



# Essex and Hertfordshire Digital Innovation Zone

A local digital strategy to secure future prosperity  
and health



This strategy was produced by Arup in conjunction with the Essex and Herts Digital innovation Zone and its partners

# ARUP

## About Arup

Arup is an independent consultancy providing professional services in management, planning, design and engineering. As a global firm Arup draws on the skills and expertise of nearly 14,000 consultants.

Arup's dedication to exploring innovative strategies and looking beyond the constraints of individual specialisms allows the firm to deliver holistic, multidisciplinary solutions for clients.

## About Essex & Herts Digital Innovation Zone (DIZ)

The West Essex and Eastern Hertfordshire Digital Innovation Zone Board was established by 10 partner organisations from top and second tier local government, social care as well as local acute and strategic health providers, and the private sector.

The DIZ covers a geography that contains around 49,000 businesses and over 454,000 residents in over 212,000 households. Having expanded its membership to ensure a wider perspective it now welcomes voluntary sector and further and higher education sector representatives onto its board.

e+h digital Inn0vation zone

The following organisations are represented on the board of the Essex and Herts Digital Innovation Zone:



# Foreword

The Digital revolution we are told will be the second industrial revolution, shaping and restructuring all aspects of our lives individually and collectively.

It will offer many opportunities but also pose many challenges, to the nature of work, the viability of business and employment models, the way we deliver services and the way we live our lives.

In many ways the impact of the initial wave of the digital revolution is apparent to us all, but what are the more profound changes to come and how can we prepare to maximise the benefits and plan for and soften the harsher impacts of disruption?

This strategy has been commissioned jointly, by 11 different organisations from business, health, education, councils and the voluntary and community sector, each with a key role in making sure that our place, west Essex and eastern Hertfordshire, is ready to respond effectively. This geography crosses many borders, and the partnership crosses a number of sectors but it has in many ways a common business and health economy.

Partners had a number of key questions generally around 'what digital success could look like for a place like ours' that isn't a 'Smart City' and would it be better, given the potential dividends of this technology, to approach this together rather than separately?

This strategy sets out to begin to answer a number of specific questions:

- What does our economy currently look like and how exposed might it be to change and how might we future proof our economic prosperity?
- Digital relies on infrastructure, so how are we currently placed on speed and connectivity and how might we better utilise our current assets to lever in the additional investment from the private sector and/or government to 'go further, faster'?
- Can we work better together to use digital to deliver more public services in a joined up way that costs less and gives more, or should we carry on as we are commissioning individual approaches?

This document goes some way to identifying the changes, and suggesting a way forward, but represents the beginning not the end of the process. There remains much work to be done to make the aspirations of partners and the delivery on the challenges a reality.



Cllr Alan Lion  
Epping Forest District Council  
Chair of the DIZ

Clare Morris

Rethink Partners and  
Uttlesford Health and Wellbeing Board

Vice Chair



Cllr Gagan Mohindra  
Essex County Council  
Vice Chair



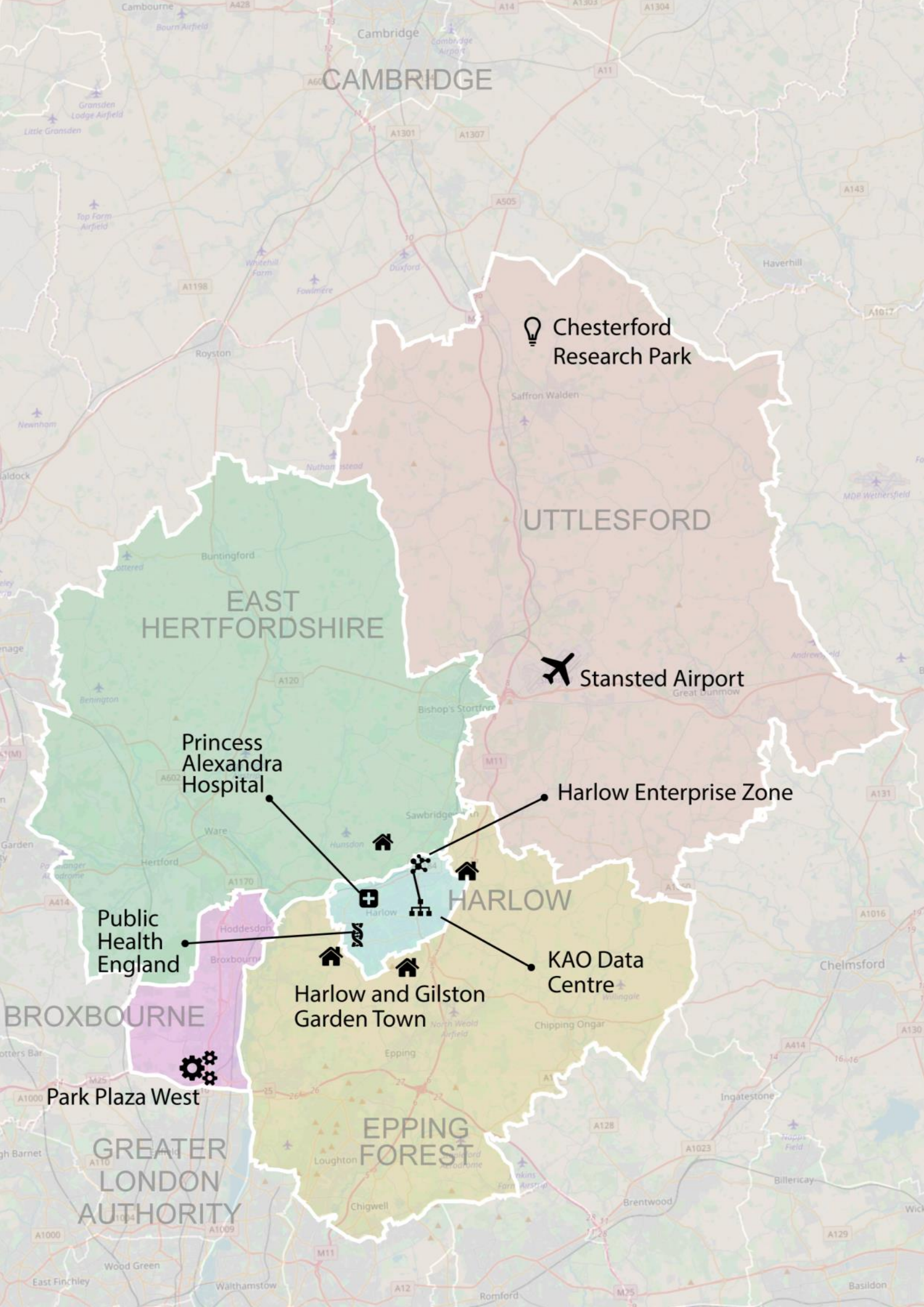
Cllr Linda Haysey

East Hertfordshire District Council

Vice Chair







CAMBRIDGE

💡 Chesterford Research Park

UTTLESFORD

EAST HERTFORDSHIRE

✈️ Stansted Airport

Princess Alexandra Hospital

Harlow Enterprise Zone

Public Health England

Harlow and Gilston Garden Town

KAO Data Centre

BROXBOURNE

⚙️ Park Plaza West

GREATER LONDON AUTHORITY

EPHING FOREST

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# Executive Summary

The world is in the midst of an information revolution many decades long and which, whilst it has sped up notably in the last decade, may still be in its relatively early stages. The volume of digital data in the world surpassed non-digital data around 2002, and is now doubling roughly every three years - in other words, as much data was produced in the last three years as in the entire previous history of the human race.

However, the consequences of this ongoing exponential growth – and of the technological developments it enables, such as the phenomenal recent advances in Artificial Intelligence – and its effect on education, jobs and employment are still far from certain.

Challenging as these changes will be, however, we believe we have a unique and exciting opportunity to capitalise on them through the Essex-Herts Digital Innovation Zone. We have launched this new partnership to develop West Essex and East Hertfordshire as the UK's premier Digital Innovation Zone (DIZ). As an area with a mix of urban and rural areas, with large and small businesses, the DIZ is looking to develop approaches and deliverables that translate the 'Smart City' approach from cities and deploy it in a 'Smart Place' area that reflects the wider UK.

Through its partnership approach, the DIZ is in a unique position to enable the region to seize the opportunities the digital economy presents to the UK and to tackle those issues that are common across the country – it is a true cross-border, cross-sector, multi-agency collaboration. It aims to bridge the needs and aspirations of its members and coordinate action to harness digital technology for the benefit of the economy and society and the transformation of public services.

The DIZ is an area of scale, with around 500,000 residents and 50,000 businesses, with vibrant and successful local economies concerned about future proofing economic success. The challenge to deliver better with less in health and social care is clearly a major priority for the DIZ. We have already received heavy investment in local infrastructure and amenities, including:

- £1.5bn purchase of Stansted Airport
- £200m investment in growth
- £xxm investment in Essex Superfast
- £200m from Kao Data at Harlow Enterprise Zone
- £400m from Public Health England
- £500m from Princess Alexandra Hospital, creating a real opportunity to redefine the delivery of health and care services transforming public services
- £xm Gigaclear investment in Hertfordshire and Essex

Through these investments, the DIZ aspires to advance digital innovation, maximising benefits to local people.

This partnership will need to work towards achieving more coherent leadership and coordination of activity across public and private sectors. By establishing this cross-border partnership, we can better leverage investments happening in any part of the partnership. We will have the opportunity to buy collectively to lever in significant additional private technology investment from infrastructure providers. We will also have a stronger voice and capability to partner with central government, LEPs and others to champion 'smart places' approaches.

With the exciting plans to deliver up to xx,000 new homes, particularly in the Harlow and Gilston Garden Town project, we also have the opportunity to harness place-making and underpin digital approaches to creating better, more vibrant places that are future proofed from inception

## The DIZ Vision

**'To be the best connected place of its type in the UK. A place of innovation and inclusion. A place where benefits of digital investment in the public and private sectors are harnessed, maximised and shared across residents, commuters, businesses and borders.'**

The DIZ Partnership was formed to fulfil this single vision – to use digital technologies and the growth of the digital economy to create a better place to live, work, study and do business.



The DIZ has the opportunity to transform the physical, economic and social environment – to provide a platform for business and society to grow and prosper together in a changing technological world. By considering the following four key contexts within which these changes are taking place, we will ensure a long-term strategy that puts the DIZ at the forefront of the digital transformation:

- A digital economy ripe for growth and innovation
- A digital built environment in which homes, offices, public spaces, and transport fuse physical and digital technologies to enable a better quality of life
- Digital public services which use technology to deliver improved outcomes at lower cost
- Digital communities in which local residents have the skills to succeed in a digital world

### Location advantage

The DIZ is situated between two international digital innovation powerhouses, London and Cambridge. This is a major advantage to be fully exploited for the benefit of the DIZ. This proximity to the businesses, labour markets and investors of these cities provides a strong base for growing the capacity for digital innovation in the region.

### Key goals for the DIZ

We have set ourselves the ambition of laying down seven 'digital foundations' to help us achieve our vision. Each of these will be underpinned by a game-changing 'big idea' and a series of strategic and operational recommendations that will drive the work programme of the DIZ over the next few years. These foundations and the recommendations are driven by an overarching aim that the strategy should:

'Help our resident and businesses to help themselves'

'Help those residents and businesses to help others'

'Help us to help those residents and businesses'

### 1. Establish the Essex-Herts DIZ brand:

Our first priority is to establish a strong brand for the Essex-Herts DIZ. Our area is unique – we represent the

urban-rural mix of England, and our brand needs to reflect that. This could be delivered through:

- **Big Idea 1: Identifying a prominent figurehead from the private sector to champion the DIZ at national level.**
- Selecting a memorable name that describes our offer most accurately.
- Creating a marketing strategy that maintains and spreads the DIZ brand and focuses on the identity, visibility and positioning of the DIZ.
- Securing pathfinder or beacon status for the DIZ for government or private sector innovation platforms
- Targeting the marketing of the DIZ to the digital businesses and tech hubs of Cambridge and London
- Branding existing physical spaces as innovation hubs that will be the anchor of the DIZ

### 2. Create leadership in HealthTech and AgriTech innovation:

Our ambition is to become a nationally and internationally recognised leader in Healthtech and AgriTech innovation and enterprise (including the health and social care sectors). With world leading science taking place at Public Health England; the Anglia Ruskin MedTech Innovation Centre on the Harlow Science Park and the M I I Health Enterprise Forum this could be delivered through:

- **Big Idea 2: Establishing an innovation board as an umbrella organisation that will integrate and focus the region's capacity to incubate entrepreneurs and support small businesses within our focus sectors.**
- Monitoring performance and uptake from incubation space
- Mapping and promoting the DIZ's capabilities for supporting start-up businesses and innovation
- Building closer links with Public Health England and Princess Alexandra Hospital to ensure the opportunities emerging from their investments

# Executive Summary...(continued)

translate into a real return for local people

- Forming an open innovation programme around the DIZ investment fund
- Undertaking focused innovation work with local employers in key sectors eg. medtech and agritech
- Making connections and building partnerships with organisations that are willing to test innovations eg. hospitals, CCG, producers

### 3. Engage and invigorate the public sector:

The DIZ would like to see each authority within the region embed digital in its day-to-day work and service delivery. This could be delivered through:

- **Big Idea 3: Developing a Digital Leaders programme and establishing a priority list of upcoming procurements**
- Leading by example, ensuring opportunities for digital approaches are communicated and case studies are shared across departments, organisations and councils *and the health and voluntary sectors*
- Demonstrating leadership and capacity to drive the DIZ, the strategy and the recommendations forward
- Ensure 'digital delivery' is a key item in partners' corporate and strategic visions
- Reviewing the governance and structure of the DIZ to give clarity, transparency and quick decision-making
- Setting aside budgets for trialling innovations outside the normal procurement route
- Develop an overarching Data Strategy
- Create a common framework for measuring the impacts of digital projects

### 4. Harness the power of social innovation to increase digital inclusion and citizen participation:

The Essex-Herts DIZ aims to make the region a great place for people to live, work, study and do business. It is therefore crucial to engage with our residents to

understand how they would like to benefit from our increased focus on digital approaches and technology. The DIZ will first strive to achieve digital inclusion by addressing infrastructure, equipment and skills disparities. This could be delivered through:

- **Big Idea 4: Enabling the "unusual suspects" to shape the DIZ by creating a civic innovation programme and developing a programme to help people use digital tools in their daily lives**
- Adopting a DIZ-wide commitment that 'No-one is left behind' by the digital revolution.
- Seeking additional DIZ Board membership from organisations promoting communities across the DIZ.
- Pooling and sharing examples of best practice in citizen orientated solutions
- Exploring ways to support citizens with low levels of digital knowledge and capabilities to both strengthen engagement and improve digital capability
- Working with businesses across the DIZ to better leverage private sector digital education programmes (e.g. Barclays Digital Eagles) into other skills, training and community-based programmes
- Work with key local service providers to ensure the return on investment (including social) is maximised for local communities
- Conducting a clear and independent survey of residents use and attitudes towards emerging technology and digital service delivery
- Addressing public concerns around such topics as data security, privacy and digital impacts
- Upskilling and resourcing the voluntary and community sector providers to deliver digital initiatives
- Ensuring digital connectivity is a key bridge to social inclusion

### 5. Futureproof the local economy by upskilling for the future of jobs:



The future of jobs will be affected by new technology and the associated economic, legal and social structures that will change with technology. The long-term success of the DIZ relies on a skilled, adaptable workforce, and this starts with schools and training programmes. This could be delivered through:

- **Big Idea 5: Coordinating a region-wide ‘skills-for-the-future’ agenda**
- Creating an awareness programme for businesses most likely to be affected by digital change and automation
- Maintain the ‘thought leadership’ role of the DIZ through its series of Smart Place Seminars
- Providing a brokering scheme to meet bespoke demand for digital skills
- Developing a more innovative apprenticeship offer in conjunction with new providers
- Creating a comprehensive viable digital pathway across the region’s education institutions for all needs
- Working to expand and coordinate the digital skills offer including Higher, Further and School Education, skills for life and digital industry skills
- Achieving ‘Digital Beacon’ status for the DIZ colleges.
- Developing digital careers advice and pathways in schools
- Developing a strong educational and training component into the Local Industrial Strategy (LIS) to build in the link between educational success and economic success.

## 6. Leverage local assets to attract investment in digital infrastructure:

To be competitive, the DIZ will need competitive digital infrastructure, and we will position the region to attract the investment needed to provide that infrastructure. This could be delivered through:

- **Big Idea 6: Coordinating a future timeline of infrastructure and property investment opportunities**

- Mapping out the DIZ’s physical and digital assets to evolve and innovate the way they are used
- Working to understand the value and scale of the public sector asset base to leverage in private sector investment
- Clearly committing to sharing information on planned infrastructure development to facilitate better coordination across public and private sector organisations
- Jointly targeting central government funding streams that meet the strategic aims of the DIZ e.g Local Full Fibre Network and 5G Testbeds and Trials programmes
- Establishing a joint procurement approach to combine the purchasing power of the various public sector organisations of the DIZ
- Working with BT Openreach, Virgin Media, Gigaclear and other providers to make the case for the DIZ to develop from “superfast” to 100% ‘fibre to the premises’ (FTTP) infrastructure
- Creating consistent policies that will attract private sector digital infrastructure and network investment eg. automatic installation of ducting in new roadworks
- Leveraging existing and new development opportunities to improve the digital infrastructure
- Continuing commitment from local authorities to drive up and promote the 100% fibre to the premises gigabit connectivity

## 7. Harness place-making in new developments and existing centres:

We will harness quality places that retain and attract skilled and talented people and businesses by meeting their needs, including community cohesion, access to education, the natural environment and cultural activity, retail, food and drink offers. This could be delivered through:

- **Big Idea 7: Integrating the DIZ strategy into**

# Executive Summary...(continued)

## Local plans to support the creation of places where people want to live, work and play.

- Ensuring local planning policies and decisions support place-making outcomes
- Using local authority assets to improve quality of place and stimulate regeneration
- Sponsoring studies to explore opportunities for a digital-ready or pathfinder new town / garden town
- Exploring opportunities to put people at the heart of the design process recognising they are the end users of developments and services
- Ensuring delivery of services is customer focused as well as delivering cost reductions
- Investing in digital technology to improve the ability of the community to engage in the planning process and shape the development outcomes in their area
- Encouraging local authorities to be leaders in demonstrating how digital technology can enable better economic and social outcomes
- Reviewing how planning tools can expedite and increase certainty of planning decisions for connectivity infrastructure

## Governance and Leadership

One of the DIZ's strongest characteristics is the unique consortium of partners and stakeholders it represents.

This inclusive approach should be maintained and

expanded but with clear responsibility and accountability for important work streams identified.

