVLEP one of the only locations in the UK where the final stages of development and pre-market safety testing can be done for this technology. This in turn cross supports the viability of the Upstream space business plan.

The 5G centre further supports the potential for drone testing, and supportive planning uses are in place to enable this. The commercial viability of final mile drone delivery increases as population density lowers for single package deliveries, meaning that BTV has the place, infrastructure people and ideas to pioneer this innovation sector. In turn, this can create productivity impacts and a step change in growth for logistics, home care, pharmaceuticals and potentially a range of other sectors.

Finally, the design-test-and-build capabilities that exist at Silverstone Motorsport cluster, and the proximity to the national Transport Catapult mean that the BTVLEP area has the potential to lead the trialling and exploration, with several current BTVLEP innovation activities also relating to developing advanced lightweight materials and composites, integration of transport systems, and promotion of electric charging points.

Position Buckinghamshire, with Corridor partners, as a main centre for innovation, testing and trialling of technologies, infrastructure and the regulation for the development and roll-out of approaches to future mobility. Maximising economic, social and business benefits from being at the forefront of these developments will be central to plans.

We believe action is needed to:

- Develop a blueprint with local capabilities to explore convergence between future transport and future energy systems, use of data to drive innovation, mobility as a service in new housing developments through sub-regional corridor partners.
- Bring together capabilities including Silverstone and Westcott (potential for spin-off – e.g. Formula E and hydrogen technology).
- Utilise the corridors linking new rail and road national infrastructure schemes (HS2/East West Rail/Expressway) together with 5G capabilities to develop future transport corridors for freight and wider commuter use.
- Link SME innovative capabilities with universities and larger businesses such as BMW.
- Explore specifics of demand for bespoke engineering space (in northern Aylesbury triangle) from e.g. BMW-MINI; Nissan; key engineering R&D across the corridor; battery technology/ knowledge sharing; and Maas.

Delivering our aspirations

In order for these assets to maximise their potential and deliver against productivity targets for UK Plc, priorities and actions are being formed through consultation with sector-led groups. The outcome of these actions will ensure that Buckinghamshire will:

- Be established as the next generation of living lab, going beyond a testing facility to integrate a BTVLEP-wide testing and experimenting bed.
- Use disruptive technologies and practices to improve private sector investment in start-ups to create horizontal and vertical supply chains.
- Reimagine and reinvigorate key locations to ensure they are fit to inspire the next generation of entrepreneurs, a young and agile workforce as well as opportunities for businesses across BTVLEP.
- Ensure that disruptive technologies and companies are given the space to trial and invest in new products and services.
- Increase the importance of investment in R&D and improve collaboration with surrounding HE and FE to deliver state of the art facilities.

We wish to further test these emerging actions with stakeholders to ensure the actions will achieve the overall outcomes of the LIS. Through this process, BTVLEP will use the LIS as a springboard to launch innovation and attract and retain the best talent.

We welcome input from wider stakeholders and are inviting comment through this process.

To contribute to the development of the Local Industrial Strategy for BTVLEP, please contact:

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