Successful execution of this strategy will depend on the implementation of a substantial shared delivery programme that meets the objectives of all of the DIZ members.

The design of that programme and its governance will need to recognise the collaboration, co-investment and co-management needed between public and private sector stakeholders, and the relationship between collective goals and individual objectives.

Each partner is likely from time to time to be asked to contribute and prioritise resources to initiatives based on those shared goals, and they are only likely to do so if they are fully committed to the DIZ, and see evidence that progress towards achieving its goals delivers the benefits they individually expect.

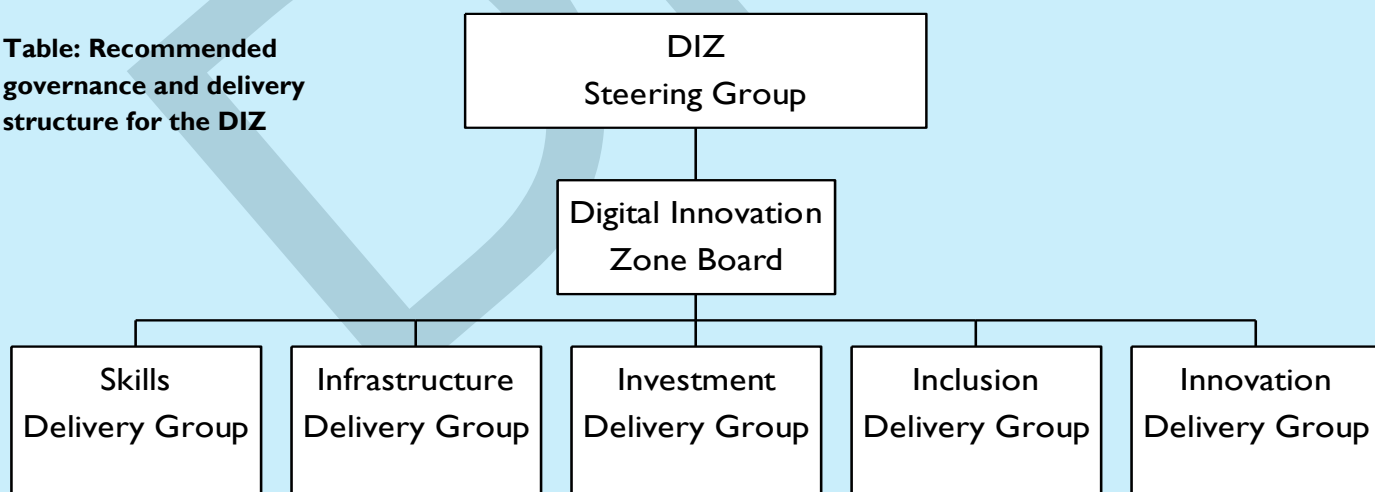
The nature of the governance and collaboration will follow from the initiatives contained in this strategy, and the infrastructure, services, institutions and funding involved.

## Resourcing the DIZ

Delivering the aspirations of the DIZ will require resources and investment. Whilst national and local public sector finances are under pressure, there remain sources of funding to support digital initiatives – and our recommendations and 'Big Ideas' are intended to access those sources. These include:

- Strategic Government programmes such as the 5G

**Table: Recommended governance and delivery structure for the DIZ**



Testbeds and Trials, Local Full Fibre Networks (LFFN) and Local Digital Fund programmes; and,

- Direct private sector investment such as business, infrastructure and property investors

## Conclusions

The strategy has been prepared in collaboration with our member organisations and key partners, and it reflects the priorities and goals of each member as well as the DIZ partnership as a whole. We have signed up to a common digital vision, and our first step will be to set up a delivery body to drive and oversee strategy implementation.

This delivery body and the DIZ partners will create a roadmap for achieving each of the goals set out in our strategy and commit resources to delivering the recommendations put forward in this document.

We need to leverage our location and develop sector expertise and specialisms to differentiate ourselves regionally and build a recognisable and distinguishable brand. Our proximity to London and Cambridge means that we have cutting edge businesses and access to finance and networks on our doorstep. Being a part of the London-Stansed-Cambridge Corridor also means that we have good transport and digital connectivity.

However, proximity to London and Cambridge also brings along competition, both for businesses and talent. We need to therefore ensure that we develop specialist focus areas within the DIZ that differentiate us but also complement the strengths of our neighbours.

The UK Government has committed to developing a world-leading digital economy and we will ensure that the DIZ Partnership collaborates with national government to achieve this. We will also lobby Government to provide better support to 'smart places' not just 'smart cities' and offer incentives to areas like ours to test new digital approaches and technologies to help us achieve our goals.

By promoting our brand and working closely with DCMS and other relevant government departments, we will ensure that the DIZ takes a prominent place on the national stage as a great smart place to live, work, study and do business in.



# Methodology - How the strategy was produced

The DIZ is a complex cross-border, multi-agency partnership and creating a strategy for it has been an equally complex process – understanding and aligning the priorities of each stakeholder, gathering data at the right geographic level to perform the economic analysis, and finally producing a strategy that is ambitious and representative of all DIZ members' challenges and goals.

Our objective has been to build the narrative, challenges and interventions that comprise the strategy not only from those themes that are common; but by concentrating on those that are best addressed through a collaborative approach that exploits the partnership's breadth and scale.

To ensure the robustness of the strategy, we commissioned Arup to perform extensive research and analysis using four approaches:

### 1. Literature review

This baseline research phase included a review of over 60 key documents and strategies from all DIZ partners to analyse the key focus areas and priorities of each authority and member organisation, as well as each one's strengths and aspirations around harnessing the growth potential of its digital industries.

### 2. Stakeholder interviews

After distilling the information from the literature review, we performed over 30 interviews with representatives from all DIZ member organisations as well as local businesses to discuss the following topics:

- Key strengths of the DIZ
- Challenges around implementing digital approaches and technologies
- The aspirations for the DIZ (from each partner's perspective as well as collectively)

- Barriers to achieving these aspirations
- Key next steps that each partners is willing to take to make the DIZ a reality

### 3. Symposium

We brought together over 70 key stakeholders for a one day symposium at Harlow College's iHub on 15 June 2018. In this session we presented the progress the date, including the findings from the literature review and the stakeholder interviews.

Arup's Digital Property and Cities Lead Rick Robinson also gave an inspirational talk on how technology is changing the way we live and what the future holds in areas such as 5G, robotics, artificial intelligence, internet of things and autonomous vehicles. This helped set the scene and help participants think through how the DIZ could meet current and future needs.

We also used relevant national and global examples, alongside the individual knowledge of participants, to stimulate thinking and develop opportunities to fill the gaps identified. Participants were then split into seven roundtable discussion groups to discuss the key opportunities identified for making the DIZ a reality and addressing its key challenges.

### 4. Economic analysis

Arup's Economics team performed a rigorous economic analysis (summarised in Appendix A) that underpins the DIZ Strategy. It represents a targeted analysis of the key economic, technological and social factors that both define the scope of the DIZ strategy and inform the key decisions the Strategy proposes.

# Structure of the Strategy

The strategy is structured as follows:

### Foreword and Executive Summary

Introducing the Digital Innovation Zone and this strategy, and providing a high-level summary of its findings and recommendations.

### 1. Introducing the Strategy:

Explaining the structure of the strategy and the approach taken to producing the strategy, including both evidence gathering and stakeholder engagement.

### 2. Global and Local Context

Presenting the global economic and technological background to the strategy, and why it is needed; and the reasons for a geographic region such as the DIZ to act collaboratively at a time when the focus of much economic and digital activity is on the world's larger cities. Also, introducing and describing the Essex-Herts Digital Innovation Zone, and presenting an analysis of its strengths and challenges performed as part of this strategy.

### 3. Addressing Our Challenges - Foundations and Big Ideas:

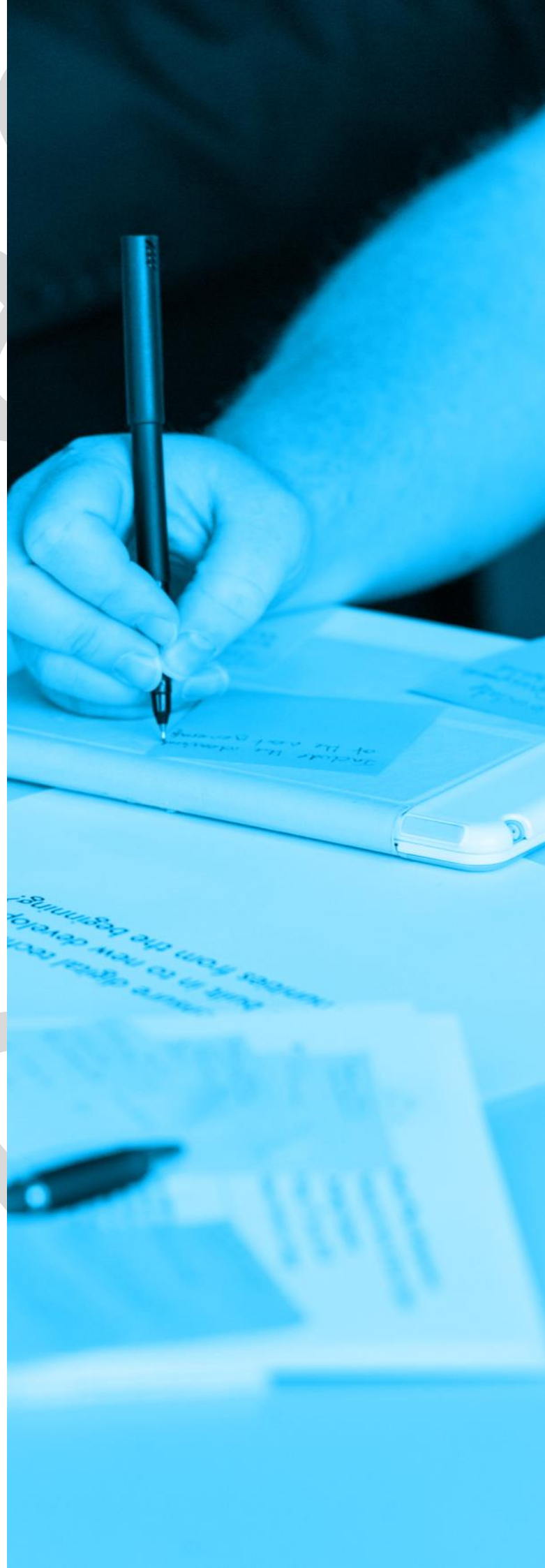
Introducing the seven foundational objectives that form the heart of the strategy. These are the things we must aspire to achieve if the DIZ, and the region, its institutions, businesses and communities it represents, are to be successful in the future. Each Foundation is supported by a set of recommendations including a "Big Idea" that clearly demonstrates how and why this strategy will make a difference.

### 4. Next Steps:

Describing how we will put the recommendations of this strategy into action, drawing from local and national resources, and leveraging the partnership that we have already established as a vehicle for delivery.

### Appendices:

Providing the supporting evidence behind the strategy, its findings and recommendations.



# Introduction

## 1.1 The Global context

The world is in the midst of an information revolution many decades long and which, whilst it has sped up notably in the last decade, may still be in its relatively early stages. The volume of digital data in the world surpassed non-digital data around 2002, and is now doubling roughly every three years - in other words, as much data was produced in the last three years as in the entire previous history of the human race.

However, the consequences of this ongoing exponential growth – and of the technological developments it enables, such as the phenomenal recent advances in Artificial Intelligence – and its effect on education, jobs and employment are still far from certain.

The effects are already widespread. Not only is the most valuable company in the world now a technology company (Apple recently became the first company in history to surpass \$1 trillion in market capitalisation), at the end of 2017 no less than 7 of the 10 most valuable companies in the world were technology companies, many of them operating marketplaces that monetise online transactions between third-parties. For example, 59% of advertising revenue in the United States is captured by just two of those companies, Google and Facebook, in transactions that can take place entirely online – no journey, telephone call or meeting is required in order for an advert to be created, placed, paid for, viewed and acted on.

It is now inarguable that digital technologies are influencing every aspect of our economy and society. These technologies, the services they enable, and the skills and connectivity required to use them, are beginning to have a significant effect on regions and communities. Technology will also influence place-making outcomes such as economic growth, social mobility, community engagement, wellbeing, carbon impact – outcomes traditionally associated with the physical characteristics of the built environment and with the delivery of public services.

And whilst some sectors are being affected more rapidly than others (see chart on page x), the economic effects are significant. Over the next two decades, over 10 million jobs in the UK are likely to be altered or replaced by digital technologies such as machine learning, robotics and autonomous vehicles.<sup>[i]</sup> Whilst new jobs will be created to replace them, these jobs will require new skills, many of which we are not yet in a position to predict.

There is already evidence that business models enabled by digital technology are changing the distribution of value in the economy. In 1975, 109 companies collected half of the profits produced by all publicly traded companies in the United States; today, the same share is collected by only 30 companies. Furthermore, as a higher proportion of wealth is being acquired by asset owners through profits and rents, a lower proportion is distributed in the form of wages to labour providers – the majority of people who work for a living.

Digital business models also make it less certain how to measure that value - how can the contributions to GDP be calculated for businesses such as social media platforms, whose basic products and services are often free to consumers? And how can similar, highly efficient business models, be used to transform the provision of government and public services, where affordability is certainly important, but where social, economic and environmental outcomes, not profitability, are the objective?

It is possible that these trends could amplify. The case for this has been set out in the recent review on Industrial Digitalisation<sup>[i]</sup>. This is a similar level of disruption to that which caused multi-decade recessions in the cities that did not successfully manage the transition in the last Century from manufacturing to service economies.

Challenging as these changes will be, however, we believe the Essex-Herts Digital Innovation Zone has a unique and exciting opportunity to capitalise on them.

Whilst the DIZ is not so obvious an economic or

[i] <http://industrialdigitalisation.org.uk/>



# Public Health England

Public Health England (PHE) is creating a world-leading public health science campus at Harlow in Essex, including its national headquarters, and representing a £400m government investment. This will help secure PHE's role as a global leader in applying cutting-edge science to protect and improve the public's health for the next generation through the creation of a 'state-of-the-art' centre of national and international scientific expertise.

At the forefront of research, big data and new service provision for the health of the nation and its communities, including opportunities for digital health, this new facility will see the relocation of up to 2,750 government scientists into the DIZ area with capability for future expansion supporting its supply chain and attracting other associated private sector enterprises to the area.

[www.gov.uk/government/publications/phe-harlow-science-hub-proposals/phe-harlow-science-hub-proposals#about-phe-harlow](http://www.gov.uk/government/publications/phe-harlow-science-hub-proposals/phe-harlow-science-hub-proposals#about-phe-harlow)



## Harlow Enterprise Zone



Harlow Enterprise Zone provides 51 hectares of development opportunity across two locations in Harlow. The London Rd location is located on the site where Sir Charles Kao and George Hockham's invention of fibre optic cable in 1966 changed the world of optical communications forever and paved the way for a host of modern innovations, including broadband internet. Harlow Enterprise Zone is building on that legacy of innovation.

The 72 acre London Road site hosts Kao Park, already home to KaoData, Arrow, Pearson and Raytheon. Harlow Science Park is a new destination for business focusing on all areas of science, technology, research and innovation. This forward thinking development, with unrivalled data connectivity, will create a collaborative, progressive sci-tech community as part of the Harlow Enterprise Zone. Located within the established London-Stansted-Cambridge Corridor, this area already has a global reputation for excellence in scientific research.

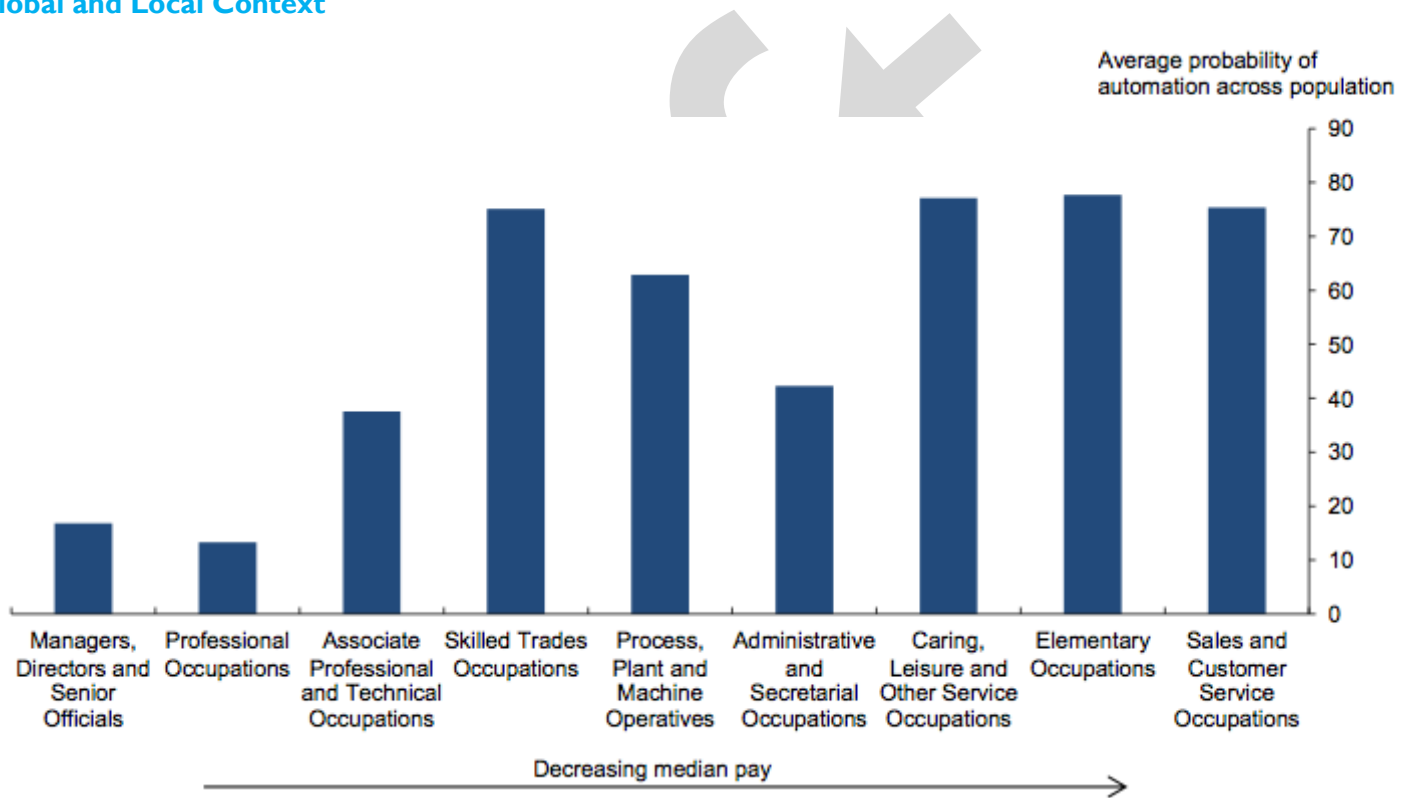
Construction work has commenced on the first buildings on the Harlow Science Park. These buildings will see 45,000 square feet of development completed by the summer of 2019. One building, to be owned by Harlow Council, will provide high quality office space for medium sized companies in units of between 2,500 sq ft and 10,000 sq ft. whilst another will be Anglia Ruskin University's Medical Technology Innovation Centre. This building will provide incubation spaces for businesses in the Med Tech sector and will also provide access to the University's research and development facilities.



[harlowez.org.uk/](http://harlowez.org.uk/)

[helloharlow.co.uk/](http://helloharlow.co.uk/)

## 2. Global and Local Context



technology hotspot as a “Smart City”, our region has a compelling combination of digital assets, skills and institutions; transport hubs and infrastructure; economic capabilities and businesses; people and communities; and environment, towns, villages and countryside.

The key to success will be in working together.

There is a reason why cities are often seen as the engine of the economy: as first shown by Geoffrey West and Luis Bettencourt in their paper “Growth, innovation, scaling, and the pace of life in cities”, larger centres of population create wealth more efficiently than smaller centres of population. Cities create wealth more efficiently than towns, and so are more attractive to residents, businesses and investors; and larger cities do so more efficiently than smaller cities.

However, this relationship is not exact – individual towns and cities variously perform at a higher or lower level than predicted by the general rule. And it is a relationship observed in economies that have grown historically through transactions that rely on physical infrastructure for their supply chains, operations and channels of sales and distribution; it does not necessarily apply in the same way to an economy that is increasingly growing through digital relationships.

By working together across our region, combining our assets and strengths, and by harnessing the power of digital technology, we can succeed beyond our potential as individual towns, villages and places. We can harness the scale and innovation of major employers such as

Public Health England and KAO Data; we can benefit from transport hubs such as Stansted, and the business, investment, science and technology expertise concentrated in the London Stansted Cambridge Corridor; and we can capitalise on the quality of life that our natural environment makes available to residents.

The future economy offers some particularly attractive and exciting opportunities for us. We can harness our academic and technical expertise and agricultural capacity to be a leader in one of the most important technology areas for the future of the world, “AgriTech” – the application of technology to food production.

As the world’s population grows towards 9 billion, increasingly concentrated in vast “megacities” of populations above 10m that wholly import their food, and as climate change reduces the availability of fresh water to agriculture, “AgriTech” innovations will be crucial to feeding the world. And that is just one of the exciting – and truly important – opportunities available to us. Our food is just one of the influences on our health, another crucial challenge in the UK as our population ages. With the headquarters of Public Health England, the planned new Princess Alexandria Hospital, and truly innovative schemes for procuring new, technology-enabled public services, we have an opportunity to make a contribution to the future health of the country.

This strategy sets out a series of initiatives that will enable us to harness our potential across the DIZ – our



# KaoData

The newly created data centre represents a cutting edge platform for data storage in the region and is the first for the Kao Data Campus. When complete the complex will represent a £200m plus investment in the digital economy locally. The quality of the design, construction and systems installation has helped Kao Data achieve BREEAM excellent certification. The technical capability, hyper-connectivity strategy and secure data resilience of the Kao Data Campus makes it ideally placed to support both cloud and hybrid-cloud solutions for a range of enterprise businesses, including financial services, life sciences, defence and the health sector.

Kao Data, a core member of the DIZ partnership, are exploring how this major investment can support the growth of a digital cluster in the region and other opportunities for the public sector.

[www.kaodata.com](http://www.kaodata.com)



# Digital Garden Towns



Brookfield Riverside is a retail and life style led town centre offering 43,500 square metres of new retail and leisure floor space. A comprehensively planned garden suburb that will encompass a retail, civic and leisure centre, a business campus and homes for around 5,000 people.

At the centre of the DIZ region is the new Harlow-Gilston Garden Town. The home to a future 50,000 residents in up to 23,000 homes the garden town offers a unique opportunity to plan and design an urban environment and quality place that is digitally future-proofed from the outset. Partners are working with developers and other key stakeholders to ensure that this development is the benchmark for digitally enhanced and enabled living.

[www.](http://www.)

# Chesterford Research Park

Located to the north of the DIZ region, in close proximity to the Genome Centre and other Cambridge Science assets the Chesterford Research Park is home to over 1000 businesses and 10,000 workers, many of which are at the cutting edge of the digital economy.

The Park has ambitious plans to grow its share of the digital economy over the coming years, benefiting from the huge expansion of this work in Cambridge.

[www.chesterfordresearchpark.com](http://www.chesterfordresearchpark.com)





# Introduction ...continued

talented people and communities, our innovative education and research institutions, our thriving businesses and the quality of life enabled by our attractive region. By delivering it together, we can create a truly smart place to live, work and play in a digital age.

## 1.2 The Essex-Hertfordshire Digital Innovation Zone

The digital revolution will bring profound changes that local authorities and businesses need to plan for in order to maximise the benefits and soften the harsher impacts of disruption. To do all this more effectively, collaboration will be key, especially for smaller geographic areas that would find it more difficult to meet the challenges on their own.

### The objectives of the Government Industrial Strategy

The DIZ, and the strategy we have developed to deliver its aspirations, exists in a national context shaped by the Government's Industrial Strategy, first published in the November 2017 White Paper. The strategy outlines four 'Grand Challenges' that will shape the future of the UK economy:

- Put the UK at the forefront of the artificial intelligence and data revolution
- Maximise the advantages for UK industry from the global shift to clean growth
- Become a world leader in shaping the future of mobility
- Harness the power of innovation to help meet the needs of an ageing society.

The DIZ is acting as a 'trailblazer area' developing responses to these challenges and feeding into the Local Industrial Strategies of the Hertfordshire and South East LEPs in the future. In particular, the DIZ partners are identifying which of them are best placed to deliver responses that drive employment, innovation, productivity increases and growth. The DIZ Strategy

provides evidence to support that process – understanding what data and local stakeholders reveal about the area's economic, social, environmental and technological capabilities and potential to drive change.

### The DIZ Partnership

The DIZ Partnership was formed and this strategy was jointly commissioned by 11 different organisations from business, councils and the health, education, voluntary and community sectors, each with a key role in making sure that our place, west Essex and eastern Hertfordshire, is ready to respond effectively. This geography crosses borders and a number of sectors but it has, in many ways, a common business and health economy. As an area with a mix of urban and rural areas, with large and small businesses, the DIZ is looking to develop approaches and deliverables that translates the 'smart city' approach from cities to an area that reflects the wider UK.

Through its partnership approach, the DIZ is in a unique position to seize the opportunities the digital economy presents to the UK and to tackle those issues that are common across the country – it is a true cross-border, cross-sector, multi-agency collaboration. It aims to bridge the needs and aspirations of its members and coordinate action to harness digital technologies to transform public services and, leaving no one behind, maximise returns to the local economy and society.

### DIZ Partners

The DIZ Partnership is the first consortium of its kind in the UK and comprises major public and private sector partners within the region, including: Broxbourne Borough Council, East Hertfordshire District Council, Epping Forest District Council, Harlow Council, Uttlesford District Council, Essex County Council, KAO Data, London Stansted Cambridge Consortium, Princess Alexandra Hospital NHS Trust and West Essex CCG.

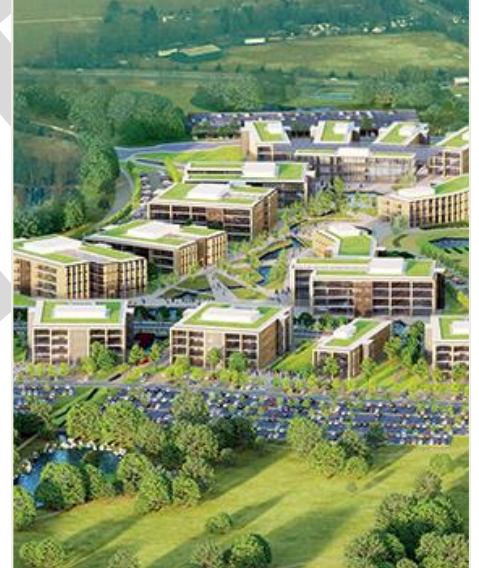
The partnership also incorporates representation from the voluntary sector through Rainbow Services and both further and higher education institutions – Anglia Ruskin

## Park Plaza West

Park Plaza West, 'Twentyfive25', situated right next to the M25 London orbital and the A10 to Cambridge, this site is proposed as a 90 acre flagship office development on the edge of London.

It offers real opportunities for expansion for digital companies from the overheating London economy to expand into the DIZ area. It is a gateway development sensitive to the green belt with up to 100,000 square metres of business floor space.

The buildings will aim to achieve BREEAM Excellent standard, designed for low energy and reduced running costs. The development will have shared facilities including cafes, restaurants and a fitness centre, plus running and cycle paths.



## Princess Alexandra Hospital



The main acute hospital in the region which employs close to 3,000 staff serving a population of over 500,000 is at a pivotal stage of its life and is currently working with local partners and the Department of Health on an ambitious plan for redevelopment.

One of the main options under consideration is relocation to another site with the DIZ region and the creation of an innovative medical campus using the latest digital technology to serve its patients.

The concept of a new Digital Pathfinder Hospital, providing a focus for innovation and cutting edge health service delivery, fits the region's aspirations and connections with centres of excellence in the DIZ, to the north in Cambridge and to the south in London.

## Epping Forest - World-class Connectivity

A 2018 article in the Financial Times cited Epping Forest, one of the areas in the DIZ, as already one of the places in the UK with better connectivity than big cities such as London and Birmingham.

This has been the result of a joint programme between BDUK, Epping Forest District Council and Essex County Council to provide gigabit fibre-to-the-premise connectivity to its most rural areas, future proofing connectivity and providing a firm platform for the development of digitally enabled services and employment locally.

On the strength of initiatives such as this, Epping Forest District with its substantial rural and urban mix is set to become the best connected place in Essex.



# Introduction ...continued

University, Epping Forest College, Harlow College and Hertford Regional College. As a funding partner, One Epping Forest also brings along its constituent partners, including Vibrant Partnerships and the Corporation of London.

Promotion  
Brand

### What is the 'digital economy'?

The 'digital economy', in its broadest definition, underpins most professional and knowledge-based service jobs as many of these services are reliant or based on digital technologies. Increasingly, the 'digital economy' is intertwined with the 'traditional economy' making a clear delineation difficult. For example, the 'digital economy' may be viewed as integral to:

- ICT
- Financial services
- Creative industries and media
- Retail
- Health and life sciences
- Advanced manufacturing

This intertwining is rapidly extending across all sectors, and is accelerating rapidly at present in industries such as transport, logistics, property and real estate and beyond.



# Stansted Airport

Representing in excess of a £1.5bn investment when it was purchased by Manchester Airport Group, Stansted has become one of the fastest growing UK international airports.

Currently serving almost 25 million passengers per annum it has ambitious plans for both expansion of the numbers using the airport and the routes it offers, particularly to those areas of the world which are leading in digital technology innovation and connected to the industry in Cambridge and London.

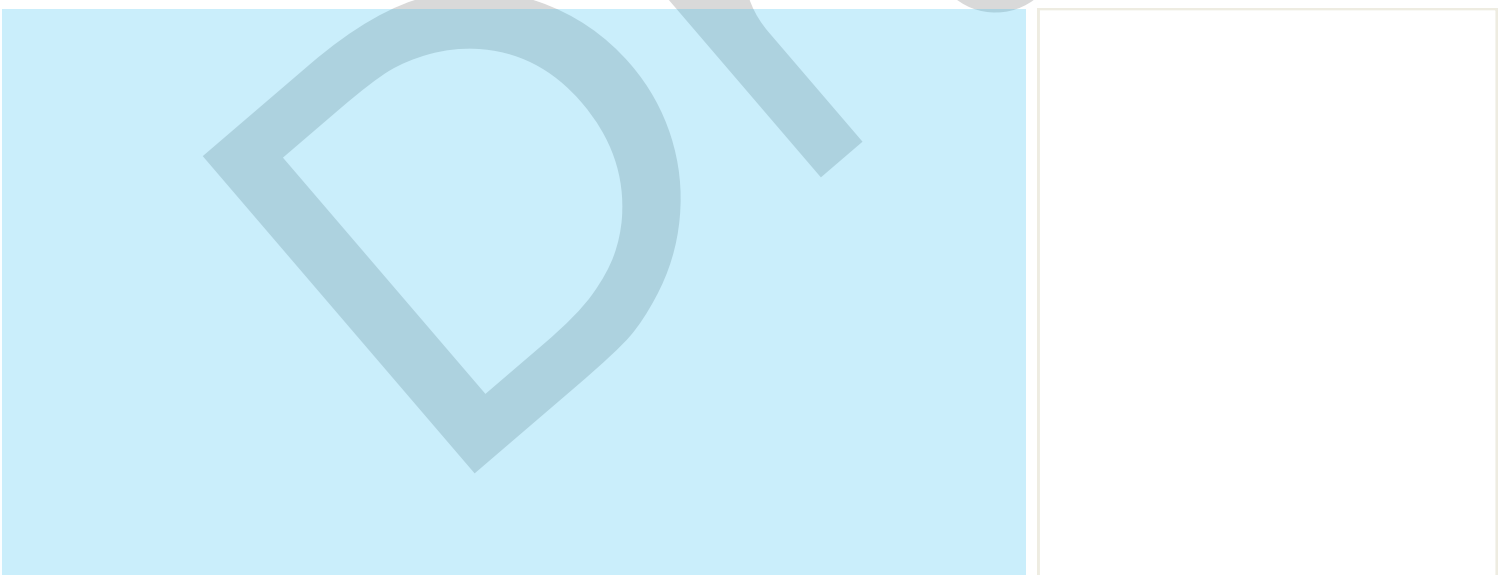
The airport has pioneered looking at new ways to digitally serve its customers and providing an experience and support from their home through the airport and onwards to their destination.



# Harlow College - Apple Accredited



# East Herts - Home of the pharmaceutical industry



# The DIZ Vision

The DIZ Partnership was formed to fulfil a single vision shared by multiple agencies and authorities – to leverage the advances of digital technologies and the growth of the digital economy to create a better place to live, work, study and do business.

The DIZ has the opportunity to transform the physical, economic and social environment – to provide a platform for business and society to grow together in a changing technological world. By considering the four key contexts within which these changes are taking place, we will ensure a long-term strategy that puts the DIZ at the forefront of the digital transformation:

- A digital economy that is ripe for growth and innovation
- A digital built environment in which homes, offices, public spaces, and transport fuse physical and digital technologies to enable a better quality of life
- Digital public services which use technology to deliver improved outcomes at lower cost
- Digital communities in which local residents have the skills to succeed in a digital world

**Stakeholder objectives and aspirations:** In the creation of the DIZ strategy, we undertook extensive stakeholder engagement through one-to-one interviews with over 25 of our partners, a symposium with over 70 participants and regular meetings of the DIZ Board. Our engagement showed that our partners' aspirations revolve around the following:

- Understanding and mapping the existing digital infrastructure and attracting investment to close gaps and build for the future
- Capitalising on specific sectors of interest, especially healthtech, life sciences, creative, data centres, and agritech
- Using planning tools to exploit property and infrastructure development investment
- Achieving cross-organisational governance and data-sharing

- Enhancing skills and education
- Improving the quality of the built environment and the ability of innovative digital services to contribute to this
- Recognising the variety of social, economic and physical characteristics across the region, from affluent commuter market towns to areas in need of regeneration and stimulation



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3



# The economic context of the DIZ

An analysis of the digital economy and digital innovation initiatives of the DIZ partners points to the varying degree of digital 'maturity' across the DIZ. As part of the London Stansted Cambridge Corridor (LSCC), the DIZ is in proximity to the fastest growing hubs for digital and biotech in London and Cambridge. Strategic sites such as those in Harlow (Harlow Enterprise Zone) and Broxbourne (Park Plaza West) have been identified as key regeneration and development opportunities in the Corridor.

Along with proximity to the London labour market and Stansted Airport, strengths within individual DIZ areas include:

- High quality of life in specific areas
- Strong local partnerships (e.g. Ambition Broxbourne)
- High levels of entrepreneurship and a significant number of smaller employment sites, including business start-up centres (e.g. CRATE in Epping Forest)
- The development of "future-ready" garden towns throughout the DIZ
- The existence of key players in health and technology, e.g. Public Health England, Princess Alexandra Hospital, KAO Data
- A strong focus on improving connectivity and achieving high-speed broadband
- Strong research parks such as Chesterford Research Park

In order to realise the DIZ's full potential, a number of challenges need to be addressed:

- **Private sector investment and resources.** The DIZ will need much greater visibility for private sector investment, including strategies for property and infrastructure investment as well as attracting venture capital and corporate headquarters
- **Defining priority areas and programmes.** Some areas are more prepared than others to build

on digital innovation opportunities, and the DIZ Board will have to take strategic decisions regarding whether, and if so how, to target priority places and programmes

- **Developing brand and reputation.** Knowledge-based industries and their workforce want to be located in places with vibrant career opportunities, communities of practice, and high quality/high amenity places to live. The DIZ must therefore be positioned not just within the LSCC, but nationally for attracting business and investors; and must promote our social and environmental qualities as well as our economy and infrastructure
- **Using a regional approach to collaborate and deliver joint initiatives.** The DIZ Board has made great strides by bringing multiple partners together to agree shared areas of focus and goals that will benefit each partner individually and the region as a whole. This collaboration will be even more critical as the focus shifts to delivery, and to executing the DIZ strategy consistently across all areas and organisations that form the DIZ Partnership –public, private, academic and third sector
- **Placing a clear focus and prioritisation of digital as a core enabler and delivery mechanism for strategic plans of public bodies.** Digital solutions need to be embedded in the delivery of key policies and strategic plans of each of the public bodies within the DIZ in order to achieve the outcomes we strive for
- **Aligning and coordinating investment across the various geographies and administrations of the DIZ.** It is crucial to collaborate across borders to maximise the investments in each DIZ area and spread the benefits to the wider DIZ..
- **Maximising use of public policy instruments to underpin growth**

The Location Quotients (LQ) of the DIZ area and its constituent local authorities shows the sector specialisation of each place compared to England. It

Relevant sectors	DIZ	Broxbourne	East Hertfordshire	Epping Forest	Harlow	Uttlesford
Digital Sector	0.7	0.5	0.9	0.7	0.8	0.8
21 : Manufacture of basic pharmaceutical products and pharmaceutical preparations	3.8	-	13.9	0.2	-	-
51 : Air transport	3.2	-	0.1	0.3	0.1	18.5
27 : Manufacture of electrical equipment	2.7	4.5	2.1	0.4	3.2	4.4
72 : Scientific research and development	2.4	4.2	2.6	0.5	2.2	3.1
41 : Construction of buildings	2.1	2.2	1.3	4.6	0.5	1.7
43 : Specialised construction activities	1.8	1.5	1.6	2.7	1.9	1.3
58 : Publishing activities	1.8	0.2	1.6	2.0	3.0	1.9
42 : Civil engineering	1.5	3.5	1.3	1.5	0.2	1.0
26 : Manufacture of computer, electronic and optical products	1.3	1.0	0.2	0.1	4.6	1.2
69 : Legal and accounting activities	1.2	0.8	1.6	0.5	2.4	0.5
20 : Manufacture of chemicals and chemical products	1.1	-	1.0	0.1	3.2	1.3

Source: 2017 NOMIS. BRES data by 2-digit SIC. OECD expanded definition of digital sector.

shows the ratio of employment in a sector in the DIZ compared to what would be expected if employment was the same as the English average for that sector. An LQ greater than 1.0 means the area has a higher concentration of employment in that sector compared to the England average; an LQ greater than 2.0 signals a specialisation.

Based on this analysis, the DIZ area does not currently have a specialisation for the “Digital Sector” as a whole, but it points to the key sectors within the digital sector within which the DIZ does have specialisations. These specialisations are also expected to grow - and new ones emerge - with the relocation of Public Health England and the growth of Princess Alexandra Hospital and KAO data in Harlow.

The DIZ area has a very high specialisation in the manufacture of pharmaceutical products, predominantly due to business in East Hertfordshire. The DIZ also specialises in “scientific research and development,” “air transport,” and “manufacture of electrical equipment,” which can both be high value-added areas of work within the digital economy and sources of digital innovation.

Other specialisations of the DIZ in air transport and construction note key areas where digital innovation may also play an important role in bolstering those key sectors. And within the DIZ, three key specialisations stand out:

- Built environment: specialised construction; civil engineering

- Professional services: legal and accounting activities; publishing
- Manufacturing: computer, electronic and optical products; chemicals and chemical products

An important asset for the DIZ is the ‘related variety’ of specialisations of the area. There are three groups of sectors which will share common skill sets, knowledge bases and supply chains, which creates synergies and can increase productivity:

- Pharmaceutical and chemical manufacturing alongside scientific research and development
- Manufacturing of electrical equipment, computer, electrical and optical products
- Civil engineering and construction of buildings

The types of skills, ways of thinking and common technological and digital inputs can create interesting synergies between the firms and workers in the area.

Beyond these groupings, the DIZ has a specialisation in some of the supporting sectors for digital economy. Legal and accounting activities, in particular, are important for supporting digital businesses in their business support activities.

A full data appendix is provided which outlines the economic and wider social and demographic trends underpinning this strategy.

# Challenges and barriers for the DIZ

Digital transformations are a complex, challenging undertaking for any organisation – they require new skills, changes in culture, changes to organisational structures, operating models, cash flows and risk management; and because digital technologies are constantly evolving, lessons learned in transformation by one organisation cannot necessarily be applied to others.

The challenge for local authorities is particularly significant. Local authorities are not only seeking to transform themselves; they are seeking to drive or enable the transformation of the communities, economies and places they support. So every aspect of the transformation becomes collaborative, requiring a different approach to strategy, investment, governance and delivery, beginning with the need for a Local Authority and its many stakeholders to agree a framework of priorities and benefits against which digital transformation initiatives can be held accountable.

After a decade of austerity, local authorities' capacity to lead and deliver such transformations are severely limited. Central government funding for local Government has fallen by more than £20b since 2010, and the proportion of public finances for local services under local authority control was 17% in the UK compared to a 55% average for OECD countries, as reported by Centre for Cities in 2014. In addition, public sector employment has fallen by more than 1 million, and because much of this reduction was achieved through voluntary redundancy, a high proportion of employees with digital skills chose to leave through that process, confident of finding employment in the private sector.

In most cases, transformations are led by a small handful of staff; often with no deep background in digital issues, and usually as an addition to their permanent responsibilities. As well as the challenge created by the sheer workload involved, much of the work is highly technical across a number of disciplines – for example, telecommunications technologies, infrastructure investment, public service delivery, commercial operating models etc..

For all of these reasons, it is crucial for us to take this opportunity to deliver a digital transformation collectively as the Digital Innovation Zone. By sharing our capacity we can access broader and deeper skills, share the burden of delivery, maximise our spending power and present a more sizeable opportunity for returns on investment.

Our analysis of key strategic documents produced by DIZ partners shows the following challenge themes facing the DIZ Board in relation to realising the full potential of the DIZ.

**1. Attracting private sector investment and resources.** The majority of the documents produced by Essex CC, SELEP, Hertfordshire CC and LEP and DIZ local authorities recognise that private sector intervention and investment is required within their geographical context. The intervention spans across commercial property development, inward investment, skills and training, business support and quality of life, among others. The DIZ will need much greater visibility for private sector investment, including strategies for property and infrastructure investment as well as attracting venture capital and business investment.

**2. Achieving coordinated investment and economic growth across geographic and sector boundaries.** The county-level or LEP economic plans currently fail to address the cross-boundary opportunities to coordinate hard and soft infrastructure investment across the DIZ authorities. As such, there is a need for the DIZ authorities to ensure that they approach growth opportunities and investment needs across the administrative county and LEP boundaries.

**3. Addressing digital 'maturity' differences across the DIZ.** We need to either address needs and aspirations of areas which do not have an existing established digital economy or focus on areas with an existing prominent digital economy and infrastructure, where there is already momentum. Or should both be addressed in different ways? Based on the existing



policies and plans, some areas are more prepared than others to build on digital innovation opportunities, and the DIZ Board will have to take strategic decisions regarding whether, and if so how, to target priority places and programmes.

**4. Defining and delivering collective priorities and programmes.** Whilst we have made good progress in agreeing to work together on the basis of shared objectives and areas of focus, the DIZ Partnership is still at an early stage.

Successful execution of this strategy to achieve those objectives will depend on the implementation of a substantial shared delivery programme that collectively meets the objectives of all of the DIZ members. In achieving this, each partner is likely from time to time to be asked to contribute and prioritise resources to initiatives based on those shared objectives, rather than on their individual objectives. That will only happen if each partner is fully committed to a set of shared objectives, and sees evidence that progress towards achieving them delivers the benefits that they individually expect.

**5. Developing brand and reputation.** Currently, the DIZ area as a regional entity lacks a strong identity, reputation and prominence for investors, businesses, government policy-makers and members of the public with regards to digital innovation, our economic strength or in terms of cultural offer and quality of life.

There is an opportunity to market the significant investment in business workspace and skills in Harlow, strong base in advanced manufacturing and life sciences, the international gateway function of Stansted Airport and the quality of life assets of the area's market towns. There is a recognition that knowledge-based industries and their workforce have very demanding location requirements and are highly selective in terms of location, requiring access to talent, who in turn want to live in localities with vibrant career opportunities, communities of practice, and high quality/high amenity places to live. Our area must therefore be positioned

not just within the LSCC, but nationally for attracting business and investors; and must promote our social and environmental qualities as well as our economy and infrastructure.

A place-based analysis was undertaken to support this strategy. By considering the strengths, weaknesses and relationships between places, the analysis highlights the differences and commonalities across the DIZ. These include:

- Pockets of lower skills levels
- Areas of long-term unemployment
- Lack of highly skilled employment opportunities outside of major centres
- High levels of out-commuting in some areas
- Poor broadband connectivity in rural areas
- Lacking existing assets in digital industries / anchor businesses for future growth
- Lack of urban centres to attract firms relating to the digital economy

Some of the key challenges around skills are highlighted in the data appendix.

## Recommendations and priorities for the DIZ



**Foundation 1.** Establish the Essex-Herts DIZ brand

**Gamechanger:** Identify one prominent figurehead from the private sector to champion the DIZ at national level.



**Foundation 2.** Create leadership in HealthTech & AgriTech incubation

**Gamechanger:** Establish an innovation board as an umbrella organisation that will integrate and focus the region's capacity to incubate entrepreneurs.



**Foundation 5.** Futureproof the local economy by upskilling for the future of jobs

**Gamechanger:** Coordinate a region-wide skills-for-the-future agenda.



**Foundation 6.** Leverage local assets to attract investment in digital infrastructure

**Gamechanger:** Coordinate a future timeline of infrastructure and property investment opportunities.



**Foundation 3.** Engage and invigorate the public sector

**Gamechanger:** Develop a Digital Leaders programme and establish a priority list of upcoming procurements.



**Foundation 4.** Harness the power of social innovation to increase digital inclusion and citizen participation

**Gamechanger:** Enable the "unusual suspects" to shape the DIZ by creating civic innovation programmes.



**Foundation 7.** Harness placemaking in new developments and existing centres

**Gamechanger:** Integrate the DIZ strategy into local plans to support the creation of places where people want to live, work and play.



## Foundation I: Establish the DIZ brand and identity

### What does that mean?

Our first priority is to establish a strong brand for the Essex-Herts DIZ. Our area is unique – we represent the urban-rural mix of England and our brand needs to reflect that.

We want to build a narrative that clearly articulates the DIZ strengths and assets. This will be our offer to potential partners and investors, residents and businesses. Building our brand will be key towards attracting investment and government funding.

All our stakeholders need to feel ownership over how we've told the DIZ story and how the brand best represents our people, geography and work.

### Why will this work?

Cities such as Milton Keynes, Sunderland and Bristol have achieved national and international visibility – and attracted the funding and investment that comes with it – in part due to the proactive championing of the digital agenda through figureheads such as Geoff Snelson (Director of Strategy and Futures, Milton Keynes Council), David Dunn (CEO, Sunderland Software City) and Stephen Hilton (whilst Director of Futures at Bristol City Council), who have the strong support of their Executive sponsors. Whilst there are fewer obvious examples for regional initiatives, we believe a similar role will be crucial for the Essex-Herts DIZ.

### Who should be involved?

The key organisations and people that will be responsible for working towards achieving this goal could include:

- The DIZ Board. Their role will be to agree the DIZ priorities and key themes and messages that the brand needs to reflect
- Individual organisations' marketing teams. The DIZ

Board members should convene a task force from the marketing teams within their organisations to agree on a branding and marketing brief for the DIZ. The taskforce will also be responsible for maintaining the brand and marketing activities for the DIZ

- Branding and marketing agency. The brand imagery and messaging should be developed with brand and marketing professionals who will execute the vision of the DIZ Board, in conjunction with the LSCC, the Herts LEP and SELEP, and the marketing task force
- All DIZ members. Everyone should use the brand guidelines consistently to ensure that the brand holds its grounds

### How could we achieve this?

#### 1. Select a memorable name that describes our offer most accurately.

To communicate our vision and competitive advantage to the world, we need a memorable name and brand for the DIZ that reflects our strategy and strengths, and that creates broad and lasting recognition for our area. By creating a uniform and consistent message about our proposition, we can more easily attract both government funding and private sector investment.

#### 2. Create a marketing strategy that maintains and spreads the DIZ brand.

Our proposition and work will be underpinned by an effective marketing strategy that communicates the value of the DIZ and helps attract attention from public and private sector, nationally and internationally. Implementing the strategy will require resources that are dedicated to the DIZ and work alongside the Economic Board for the DIZ and the DIZ Board.

Our marketing efforts will represent both the DIZ as a whole and the needs of the individual members as well.



3. Brand existing physical spaces as innovation hubs that will be the anchor of the DIZ and will showcase our strengths and accomplishments.

To anchor the DIZ and its brand, we need to brand our physical spaces, e.g. the Harlow Innovation Centre, that represent the innovations and accomplishments of the DIZ partners and businesses located in the area. This will showcase our digital prowess and future ambitions. These innovation hubs will also host conferences, meetings and exhibitions and will act as the 'face' of the DIZ.

4. Securing pathfinder or beacon status for the DIZ for government or private sector innovation platforms.

5. Targeting the marketing of the DIZ to the digital businesses and tech hubs of Cambridge and London.

## Foundation 1: The Big Idea

- **Identify a prominent figurehead from the private sector to champion the DIZ at national level.**

One prominent figurehead will be crucial to raising awareness of the DIZ and securing private and public investment in the area.

This person will be ideally well connected nationally, both with other UK regions and cities and national government and organisations (incl. Department for Digital, Culture, Media and Sport (DCMS), Department for Business, Energy and Industrial Strategy (BEIS), Innovate UK, Tech UK, Catapults network etc.) as well as with private sector.

They will also be able to secure speaking slots at key conferences and events nationally and internationally to raise the profile and grow the contacts network of the DIZ. This person will also be surrounded by a team of people championing the same message.

The DIZ Board can identify these people by undertaking a mapping exercise of connecting champions to influencers.

## Foundation 2: Create leadership in HealthTech & AgriTech incubation

### What does that mean?

Our ambition is to become a nationally and internationally recognised leader in innovation and enterprise in AgriTech and HealthTech (including the health and social care sectors). The stakeholder engagement and economic analysis undertaken to support this strategy has identified that these are two sectors in which the DIZ has great strength and potential to grow. We will do this by building on our existing strengths and synergies between our businesses, education and research institutions, public sector organisations and entrepreneurial community.

### Why will this work?

Other regions have found that a regional or umbrella organisation can help to focus goals and attract external investment – Sunderland Software City, for example, works with a collection of incubating organisations in the North East, and the West Midlands Innovation Alliance has attracted significant funding on behalf of seven regional Universities and a large number of business support organisations such as Innovation Birmingham and STEAM House.

Many of these organisations find that attracting Venture Capital interest in the companies they support to be one of the biggest barriers to enabling growth. The residence of many London-based VCs in the Essex-Herts DIZ is a unique resource that can give the DIZ and its businesses a competitive advantage.

### Who should be involved?

- DIZ Board
- Entrepreneurs
- Local businesses
- Investors
- Existing business support and incubation organisations

### How could we achieve this?

#### 1. Monitor performance and uptake from incubation space

Our analysis of the DIZ has shown that the region has specific strengths in HealthTech and AgriTech. However, a more detailed assessment will be required to determine which sectors will benefit most from having an incubation space within the DIZ. The establishment of such a physical location will also need to be grounded in clearly defined outcomes and principles for its role.

The incubation space would also need to be accountable to the body governing the DIZ to ensure that it is achieving wider outcomes for the area, e.g. attracting businesses, helping them grow, providing employment and training opportunities for the local population, etc.

#### 2. Explicitly map the DIZ's capabilities for supporting start-up businesses and innovation and publicise / promote these.

The DIZ already has specific capabilities and facilities for supporting start-up businesses. For example, CRATE in Loughton offers flexible office space and business support to start-ups, small and growing businesses. CRATE are also looking at working more with local authorities to grow their capabilities and the number of businesses they can support in different areas. Down Your High Street (DYHS), in addition, helps high-street retailers get online and increase their revenues through online sales.

A more extensive exercise to map out the capabilities of the DIZ in terms of business support to specific sectors will help understand where the strengths of the region lie and promote these nationally and internationally. This exercise will also help identify where the gaps lie and take actions to address these.

#### 3. Form an open innovation programme around the DIZ investment fund, linked to the networks, capabilities and objectives of regional partners.

In addition to the incubation space, we will also create





programmes to stimulate innovation in the area and drive citizen engagement. This might include setting up an open innovation programme, whereby companies and local authorities can post innovation challenges and seek responses from solvers in the entrepreneur and start-up business community. This will be an opportunity to involve the youth as well and set up specific programmes with schools and colleges to engage young people in coming up with ideas on how to solve both business and public sector challenges.

The open innovation programme could be tied to the venture capital fund that we will aim to set up for the DIZ with local and regional venture capitalists. The programme should also systematically target funds from Innovate UK, DCMS and the Industrial Strategy Challenge.

**4. Make connections and build partnerships with organisations that are willing to test the innovations coming out of incubation centres, e.g. Princess Alexandra Hospital and West Essex CCG for healthtech or Abbey View Produce for agritech solutions.**

In order to make the open innovation programme a reality, it will be crucial to establish partnerships with key organisations and businesses that will be willing to test the solutions emerging from the programme. Key stakeholders who have already expressed a willingness to collaborate within the DIZ include the West Essex CCG – for testing health technologies, all local councils –for care technologies, and Abbey View Produce –for innovative solutions in agricultural technology.

**5. Building closer links with Public Health England and Princess Alexandra Hospital to ensure the opportunities emerging from their investments translate into a real return for local people.**

**6. Undertaking focused innovation work with local employers in key sectors e.g. medtech and agritech**

## Foundation 2: The Big Idea

**• Establish an innovation board as an umbrella organisation that will integrate and focus the region's capacity to incubate entrepreneurs and support small businesses within our focus sectors.**

The DIZ needs a body that can promote the area for inward investment and collaborate with national trade and investment bodies. The many organisations in the DIZ region have a variety of different focusses and objectives and are not recognised as a cohesive regional group, nationally or internationally.

An umbrella organisation can act as an anchor to build better connections and collaborations between members of the technology and innovation ecosystem, and champion the region's overall capability to businesses, entrepreneurs or investors to attract them to locate themselves or work here. This can aggregate regional investment capacity and local experts in financial services and venture capital to create a regional investment fund.

A functional body is also needed to carry the work forward - an organisation that either has statutory powers or has shared / co-commissioning powers. The organisation will also need to understand and represent the local needs of the whole region.

Finally, our proximity to London and the venture capitalists (VCs) that live within the DIZ can help us to establish a local investment fund that will support local businesses within selected sectors of the digital economy. This will ensure that the DIZ becomes the go-to place for new ventures in HealthTech and AgriTech in the UK.

## Foundation 3: Engage and invigorate the public sector

### What does that mean?

The DIZ would like to see each authority within the region embed digital in its day-to-day work and service delivery. It is important to engage public sector employees in the DIZ agenda and enable them to use digital tools to achieve their targets and aspirations, as well as to make efficiency gains given the cuts to public sector employment and budgets (see Data Appendix). We will work with key departments across all authorities in the region to understand how digital technologies and better use of data could help them deliver more transformative services.

Ultimately, we would like to inspire public sector employees to consider new ways of doing work, connect with local residents and businesses more strongly and seek collaborations with private and third-sector partners to spur innovation in the public sector.

### Why will this work?

The adoption of digitally-enabled and well-coordinated approaches is a significant organisational transformation requiring leadership, the adoption of new operating models and the procurement of new services and solutions. It requires committed leaders at the most senior level – the local authorities who have most prominently adopted digital approaches have long demonstrated this through such figures as Jos Crease (when CIO of Hampshire County Council), Dave Smith (when CEO of Sunderland City Council) and Geoff Connell (when Director of IT for the London Boroughs of Newham and Havering). To succeed in the long term, the local authorities of the Essex-Herts DIZ will need to enable their existing leaders and develop the leaders of the future. A key task for these leaders will be to drive their organisations to procure solutions on the basis of best value, digital enablement and innovation, as well consistency between the authorities – from standard ducting in the roads to coordinated procurement.

### Who should be involved?

- **Local authorities:** Create a plan for using digital to deliver services and perform day-to-day tasks across the council
- **Council department heads:** Create a plan for the role of digital in their department
- **Council employees:** Champion and propose ideas on how to do things better with digital solutions
- **LEP partners:** Incorporate digital within the Local Industrial Strategies

### How could we achieve this?

#### 1. Lead by example.

Leaders of Councils within the DIZ will lead the digital agenda by example to ensure that the opportunities of digital approaches are communicated and case studies are shared across departments and councils. Appointing a 'Chief Digital Officer' at each authority to act as a champion that puts digital at the top of the corporate agenda internally and externally. The key aspects to focus on are enabling facilitation between different stakeholders, communicating the benefits, raising awareness, and embedding principles of using data and technology, such as flexibility, agility and security.

To ensure that digital approaches are considered integral to the work of each Council, they will need to be integrated into the core of business objectives through the Councils' and our partners' Corporate Plans. The key roles of the Council Leaders will be to set a vision, draw implementation plans and commit resources to achieving the outcomes of the vision.

#### 2. Set aside budgets for trialling innovations outside the normal procurement route.

We will consider the use of open competitions as a way to source innovative solutions, and develop procedures for handling innovative ideas that arise within the Councils or from citizens or businesses. These budgets will support the open innovation programmes



recommended in the previous chapter on 'Goal 2'. Allowing department heads and officers to source innovative solutions through new routes will facilitate the creativity and swift trialling of innovations within the Councils. Examples exist from the London Borough of Sutton to New York City of how public sector can adopt innovations through new ways of engaging with the private sector. Establishing a regional innovation fund will also help bridge the gap between public sector needs and private sector solutions. An innovative procurement route such as the Small Business Research Initiative (SBRI) can support economic growth and enable the development of innovative products and services through the public procurement of research and development (R&D)

### **3. Develop an overarching Data Strategy.**

The data strategy should focus on efficiency and outcomes covering a range of public sector bodies across the DIZ and set out core priorities around the role of data in improving public services, including issues around quality, openness, security and capability within a framework of standards. We will use the Data Strategy as a way of harnessing the co-operation of other organisations including utility companies and the private sector, building on existing work to improve data sharing across a wider range of themes and areas. We will also develop an awareness programme that promotes the potential and capability of data targeted at users of data, including citizens and public officials, whilst at the same time addressing concerns around security.

### **4. Create a common framework for measuring the impacts of digital projects on the performance of council departments as well as impact on wider outcomes across the DIZ.**

We will create a framework for use across the DIZ to monitor and evaluate the results of our digital projects in a common way. This will help us to share experience across the DIZ:

- i. To understand whether digital projects are achieving

## **Foundation 3: The Big Idea**

- **Develop a Digital Leaders programme**
- **Establish a priority list of upcoming procurements**

We will develop a Digital Leaders programme that focuses on sharing knowledge and expertise across a range of organisations and levels of seniority. The programme will aim at not only sharing knowledge about how digital is used across the councils but also help inspire those that are currently not considering digital solutions within their department.

This cross-DIZ programme will also bring the Digital Leaders from each council together on a regular basis to discuss lessons learnt from both success and failure in deploying digital solutions. For the programme to be successful, it will also be necessary to build a culture of taking managed risks rather than being paralysed by fear and uncertainty of what new technological solutions could bring.

It will be critical to establish a priority list of upcoming procurement requirements which could benefit from a stronger emphasis on digital mechanisms for service delivery.

Considering how digital approaches and technologies can be used to achieve each procurement's final outcomes will ensure that digital becomes embedded in the way our departments are working and delivering their services; this also harnesses one of the most significant spending streams available to us – public sector procurement – to secure investment in digital services and infrastructure.

Creating such an open culture towards digital will also be more inviting to businesses who would want to engage with the DIZ to test their innovative solutions.



## Foundation 3: Engage and invigorate the public sector ...continued

their intended outcomes,

- ii. To make changes during the course of projects to ensure they meet their targets,
- iii. To promote the successes of digital projects and to draw lessons from them from across the DIZ.

The process of monitoring, reporting and verification (MRV) follows these seven steps:

1.MRV initiation: We will identify resources to monitor the progress of the recommendations within the DIZ Digital Strategy. We will also establish collaborative approaches to align the MRV process with other council monitoring processes. We will also set data collection standards to ensure that data on the progress of the strategy are recorded and stored consistently.

2.Understand the baseline: We will establish measures against which the progress of the strategy will be measured.

3.Agree objectives and targets: We will set key objectives and targets for each project that we undertake in order to measure its success.

4.Set up monitoring scheme: Monitoring of progress will be continuous throughout the implementation phase, to ensure that the process and performance can be appropriately evaluated at the end of each project. Each indicator will be assigned to a responsible department or agency to collect and monitor data on that indicator.

5.Implementation monitoring: Monitoring is an ongoing process that will include collecting and assessing data throughout each project. Data collection methods will be specific to each action and each indicator and could include air quality monitoring stations, traffic sensors, GIS mapping of green spaces, surveys, etc.

6.Evaluate process and achievements: Based on the data collected throughout the monitoring process, each action will be evaluated in relation to the agreed indicators upon completion of the action, or annually if a project is implemented over a longer timescale.

7.Evaluation report: A short report will be prepared

based on Step 6 to document how each action met the objectives and targets set at the onset, determine the successes and recommend improvements for future similar projects.

5. Demonstrating clear leadership and capacity to drive the DIZ, this strategy and its recommendations forward.

6. Reviewing the governance and structure of the DIZ to give transparency and quick decision-making.

7. Ensuring 'digital delivery' is a key item in partners' corporate and strategic visions.





## Foundation 4: Harness the power of social innovation to increase digital inclusion and citizen participation

### What does that mean?

The Essex-Herts DIZ aims to make the region a great place for people to live, work and play. It is therefore crucial to engage with our residents to understand how they would like to benefit from our increased focus on digital approaches.

First, the DIZ will strive to achieve digital inclusion by addressing the infrastructure, equipment and skills disparities. Focussing on areas of deprivation and digital skills deficiencies, the DIZ partners will work with councils, registered providers, FE and other skills providers and owners of community assets to bolster skills and provide the spaces and equipment for all to access the benefits of the digital economy. It will be critical for the DIZ to attract investment in connectivity infrastructure for traditionally more disconnected / less economically active areas as part of an overall regional investment offer. This will ensure that all residents have access to high-speed broadband and the opportunities it can provide.

Then, we will enable residents to participate in creating solutions to address the challenges identified within the DIZ. It is our key priority to ensure that we reach people from all communities and no one is left behind. This goal will build on existing initiatives such as the My Smarter Essex sessions run by the Chelmsford Science and Engineering Society that bring together students, teachers and private industry to understand, explore and influence the design of a Future Essex.

School performance in the DIZ is higher than the national average in many respects and the number of youth who are not in employment, education or training is lower than the England average (see Data Appendix). And while the area performs relatively well with regards to translating education performance into innovation, the DIZ trails behind Cambridge and London with patents per capita (see Data Appendix), which suggests more could be done to harness local talent for innovation.

### Why will this work?

The Good Things Foundation, a social change charity in the UK, has found that “12.6 million adults in Britain don’t have the basic digital skills they need to benefit from the online world - and nearly 6 million people have never used the internet. What’s more, it’s those already at a disadvantage - through age, education, income, disability, or unemployment - who are most likely to be missing out.”<sup>2</sup> The Good Things Foundation has helped over 2 million people get online since 2010 and surveys have shown the following results:

- 83% progressed onto further learning and 62% to employment-related activities
- 92% reported an improved quality of life
- 72% used government online services.<sup>3</sup>

Citizen engagement – particularly when inclusive of diverse and/or disconnected and disadvantaged communities – is a notoriously complex challenge. However, a variety of entrepreneurial social initiatives have proven adept at tackling its various aspects, for example Slenky (opportunity for disengaged teenagers in London and the West Midlands), Tin Smart Social (digital skills for communities nationwide) and Resonance (social investment funds in Bristol and Manchester). Many are self-funding, but only gain traction and deliver impact in new areas when given access to the senior local figures who can provide them access to the institutions and networks that they need to succeed. The West Midlands Innovation Alliance, for example, provides access to its Smart City steering group each month to such initiatives, enabling many of them to fast-track their deployment in the region.

### Who should be involved?

- Citizens
- FE colleges and other training providers
- Community groups and owners of community assets
- Apprenticeship providers and wider business community





- DIZ Local Authorities
- NGOs and charities
- Social entrepreneurs
- Registered providers

### How could we achieve this?

#### 1. Seek additional DIZ Board membership from organisations that promote communities within the DIZ.

We will seek to attract additional partners with a common community-orientated focus to join the DIZ, and to support organisations with social objectives. Initiatives we will consider could include:

- Seeking a community-focussed external partner such as NESTA
- Providing incentives to start-ups that contribute to the wider goals of the DIZ, for example monetary or tax incentives to food delivery companies that deliver healthier food
- Offering social enterprises preferential terms through local policies – for example, scoring advantages in public sector procurement or lower business rates
- Inviting social entrepreneurs to access the DIZ network to test their ideas with local communities through a Civic Innovation Programme. This will encourage ‘unusual suspects’ to support civic innovation in our region
- Involving the voluntary sector in reaching out to communities

#### 2. Pool examples of best practice in citizen orientated solutions.

We will look to cities and towns around the world for examples of best practice of how they are using digital technologies to improve citizen engagement, with a view to developing a programme of enablement that replicates this best practice.

### Foundation 4: The Big Idea

- **Enable the "unusual suspects" to shape the DIZ by creating civic innovation programme**
- **Develop a programme to help people use digital tools in their daily lives**

Enable the "unusual suspects" to shape the DIZ by creating a civic innovation programme with an open forum for citizens, communities, entrepreneurs and social initiatives to approach the DIZ and its member organisations at senior level to seek support, enabled through crowdfunding with match funding from the Councils.

Develop a programme for helping people use digital technologies and services in their daily lives, e.g. an online tool for enhancing basic digital skills amongst those with low levels of knowledge and accessible public spaces for them to find support.

We will also explore the possibility of a mobile digital education programme, to bring support and education to people where they live and work. Such a facility, supported by our local authorities and supported by key stakeholders, would provide access to digital skills learning without isolating certain communities and areas by being restricted to any specific place.

## Foundation 4: Harness the power of social innovation to increase digital inclusion and citizen participation

...continued

3. Explore ways to support those citizens across the DIZ with low levels of digital knowledge and capabilities in a way that both strengthens engagement and improves digital capability.

We will start by mapping local support services, voluntary organisations and social enterprises and engage them in strategic dialogues. We will collaborate as a group of councils and registered providers to provide the hard and soft infrastructure to support the digital delivery of council services to those in council housing, including Wi-Fi, computer hubs, and digital skills. We will also work towards increasing the digital footprint of voluntary sector by enhancing its capacity to use digital tools to deliver services to the communities each organisation supports.

We will create mentoring relationships between students and older citizens and incorporate this in schools and FE programme. Within the DIZ, a scheme could be implemented that used intergenerational digital projects as a way to help improve digital literacy amongst the older generation. This would be a coordinated scheme across all the district involved in the DIZ. The benefits of this are not just around improving digital skills but are also around building better relationships between young and older people – creating learning opportunities between generations. The institutions involved could span from primary schools to FE colleges in the area. It is particularly important that the older generation should have access to the internet as this is proven to alleviate loneliness and social isolation.

4. Work with businesses across the DIZ to better leverage private sector digital education programmes (e.g. Barclays Digital Eagles) into other skills, training and community-based programmes

The DIZ will seek to take advantage of the large number of private sector digital education programmes that are currently available by marketing the DIZ to them as an attractive area to operate in. There are many private sector organisations that have put research and money

into establishing digital learning programmes. Microsoft, Google and Amazon Web Services (AWS) all offer various training schemes. For example, AWS run a free training and job placement programme for the UK to educate young adults and military veterans, reservists and their spouses on the latest software development and cloud computing technologies. Lloyds and Barclays banks run Digital Champions and Digital Eagles, respectively. These both help people develop their digital skills and confidence so they are able to take full advantage of all things digital. For example, Barclays Digital Eagles are promoting basic digital literacy skills with many branches across the area. These initiatives cannot be relied upon alone, but they should be taken advantage of as part of a wider programme of digital upskilling. And, by coordinating the private sector's activities across the area, the DIZ can better leverage these programmes to supplement other training programmes.

These initiatives and programmes offer different skills with different levels of coverage across the DIZ. Some focus on basic digital skills for individuals and others focus on digital training for businesses. Therefore, it will be key for the DIZ to encourage those that are suitable for our communities and businesses, and that most closely align with our strategic priorities, thereby working with the private sector to identify and fill any skills gaps.

5. Address public concerns

DIZ Councils will listen to the concerns and needs of their citizens related to digital projects, adapting their digital education programmes or feeding back needs to national government. We will ensure citizen concerns are addressed throughout the design, testing and implementation of digital projects or products.

6. Adoption of a DIZ-wide commitment that 'no-one is left behind' by the digital revolution.

7. Work with key local service providers to ensure

the return on their investment (including social return on investment (SROI)) is maximised for local communities.

8. Conduct a clear and independent survey of residents' use of and attitudes towards emerging tech and digital service delivery.

9. Upskill and resource the voluntary and community sector providers to deliver digital initiatives.

10. Ensure digital connectivity is a bridge to social inclusion.





## Foundation 5: Futureproof the local economy by upskilling for the future of jobs

### What does that mean?

The future of jobs will be affected by developments in technology and the associated changes to economic, legal and social structures that will come with them. The long-term success of the DIZ relies on a skilled, adaptable workforce, and this starts with schools and training programmes. From an early age, students need to understand the opportunities and career paths that changing digital technology opens up to them. This includes shaping new curricula in schools and further education colleges, providing basic digital proficiency for all residents and helping certain sectors adapt to rapid change. Learning does not stop at age 18; adults will need to continue learning to adapt to changing job requirements.

Key education sector stakeholders within the DIZ should work together to ensure that digital skills and transitional employment skills form a core offer within curricula or additional training. These institutions must lead the way in educating young people to be digitally literate so they can navigate their way through a world that is becoming more and more reliant on technology and innovation. Working together, they could ensure a digitally literate and digitally skilled workforce within the area today and for years to come.

### Why will this work?

Over the next two decades, 10 million jobs in the UK are likely to change or be replaced by digital technologies (e.g. machine learning, robotics and autonomous vehicles). The case for this has been set out in the recent review on Industrial Digitalisation <sup>[1]</sup>. Whilst new jobs will be created to replace them, those jobs will require new skills, many of which we are not yet in a position to predict. This is a similar level of disruption to that which caused multi-decade recessions in the cities that did not successfully manage the transition in the last century from manufacturing to service economies. In their report "Cities Outlook 1901", Centre for Cities explored the previous century of urban development in

the UK, examining why at various times some cities thrived and some did not. They concluded that the single most important influence on the success of cities was their ability to provide their citizens with the right skills and opportunities to find employment, as the technology evolved and the skills required in the economy changed.

### Who should be involved?

- Local Education Authorities (LEAs) should work together and share resources to develop proactive programmes for digital skills in schools and further education colleges.
- Schools should share lessons learned and successes with one another and Local Education Authorities, including digital skills and career advice programmes.
- Further education colleges should collaborate to shape the local curriculum offer.
- Higher education institutions should assess their curricula to meet digital skills needs and assess the digital readiness of matriculating students to inform areas of growth in schools.
- Businesses should offer digital training to employees and consumers.
- Hertfordshire and South East LEPs should incorporate digital skills into their Strategic Economic Plans and Local Industrial Strategies.

### How could we achieve this?

**1. Create an awareness programme for companies and professions most likely to be affected by digital change and automation.**

We will set up engagement mechanisms to reach people and companies that need to re-skill for the jobs of the future, including automation of elements of warehouse and construction work.

**2. Provide a brokering scheme to meet bespoke demand for digital skills.**

To meet specific bespoke demand for skills, reflecting the ever-changing technical skills associated with digital,





this scheme could take the form of a partnership or collaboration with the private sector and educational providers to develop and tailor training and qualifications to emerging digital skills requirements.

### 3. Develop a more innovative apprenticeship offer in conjunction with new providers

Harnessing the capabilities and capacity within academic institutions to help meet the twin demands of scale and bespoke quality. Currently, almost 40% of apprenticeships in the DIZ area are in 'Engineering and Manufacturing Technologies' or 'Health, Public Services and Care' sectors. Only 3% of apprenticeships are in ICT. The DIZ could support the provision of apprenticeships in digital-related sectors and work with businesses to understand the digital skills needs required to grow apprentices in the digital economy.

### 4. Create a comprehensive, viable digital pathway for all skills needs consistently across the education institutions in the region.

We will encourage educational institutions across the DIZ to sign up to a "Digital Charter", coordinating their curricula to provide a core digital offer. Local specialisations in specific areas can provide a total cover for the DIZ as a whole. Because not every institution has the scale to offer the wide range of digital curricula required for the future economy, schools and colleges should work together to offer the breadth and depth of courses across the DIZ area. This gives the schools the scale to provide focussed classes in digital subjects. This should also include skills for digital infrastructure providers; infrastructure provision, maintenance and repair, and upskilling existing jobs which will be changed through digital infrastructure. The digital skills programme should not only encompass jobs within the digital economy but also basic digital skills that can be deployed in traditional organisations, such as golf clubs or social clubs, as well as in the voluntary sector.

### 5. Develop careers advice and pathways in schools

So that students understand, from an early age, what

## Foundation 5: The Big Idea

### • Coordinate a region-wide skills-for-the-future agenda

We will develop a 'Skills for the Future' collaboration programme, building on the knowledge of further education and higher education providers, the local authorities, and other stakeholders to guide the provision of education and training programmes which adapt to how technological change will alter the nature of work.

The Programme should be managed by a board with representation of the key stakeholders and should provide guidance to schools and other training providers on future trends and educational/skills requirements.

## Foundation 5: Futureproof the local economy by upskilling for the future of jobs ...continued

digital skills they will need in order to work (or pursue further education). The Skills for the Future programme should develop resources for careers advice to help schools and students understand the career opportunities that might not exist today but will in the future. This is as much about informing students as parents and teachers to shape skills, ways of working and thinking that prepare students for the digital economy.

6. Develop a strong educational and training component into the Local Industrial Strategy (LIS) to build in the link between educational success and economic success.

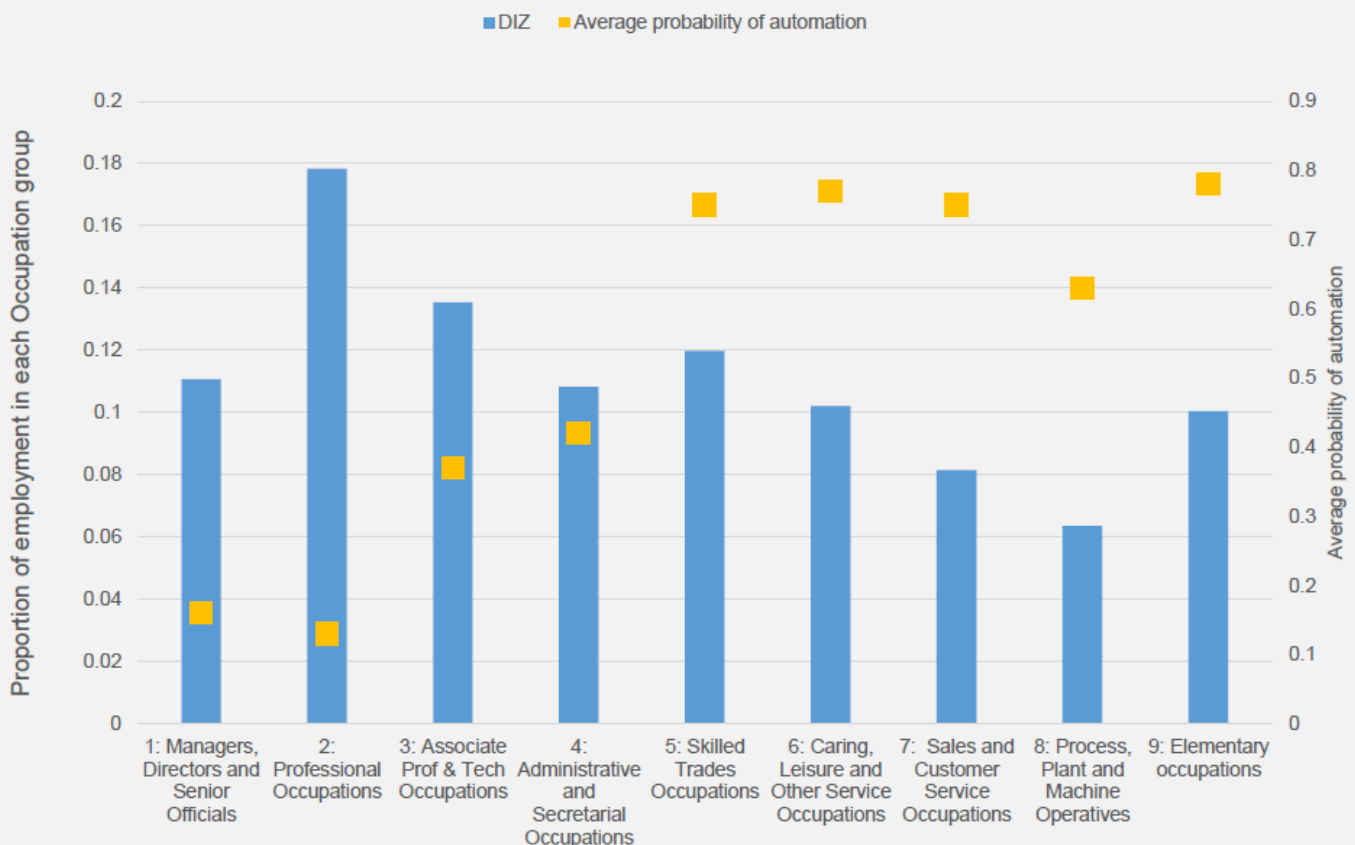
With an ever changing technological world it is more important than ever that the DIZ provides support mechanisms for reskilling and upskilling citizens. This will

enable the workforce to be changeable and reactive to the demands of the labour market. Each LIS should build a strong evidence base for supporting education and training programmes which will include adaptation to changing digital skills - cross-cutting across all sectors, not just 'the digital economy.' This will help prepare the DIZ area in the long-term for technological and digital change without locking in too much to a specific sector's requirements.

Up to 46% of current jobs in the DIZ could be at high risk of automation in the future (defined as at least a 60% probability of automation).

This demonstrates the positive and negative effects of digital change. While digital transformation can make workers more productive, it can also make some jobs redundant. Technology can also change the skills

Levels of employment in occupations at risk of automation in the DIZ



Source: Please see the Data Appendix

requirements of some jobs such that some people must upskill while others may have to take on less skilled work.

The shift in skills requirements and replacement of certain skills - or entire jobs - with new technology will change the nature of employment and qualifications in the DIZ.

To achieve its strategic ambitions for inclusivity, the DIZ partners will need to consider both sides of the productivity equation: making workers more productive and ensuring the population can work.

The public and private sectors will need to work together with educational institutions to help workers adapt to the new skill requirements they will face over time. This starts with early-years education and continues through adult learning. Curricula should consider the long-term changes facing the economy to equip students throughout the education system with the technical and workplace skills required to compete in a digital job market.

The unemployment rate for the DIZ area in 2017 was just 2.6%, well below the national average of 4.5% (see Data Appendix). Anecdotal evidence suggests that businesses in the DIZ require more workers in order to keep growing.

Successful places, however, face their own unique challenges. DIZ businesses need consistent access to skilled workers to continue growing. These workers will come from the new settlements in the DIZ as well as from outside the area. The widening marketplace for workers will mean that the local educational offer will be important, but businesses and FE colleges will play an important role in upskilling workers who may move to the DIZ or commute into the area.

Successful places must also continuously adapt to economic and technological change. Research shows that the ability of Preston to adapt and reinvent itself from the cotton industry to a regional service centre with a more diverse economy contributed to its longer-

term success. Meanwhile, nearby Blackburn and Burnley were less successful at adapting, which led to population shrinkage and economic decline.

In order for the DIZ to maintain local economic strength and prosperity, it must continue to adapt to technological and economic change. Digital economy will be important for the foreseeable future, and the wide-ranging skills that will be required across the digital economy will require businesses and the education system to adapt and be agile. This may also include supporting businesses which are struggling to find enough skilled workers, building efficiency where labour supply is low.

7. Maintain the thought leadership role if the DIZ through its series of Smart place Seminars.

8. Working to expand and coordinate the digital skills offer, including higher, further and school education, skills for life and digital industry skills.

9. Achieving 'digital beacon' status for the colleges of the DIZ

## Foundation 6: Leverage local assets to attract investment in digital infrastructure

### What does that mean?

To be competitive, the DIZ will need world-class digital infrastructure, and we will position the region to attract the investment needed to provide that infrastructure. Because the DIZ spans multiple regional and agency borders, to ensure that digital services and infrastructures across the region interoperate and that data can be shared consistently, we will apply agreed standards for doing so. It is imperative that authorities across the region are enabled to safely and securely share information in order to apply consistent solutions that address targeted, and often cross-border, challenges across the DIZ.

Pension funds, sovereign wealth funds and other long-term, institutional investors face a shortage of well-defined investment opportunities with reliable long-term returns; they therefore compete for them when they arise. This competition creates the opportunity to use property and infrastructure investments to also secure investment in digital infrastructure. We will work with local authorities to apply consistent policies and requirements for digital infrastructure and services in new developments.

### Why will this work?

The UK Government is stimulating investment in both fixed (Local Full Fibre Network) and mobile (5G) connectivity as it understands the importance of these technologies to UK economic competitiveness. There is also considerable interest amongst private sector connectivity infrastructure investors to identify the most attractive investment opportunities. The DIZ contains several potential “anchor clients” for such connectivity – colleges and universities educating “Generation Z”, KAO Data Centre, health institutions and technology providers working with “big data” technologies. By aggregating this evidence of demand as part of a clear regional connectivity strategy, the DIZ can present a clearer, more substantial opportunity to these investors.

Alongside public sector procurement, the most significant investment streams funding regional interventions to create economic, social and

environmental outcomes are those that enable property and infrastructure development. The Essex-Herts DIZ contains several current and future significant development opportunities that could be leveraged in this way. The East Wick and Sweetwater development in the London Olympic Legacy estate was awarded on this basis, and similar mechanisms are in use in the Birmingham Smithfield and London Carpenters Estate developments at present.

### Who should be involved?

- Planning authorities
- Developers
- Infrastructure providers
- Councils' IT departments
- Broadband infrastructure operators

### How could we achieve this?

1. Map out the DIZ's physical and digital assets evolve / innovate the way they are used.

The Common Assets Register of local digital assets will help us to identify the strengths and gaps in the digital infrastructure of the DIZ. We will expand the Register to become a single mapping portal for data, describing all public sector digital assets, above and below ground, related to facilities from airfields to buildings to park benches, and to incorporate appropriate private sector assets such as data centres or those associated with GP surgeries or other facilities used by the general public. This will enable us to promote a single picture of the asset base in the DIZ to organisations who might wish to use or invest in it, commercially or non-commercially, to support future infrastructure delivery, Internet of Things initiatives, mapping projects and other programmes that will be of benefit to the DIZ.

2. Work with BT Openreach, Virgin Media, Gigaclear and other providers to make the case for the DIZ to leapfrog from “superfast” to fibre to the premises (FTTP) infrastructure.

The DIZ already has good basic connectivity and we aspire to achieve full coverage at 1GBps by 2025. By





aggregating and promoting demand across the region, we will make ourselves a more attractive region to receive earlier and more widespread investment.

### 3. Create consistent policies that will attract private sector digital infrastructure investment and network investment e.g. automatic installation of ducting in new roadworks.

Ensure all planning policy supports and encourages the roll out of fibre infrastructure across the DIZ as quickly as possible. Minimise the barriers to implementation by using blanket wayleave agreements to speed up access to premises, streamlining the highway works approval process, and giving providers early sight of new development sites so that they can be included within investment plans.

### 4. Leverage existing and new development opportunities to improve the digital infrastructure.

Our engagement with stakeholders proved that achieving connectivity in large housing areas was of great importance and priority to the local authorities. As developments are planned and delivered within the DIZ (e.g. Stansted, Harlow and Gilston Garden Town, West of Braintree, Easton Park, North Uttlesford, High Leigh and Brookfield Garden Communities), more could be done to ensure that planning policies ensure adequate digital connectivity and services are provided to those homes. This will make sure that residents in new developments are not at risk of exclusion due to a lack of digital connectivity or access to modern digital services. By coordinating their actions, councils and registered providers can act more effectively, share lessons learnt and build scale to make programmes more viable, for example by coordinating digital investments between multiple programmes.

### 5. Clearly committing to sharing information on planned infrastructure development to facilitate better coordination across public and private sector organisations

### 6. Jointly targeting central government funding streams that meet the strategic aims of the DIZ e.g.

## Foundation 6: The Big Idea

### • Coordinate a future timeline of infrastructure and property investment opportunities

We will map future infrastructure and property investments and align them to requirements for digital infrastructure and services. We will also determine the key interventions needed to elevate demand for fibre from the business and residential communities.

Arup's digital master-planning framework, illustrated on pages 52-53, summarises the role of five layers of digital infrastructure, assets and services in this process:

**Connectivity:** This is addressed in our current Goal 6

**Assets and Infrastructure:** As above

**Open Data:** As summarised in Goal 3, creating a data strategy will be key for creating an open data ecosystem and using data for better decision-making across the DIZ.

**End User Services:** As summarised in Goal 3, we will champion better use of digital technology by local authorities

**Enablement:** As summarised in Goal 4, we will harness social innovation through connecting better with our citizens, voluntary sector and social enterprises to co-create solutions needed by the local communities.

Local Full Fibre Networks, 5g Testbeds and trials, local Digital Fund programmes.

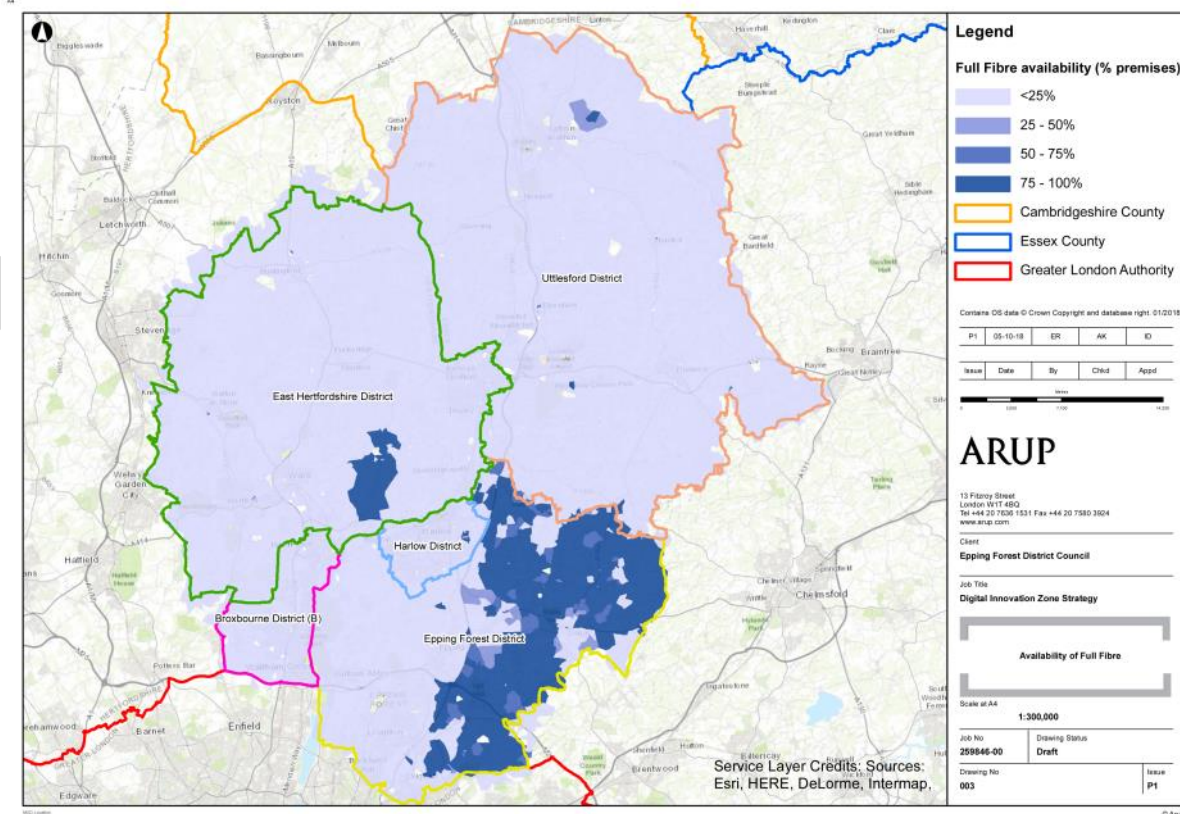
7. Establishing a joint procurement approach to combine the purchasing power of the various public sector organisations of the DIZ.

8. Working to understand the value and scale of the public sector asset base to leverage in private sector investment.

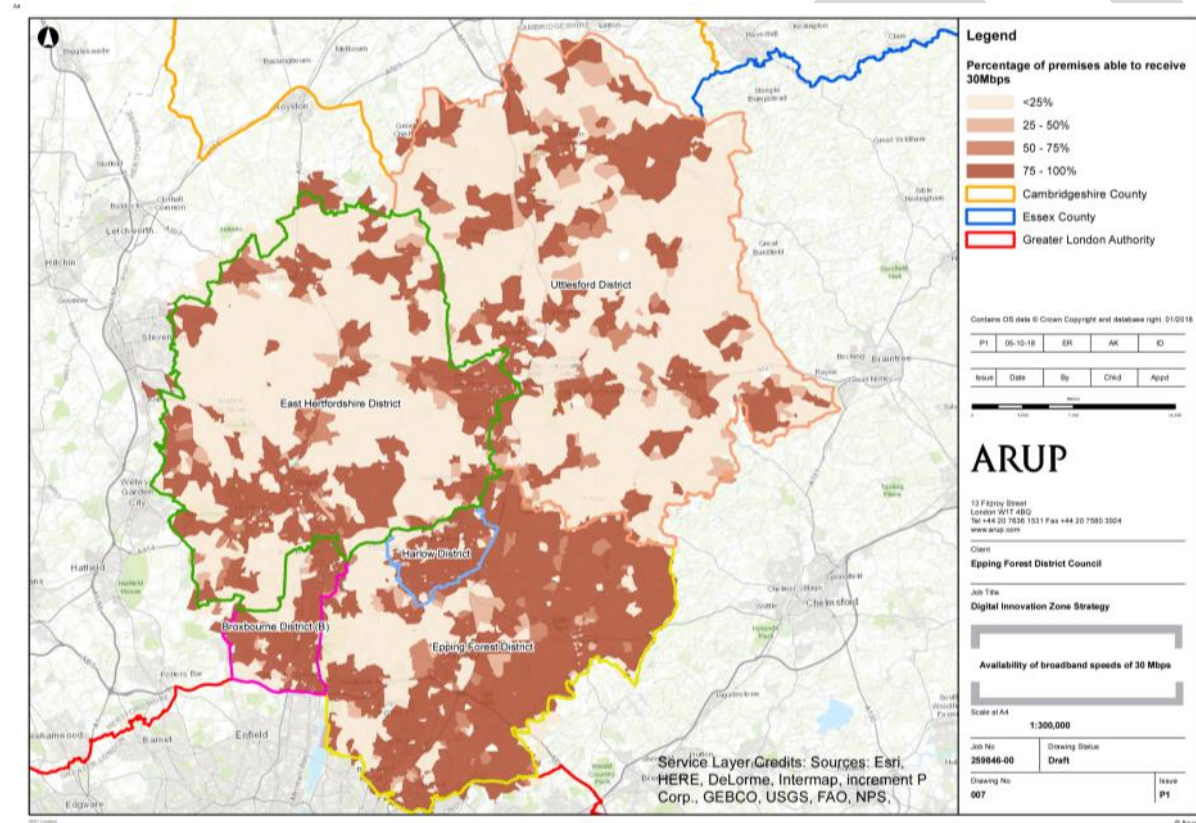
9. Continuing commitment from local authorities to drive up and promote 100% fibre-to-the-premises gigabit connectivity.

# Foundation 6: Leverage local assets to attract investment in digital infrastructure...continued

Map showing levels of Full Fibre to the Premise (ultrafast) broadband availability in the DIZ

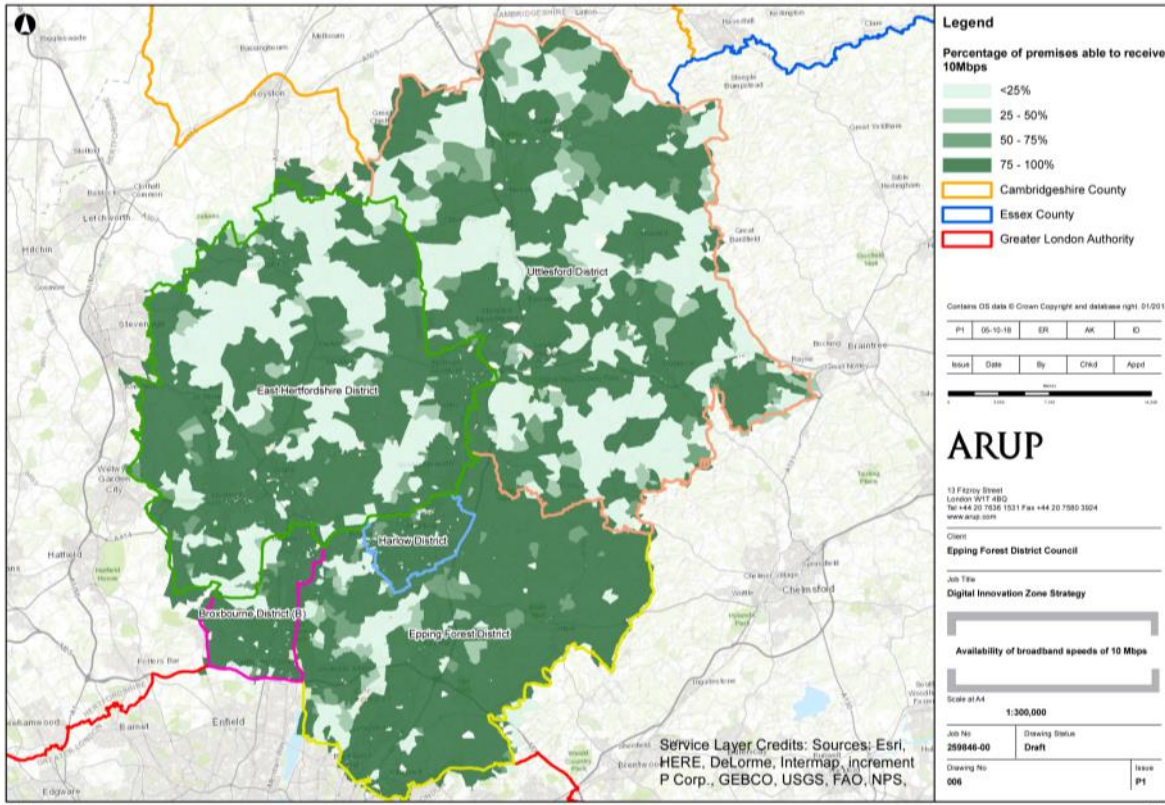


Map showing levels of 30Mbps (superfast) broadband availability in the DIZ

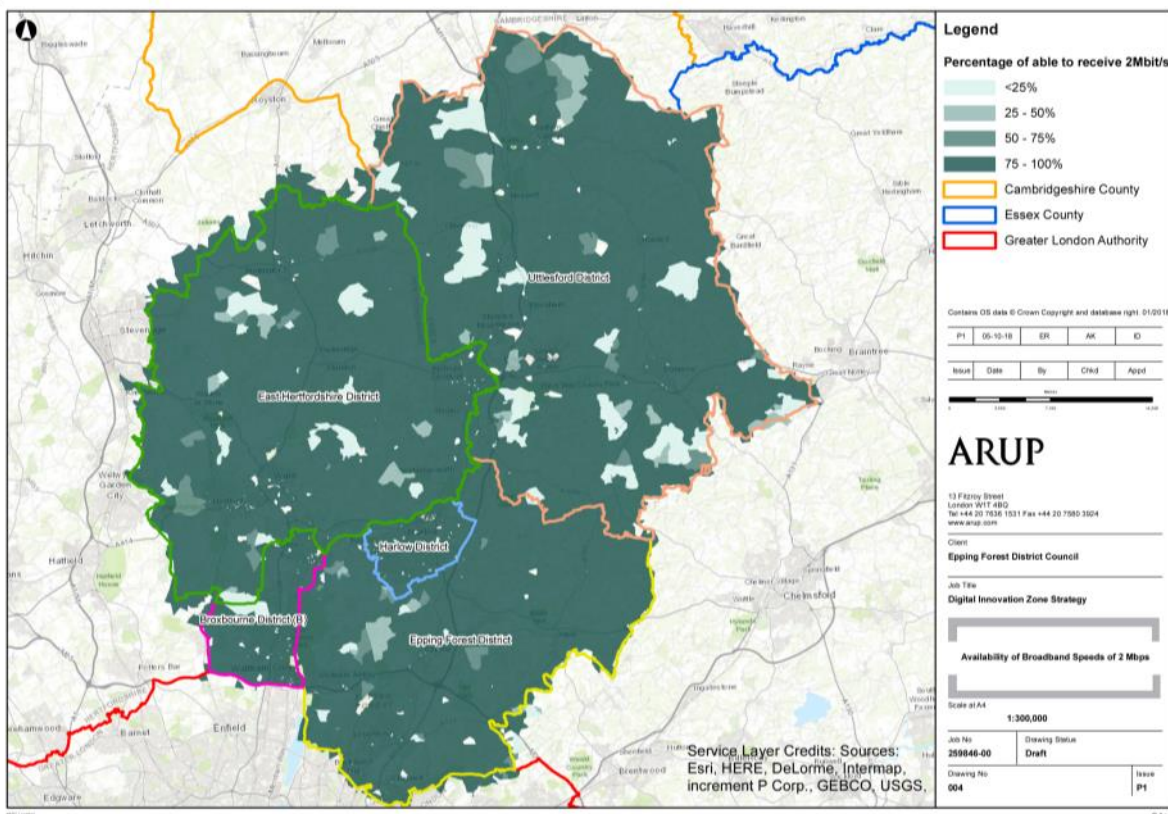




Map showing levels of 10Mbps broadband availability in the DIZ



Map showing levels of 2Mbps broadband availability in the DIZ



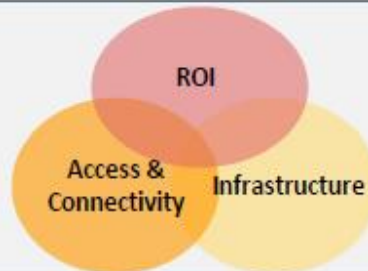


# Foundation 6: The Big Idea - Coordinate a future timeline of infrastructure and property investment opportunities...continued from page 49

## ARUP DIGITAL MASTERPLANNING FRAMEWORK



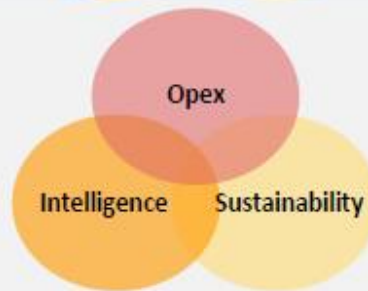
Connectivity



5G



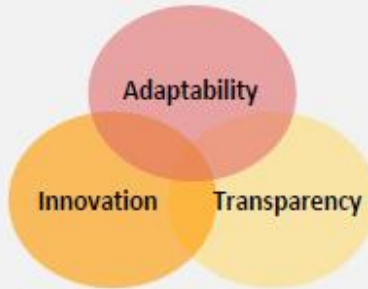
Assets and Infrastructure



Transport for London



Open Data



End User Services



Supporting independent living



Enablement



DOWN YOUR HIGH ST



Capability	Benefits	Source of Investment
<ul style="list-style-type: none"><li>• Fixed broadband</li><li>• Mobile end-user (4G / 5G)</li><li>• IoT (LoRa, Sigfox, Zigbee)</li></ul>	<ul style="list-style-type: none"><li>• Resident, business, employee and visitor access to digital services</li><li>• Enablement of intelligent infrastructure and services</li></ul>	<ul style="list-style-type: none"><li>• New developments</li><li>• Connectivity providers</li><li>• Operators</li></ul>
<ul style="list-style-type: none"><li>• Smart lighting</li><li>• Smart traffic management</li><li>• Smart utilities</li><li>• Smart buildings</li><li>• Smart energy</li></ul>	<ul style="list-style-type: none"><li>• Cost effective operations</li><li>• Provision of connectivity infrastructure</li><li>• Reduced congestion and environmental impact</li></ul>	<ul style="list-style-type: none"><li>• New developments</li><li>• Operators</li><li>• City service providers</li></ul>
<ul style="list-style-type: none"><li>• Open data and APIs to enable adaptability of the environment</li><li>• Enable development of innovative services</li></ul>	<ul style="list-style-type: none"><li>• Enable 3<sup>rd</sup> party innovations</li><li>• A resource to support modern businesses</li><li>• Enable transparency of public services</li></ul>	<ul style="list-style-type: none"><li>• Very little investment required if included in initial plan</li><li>• Leverages business, venture and social investments</li></ul>
<ul style="list-style-type: none"><li>• Innovative urban services in food, retail, transportation, logistics / deliveries entertainment, leisure ...</li></ul>	<ul style="list-style-type: none"><li>• Create community events, interactions and engagement</li><li>• Attract job-creating businesses</li></ul>	<ul style="list-style-type: none"><li>• New developments</li><li>• Leverages business, venture and social investments</li></ul>
<ul style="list-style-type: none"><li>• Digital skills</li><li>• Business development and incubation</li><li>• Community initiative support</li><li>• Innovation programme</li></ul>	<ul style="list-style-type: none"><li>• Provide opportunities for local residents to develop new skills</li><li>• Assist local businesses to grow and evolve</li><li>• Attract new innovators</li></ul>	<ul style="list-style-type: none"><li>• New developments</li><li>• Leverages business, venture and social investments</li></ul>

## Foundation 7: Harness place-making in new developments and existing centres

### What does that mean?

Quality places retain and attract skilled and talented people and businesses who look for places that meet their needs, including community cohesion, retail, food and drink offer and access to education, the natural environment and cultural activities. Capitalising on the existing quality of places and realising the aspirations for the regeneration of Harlow provides the opportunity to secure investment from existing businesses as well as those looking to locate into the DIZ. Digital technology will continue to play an important role in creating quality places. Over the coming years it will likely drive and enable further changes in our built environment and how we use it.

### Why will this work?

Feedback from stakeholders indicates that large employers generally require a high-quality retail, food and drink offer and access to education, the natural environment and cultural activities if they want to attract and retain the best talent. This reflects an increasing preference for businesses to move away from edge-of or out-of-town campuses to town centre locations where employees can access the services such centres offer.

The impact of digital technology on our economy and society will continue to accelerate. These technologies, the services they enable, and the skills and connectivity required to use them will continue to have a significant effect on urban communities, and on place-making outcomes such as economic growth, social mobility, community engagement, wellbeing and so on. There is a need to ensure that existing and future developments can respond to these changing trends; this ranges from the specification of digital infrastructure to how digital technology is enabling changes in how and when we use places and spaces.

It is recognised that the planning process, which provides the main forum for facilitating quality in place, is lagging behind in the way it uses technology. This can result in opportunities to incorporate digital into

placemaking being missed and members of the community being left out of the design process.

### Who should be involved?

- Local authorities and economic development agencies
- Developers
- Business
- Infrastructure providers

### How could we achieve this?

**1. Ensure local planning policies and decisions support place-making outcomes.** The policy framework should provide flexibility to enable development to respond to changing trends and enable places to retain their vibrancy. This should include how shops, offices and public spaces can accommodate temporary uses such as pop-up events, markets, or entertainment spaces to increase footfall and activate town centres as well as the importance of facilitating a mix of uses including residential, office, retail alongside high quality public spaces.

**2. Use local authority assets to improve quality of place and stimulate regeneration.** The consolidation of existing facilities and/or creation of community hubs can provide a focus for developments/town centres and the centre of the community. Local authorities will consider how the provision of new, or the release and consolidation of existing, communities can provide an enhanced local experience.

**3. Explore opportunities to put people at the heart of the design process recognising they are the end users of developments and services.**

This should be facilitated through innovative forms of engagement including user-centred apps, 3D modelling and platforms where people can share ideas and collaborate.

**4. Invest in digital technology to improve the ability**





of the community to engage in the planning process and shape the development outcomes in their area.

Initiatives could range from improved transparency of data, joint data standards across authorities to enable data sharing and interrogation, to the creation of a 3D model for the area which enables policy constraints and development proposals to be viewed in 3D.

**5. Encourage local authorities to be leaders in demonstrating how digital technology can enable better economic and social outcomes.**

This should include where they are acting as developer for new residential development as well as bringing forward public realm and highway improvements and town centre regeneration.

**6. Review how planning tools can expedite and increase certainty of planning decisions for connectivity infrastructure.**

The delivery and interoperability of connectivity infrastructure will be key to achieving the goals of the DIZ. The planning process is often perceived as a barrier to delivery. The local authorities should explore how tools such as Local Development Orders can be utilised to provide a simplified approach to securing consents.

**7. Sponsor studies to explore opportunities for a digital-ready or pathfinder new town / garden town.**

**8. Ensure delivery of services is customer focused as well as delivering cost reductions.**

## **Foundation 7: The Big Idea**

**Integrate the DIZ strategy into local plans to support the creation of places where people want to live, work and play.**

Translating the goals and recommendations of the DIZ strategy into local plans and masterplans will make clear the benefits that we expect digital infrastructure and services to bring to developments and regeneration in the region, and their importance to achieving place-making outcomes. We will also emphasise the importance of high quality places to attracting digital businesses and residents with digital skills.

The Essex and Hertfordshire authorities are well advanced in the current plan-making cycle. The short-term focus should therefore be on how Strategic Masterplans being prepared to support the Harlow and Gilston Garden Town and other important developments across the DIZ can incorporate digital infrastructure and services in support of the place-making and place-shaping outcomes set out in existing local plans. In the longer term, updates to local plans should incorporate policy hooks to support the achievement of the DIZ aspirations and goals.

Our local authorities should aspire to be leaders in achieving this aspiration.



# Operational recommendations - bringing the strategy to life

Whilst this strategy looks towards the long-term strategic development of the Digital Innovation Zone, there are a number of key steps and measures that could be adopted more rapidly and that address key issues of connectivity, functionality and growth. These initiatives, which support the strategic foundations proposed, have been suggested by a range of the DIZ partners and could be applied either DIZ-wide or in more targeted geographies as appropriate. These recommendations have been collated under the relevant strategic heading and are set out below:

### Foundation 1: Establishing the DIZ Brand

- The Local Enterprise Partnerships (LEPs) should ensure a significant digital focus in local industrial strategies demonstrating how they will enhance digital infrastructure and encourage new and existing businesses to boost their digital profiles
- That the DIZ inaugurates an annual prize to recognise excellence in innovative digital provision in the public, private or voluntary sectors
- To work with partners to commission the design, development and implementation of a marketing plan for the DIZ
- The DIZ to begin negotiations with major private sector infrastructure providers to explore the potential of designating the DIZ geography as a beacon or pathfinder place for digital innovation
- This strategy should be launched at a high-profile event to promote a dialogue with central government and infrastructure providers
- DIZ partners should seek early meetings at a senior level, involving local leaders and MPs, with Department of Digital, Culture, Media and Sport to examine and promote support for Smart 'place' initiatives linked to Smart 'city' learning

### Foundation 2: Creating leadership in Healthtech and Agritech innovation

- That the Local Enterprise Partnerships (LEPs) should look to establish a Digital Innovation Fund as part of the local industrial strategy to pump-prime / match

fund local business investment in digital capability

- To lobby for and support the investment plan for a new digital pathfinder hospital in or around Harlow

### Foundation 3: Engaging and invigorating the public sector

- All DIZ local authorities should identify a digital officer lead and an elected member digital champion
- All DIZ local authorities should sign-up to and adopt the principles of the MHCLG Digital Declaration
- DIZ partners to seek external funding from central government to help support integrated delivery in public services utilising digital technology, approaches and applications
- That the DIZ develops its own Digital Charter setting out standards, expectations and aspirations for digital investment and delivery, encouraging all major public service providers to sign up
- To continue the dissemination of learning and experience from the Design in the Public Sector programme, encouraging the continued use of design skills, tools and approaches in the design and delivery of DIZ projects and initiatives

### Foundation 4: Digital inclusion and citizen participation

- That the DIZ sponsors an in-depth look, via a digital census, at residents' attitudes towards, capability for and perception of home, work and life as it might look for them in the next 5-10 years

### Foundation 5: Future-proofing the economy by upskilling for future jobs

- Local further education (FE) colleges should look to collectively deliver a balanced digital curriculum across the DIZ and market this offer to residents, employees and employers
- That all local FE colleges move rapidly to attain a recognised form of digital college accreditation
- The DIZ to jointly seeks private sector sponsorship for primary and secondary school prizes to recognise

excellence in digital education

#### Foundation 6: Leveraging local assets to attract digital infrastructure investment

- Local highways authorities to instigate steps where appropriate to install future-proofed ducting capacity in all new road developments and significant road renewals or remediation
- All local authorities to agree to waive associated wayleave costs for digital infrastructure projects
- To boost take-up of enhanced digital connectivity, local authorities should provide a supportive environment that enables the wrapping of cabinets for promotions by network providers
- The DIZ develops a broadband take-up campaign focusing on public estate access points and usage
- The DIZ should produce an infrastructure investment audit for public service identifying in detail individual infrastructure investment programmes and potential overlaps
- To maintain and expand the joint Essex and Herts smart digital street lamp rollout across the DIZ
- To establish a baseline register of the public sector fixed asset portfolio across the DIZ geography to underpin and support bidding for external funding and potentially provide a physical enabler upon which infrastructure providers might 'hang' new connectivity initiatives and networks
- To conduct a cost-benefit analysis of a public sector network (PSN)
- To submit to DCMS an expression of interest in utilising Local Full Fibre Network funding to enhance the full-fibre infrastructure across the DIZ geography through provision of FTTP connectivity to the GP surgeries of the DIZ
- To prepare the DIZ, through developing its identity, visibility and positioning, such that it is ideally placed to submit a full and detailed bid to any future rural equivalent to the DCMS Urban Connected

Communities Project and successfully establish the DIZ as a go-to testbed area for digital connectivity and 5G initiatives as they emerge

#### Foundation 7: Harness local place-making

- A common planning policy be developed setting a connectivity target of 100% Fibre-to-the-Premises (FTTP) in new developments in excess of xx number of homes
- Planning gain / Section 106 / Community Infrastructure Levy arrangements should include a discussion on investment on furthering digital connectivity as standard
- New employment premises should be asked to score against the Wired Certification standards
- The DIZ partners should commission a digital delivery plan specifically for the Harlow & Gilston Garden Town community

#### Resourcing the DIZ

- To, following adoption of the strategy and operational recommendations, conduct a review of capacity and resources amongst DIZ partners to define a pathway to delivery

#### Governance of the partnership

- The DIZ should host an annual digital stakeholder conference to share and discuss experiences, learning and funding sources as well as review collective progress on the delivery of this Digital Innovation Strategy's action plan
- To ensure that all DIZ partners adopt and approve this Digital Innovation Strategy and ensure that it is reflected in their corporate plans
- The DIZ should continue its insight programme into specific areas of digital technology and applications supporting specific employment or public service delivery sectors

# Resourcing the DIZ - Our ask of the investors in tomorrow

This strategy has laid out a number of recommendations and interventions intended to position the Essex and Herts Digital Innovation Zone for a successful future. However, carrying them out will clearly require resources and investment.

Whilst national and local public sector finances are clearly under sustained pressure, there remain a number of sources of resources and investment to support digital initiatives such as this strategy – and, in fact, our recommendations and Gamechangers are intended to access those sources.

### Strategic Government Programmes

The UK Government Industrial Strategy clearly recognises the need for regional collaborations, innovation and investment in infrastructure to support productivity; in particular, it highlights the UK's productivity shortfall compared to other G7 nations, and the productivity shortfall of the UK's regions compared to London. The DIZ Strategy and the partnership are therefore well positioned to take advantage of the investment programmes driven by the strategy.

A variety of government investment programmes exist to support the Industrial Strategy. In Foundation 2, we recommend the establishment of an umbrella body to coordinate the DIZ's support for incubation and innovation; a key role for this body should be to coordinate DIZ partners in identifying and bidding for these funds, several of which are highlighted below.

In Foundation 1, we recommend the identification of a prominent national figurehead for the DIZ. A key role of such a person will be to engage with government bodies and programmes to raise the prominence of the DIZ for consideration in them; and to maximise local insight into future opportunities.

### National Productivity Investment Fund

This fund exists to invest in the infrastructures required to address the productivity challenges identified in the Industrial Strategy. It is usually employed to support more specific funding programmes that are then directly accessible – for example, the Department for Culture,

Media and Sport (DCMS) 5G Programme and the Industrial Strategy Challenge Fund.

### Industrial Strategy Challenge Fund

The Industrial Strategy Challenge Fund is making competitive investments available in waves for innovative proposals to deliver new projects, products, services and technologies that are relevant to the “Grand Challenges” identified in the Industrial Strategy. Each of these is relevant to the DIZ strategy:

- Artificial Intelligence and Data Economy – aligns to the DIZ focus on digital technologies and skills in general; agriculture was identified as one of the six focus areas for the related AI Sector Deal funding, aligning specifically to the proposed focus on “AgriTech” for the DIZ.
- Clean Growth – agriculture and food production is a significant contribution to global environmental challenges, and so the proposed focus on “AgriTech” innovation for the DIZ is related to this Grand Challenge
- Future Mobility – aligns to the DIZ location in the London Stansted Cambridge Corridor
- Ageing Society – aligns to the proposed focus on “HealthTech” innovation for the DIZ

### 5G Test Bed and Trials Programme

Through DCMS, the UK Government is investing approximately £500m of the National Productivity Investment Fund (NPIF) in programmes to stimulate the deployment and adoption of next generation “5G” mobile technology in the UK. DCMS' objectives include a more rapid and widespread deployment of 5G networks than was achieved for UK 4G networks; the deployment of more resilient networks; and the avoidance of “not-spots” along transport infrastructures and in rural and deprived communities. Phase 1 projects have now been awarded and include a range of applications in rural areas covering health and tourism as well as manufacturing. These will run until 2019. Phase 2 will include the urban and rural connected communities programmes, for which the former

was recently awarded to the West Midlands Combined Authority. In late 2018, DCMS will begin to mobilise work around the rural element, which is expected to culminate in a competition later this year for two separate demonstrators. The DIZ partners would consider applying to this programme as both the partnership and strategy provide a solid base which is well aligned with the programme's objectives.

### Local Full Fibre Network (LFFN)

DCMS is also running a programme for local authorities to invest in fibre networks within their area. Two phases of this programme have already been completed. These early phases were run along 'traditional' competition lines, with submissions to DCMS by a certain deadline and awards given out to the highest scoring of these. The third phase is being run slightly differently. DCMS are inviting local authorities or (more preferably) a collection of local authorities to submit outline proposals based around a strategic investment case. Following this, DCMS are holding conversations with bidders to help them develop their bids further and the opportunity to submit a final submission within an agreed timeframe. The DIZ partnership will consider producing an outline business case for an LFFN bid and seek a meeting with DCMS as soon as possible.

### Local Digital Fund

### Direct Private Sector Investment

As the world has experienced a challenging economic environment over the past decade, many traditional investments have underperformed. Investors with significant funds – in particular pension funds and sovereign wealth funds – have consequently sought new investment opportunities. Either by exploiting the DIZ scale by collaborating, or by working with intermediaries such as property developments, these funds should be a

source of opportunity for the DIZ.

### Infrastructure Investors

Through the DCMS 5G programme, infrastructure investors are showing interest in investing in new classes of connectivity infrastructure. Rather than simply being a symptom of the 5G programme specifically, which in many ways is simply acting as a figurehead, this is the consequence of a growing recognition of the importance of digital infrastructure in enabling economic activity and growth, and hence the opportunity for investments in it to generate a return.

Whether the DIZ is successful or not in bidding for a role in the DCMS 5G programme, its partners should shape a collective investment proposition for digital infrastructure as our Foundation 6 Gamechanger has recommended, as both the scale of the DIZ and its clear strategy and strengths for the digital economy will make it an attractive prospect.

### Property Investors

Particularly given the DIZ is located adjacent to London, property development is a major opportunity for investors; and developers working on projects at campus or neighbourhood scale are additionally under obligations to shape their developments not just to include buildings that can be sold or rented for a profit but to provide public space and to invest in infrastructure facilities, from transport services to schools.

The developments associated with HS2 at Euston station, for example, will drive investment in a "Knowledge Triangle" between the university centres of Euston (the home of UCL), Oxford and Cambridge – a geography that significantly overlaps the DIZ and the London Stansted Cambridge Corridor. These provide an immediate opportunity to collaborate with a significant stream of investment.

As we have recommended in Foundation 6, the DIZ local authorities should collaborate to incorporate the recommendations of this strategy into their development strategies, local plans and masterplans in order to



# Resourcing the DIZ ...continued

maximise the DIZ opportunity to benefit from a digital contribution from these investments. It is increasingly common for local authorities to request developers to shape propositions that include investment in digital infrastructure alongside roads; the use of digital technology to enable intelligent services such as smart energy grids; the provision of digital training and enablement facilities alongside traditional schools; and support for incubating technology services alongside traditional business support.

By coordinating these approaches across the DIZ, and highlighting the opportunity to engage with existing digital infrastructures, services and institutions, the cost and impact to developers and investors will be minimised, synergies with existing stakeholders will be discovered and exploited, and the benefits to the DIZ will be maximised.

### Business Investment

Decisions by businesses to base themselves in the DIZ are clearly another source of investment, both direct (for example, when they develop their own property estates and infrastructure) and indirect (through employment and the demand for supporting services, for example). Our Strategy for the DIZ contains several elements that are intended to increase the area's attraction to business – the emphasis on skills, digital infrastructure and placemaking in Foundations 5, 6 and 7 respectively, for example; as well as the recommendation in Foundation 1 to create and promote a clear brand for the DIZ.

Another priority for business in today's economy is innovation. As digital technology continues to create disruptions in every sector of the economy, businesses are not simply faced with the imperative to use digital technology to create incremental efficiencies and improvements to their products and services; they are faced with fundamental restructurings of their markets. Traditional supply chains and sales and marketing channels are replaced by dynamic, online “two-sided business platforms”; sectors such as media, technology

and communications become indistinguishable; and new partners, suppliers, customers and competitors are constantly emerging, changing and moving on. (“Two-sided markets” are explained in this Wikipedia article: [https://en.wikipedia.org/wiki/Two-sided\\_market](https://en.wikipedia.org/wiki/Two-sided_market))

Very few, if any, companies have the capacity to succeed through these transformations on their own. Most do not have sufficient research and development budgets, but in any case the capacities and ideas required to do so will often come from external sources – people and organisations from different sectors, with different backgrounds and experience.

The most effective way for businesses to undertake the transformations required to be successful is through a process of “Open Innovation” – cross-sector collaborations involving businesses from start-ups to SMEs to large corporates, universities and government agencies, to share challenges, solutions and ideas. These collaborations are then capable of attracting investment from many sources – government innovation grants and research councils; venture capital investment; and corporate research and development funding.

Our recommendations in this strategy are intended to maximise the DIZ region's capability to support Open Innovation, and to promote that capability on the national and international stage in order to attract investment. In particular, by focussing clearly on two important sectors in which the DIZ has real strength, AgriTech and HealthTech (Foundation 2), and creating an umbrella body and regional venture capital fund to support them; by creating and promoting a strong brand (Foundation 1); and by maximising the capacity of the public sector to adopt the resulting innovations (Foundation 3), we intend for the DIZ to become one of the leading regions in the country for enabling businesses to succeed through innovation.

### Engaging with National Government

The UK Government has committed to developing a world-leading digital economy and we will ensure that the DIZ Partnership collaborates with national government to achieve this for our region. We will also lobby Government

to provide better support to 'smart places' not just 'smart cities' and offer incentives to areas like ours to test new digital approaches and technologies to help us achieve our goals.

By promoting our brand and working closely with DCMS and other relevant government departments, we will ensure that the DIZ takes a prominent place on the national stage as a smart place to live, work, study and do business in.



# Governance of the Partnership

One of the DIZ's strongest characteristics is the unique consortium of partners and stakeholders it represents. This inclusive approach should be maintained and expanded but with clear responsibility and accountability for important work streams identified. The model shown below is the recommended governance and delivery structure for the DIZ.

Successful execution of this strategy to achieve its goals will depend on the implementation of a substantial shared delivery programme that collectively meets the objectives of all of the DIZ members.

The design of that programme and its governance will need to recognise the collaboration, co-investment and co-management needed between public and private sector stakeholders, and the relationship between collective goals and individual objectives.

Each partner is likely from time to time to be asked to contribute and prioritise resources to initiatives based on those shared goals, and they are only likely to do so if they are fully committed to the DIZ, and see evidence that progress towards achieving its goals delivers the benefits they individually expect.

The specific forms of governance and collaboration we adopt will follow from the initiatives contained within this strategy, and on the infrastructure, services, institutions and funding involved. Previous research from Centre for Cities demonstrates that the form of

governance for initiatives involving public sector collaboration can involve varying levels of formality, from co-operation and collaboration to co-investment and partnership.

The policy and programme decisions made amongst and between organisations within the DIZ merit careful consideration, as they have the potential to yield synergies in delivery and benefits when taken together. For example, skills and training programmes within the DIZ could incorporate community aspects to help parents and neighbours gain basic digital skills, which will then benefit the implementation of digital public services.

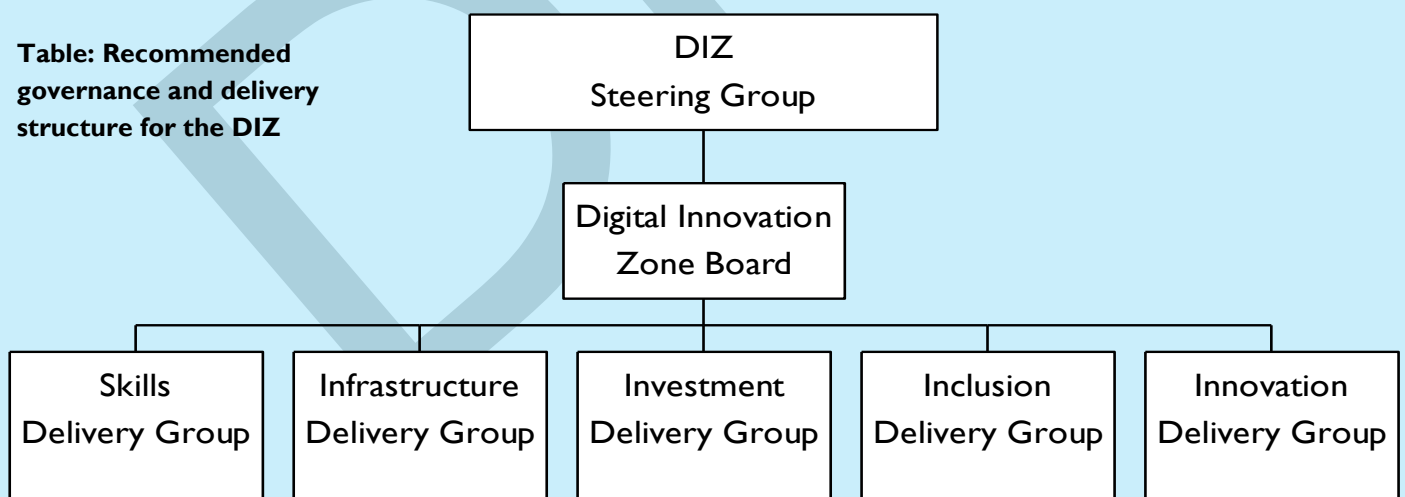
Benefits of closer collaboration could include:

- Management efficiencies: Efficiencies in planning and managing projects, including understanding the interactions between them
- Stakeholder management: Sharing information with regards to consultation and planning considerations and sharing responsibility with regards to engaging additional stakeholders
- Improved planning: Developing more holistic strategies, considering implications across the DIZ strategy

Centre for Cities' research indicates that co-investment between DIZ partners could bring further benefits:

- Build scale: By co-investing, partners create a larger

**Table: Recommended governance and delivery structure for the DIZ**





pot of money which can be used to leverage additional investment from the private sector. This allows them to undertake more activity than they could do on their own

- Share risk: Since partners have more money to spend on a range of projects of varying risk levels, they can develop a broader, more varied portfolio of projects across the programme
- Coordinate investments: The core partners can coordinate investment more effectively, planning strategically where and when to invest in housing, transport and regeneration schemes to maximise the effect
- Invest efficiently: By pooling budgets, core partners can achieve economies of scale in making and managing investments
- Develop a project pipeline: The core partners should be able to better plan for and develop a pipeline of projects across the area

There is a strong case for more formal co-working between the DIZ partners at a minimum, with additional collaboration with the other core stakeholders. As a priority we need to:

### 1. Secure buy-in for DIZ priorities, vision and strategy amongst member organisations.

The DIZ strategy has been prepared in collaboration with our member organisations and key partners, and it reflects the priorities and goals of each member as well as the DIZ partnership as a whole. We have signed up to a common digital vision, and our first step will be to set up a delivery body to drive and oversee the implementation of the strategy. This delivery body and the DIZ partners will create a roadmap for achieving each of the goals set out in our strategy and commit resources to delivering the recommendations put forward in this document.

The key to successful delivery will be building off existing work with third sector organisations to engage with citizens and align the DIZ priorities with the needs of citizens.

### 2. Agree specific and distinguishable focus areas for the DIZ.

We need to leverage our location and develop expertise in specific sectors and specialisms to differentiate ourselves regionally and build a recognisable and distinguishable brand. Our proximity to London and Cambridge means that we have cutting edge businesses and access to finance and networks on our doorstep. Being a part of the London-Stansted-Cambridge Corridor also means that we have good transport and digital connectivity.

However, proximity to London and Cambridge also brings along competition, both for businesses and talent. We need to therefore ensure that we develop specialist focus areas within the DIZ that differentiate us but also complement the strengths of our neighbours.

As we discussed in 'Foundation 2', the healthtech (incorporating health and care technologies) and agritech sectors are two priority areas that we have regional strengths in and could develop further. Our DIZ Symposium roundtable discussions have also suggested developing the 'digital high street' which mirrors local town centres and high streets. For example, the Down Your High Street e-commerce website, founded in Broxbourne, provides a platform for local shops to set up their online presence and thus increase their online sales. Innovative business models to help high street businesses perform better online can also attract and help businesses in the DIZ flourish on the physical high street.



# Measuring Success

The DIZ should engage in active monitoring and evaluation to understand what is working, what results are being achieved and how/why they may vary from what was expected. Being clear about the ways in which the effectiveness of policies and programmes can be improved is more important than ever as local government is faced with slower economic growth and tighter budgets. LEPs and local authorities are taking on new powers over economic development, and with this comes responsibility for proving that their policy interventions are impactful.

Monitoring and evaluation is important for DIZ policies and programmes for:

- Effectiveness - contributing well to regional social, economic and environmental objectives
- Efficiency - using scarce public resources to maximum effect
- Service Orientation - being focused on the needs of citizens, communities and businesses
- Accountability - being transparent about what is done and why
- Democracy - enhancing the democratic process
- Trust - helping ensure/restore trust in government and public services.

The What Works Centre for Local Economic Growth (WWCLEG) provides a range of resources for local government to set up monitoring and evaluation for policies and programmes. They include free workshops as well as a wide range of evidence about what works in relation to area-based initiatives such as the Digital Innovation Zone, business access to finance, broadband provision, business advice programmes employment training, and so forth.

There are other opportunities for the DIZ to measure success. These include:

- Listen to business – engage with businesses to understand the practicalities of implementing certain policies and investments. Businesses will likely be the

first to sense whether things are changing for the better or if anything needs to be tweaked.

- Use data in new ways to better understand local economy – engage in new and interesting ways to monitor local business activity. From scraping websites to using social media or search engine analytics, there are a wide range of data sources which will give us more up-to-date and clearer information on how local businesses are growing and changing. The DIZ should also consider what local government data could be shared between members to understand how the market is changing.
- Experiment – try new things and set up clear feedback mechanisms to understand their implementation and impacts.
- Peer review – designate DIZ members and partner organisations, like universities or colleges, to review our programmes, monitor progress and estimate any impacts. A critical friend can provide important insights in the policy lifecycle, from development to evaluation.
- Share lessons on shared sectors – while the DIZ is home to many distinctive assets, there are some shared areas with communities across the country. From digital inclusion to the impacts of online shopping to retail employment, councils are working separately to achieve many of the same ends. Sharing experiences with other places and learning from their projects will be a valuable resource in understanding the DIZ's success.



## Conclusion

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