



Essex and Hertfordshire Digital Innovation Zone

A local digital strategy for future
prosperity and health



March 2019

www.diz.org.uk

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 Essex and 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.

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, local 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





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. It is designed so that the Executive Summary can be used as a stand alone document that distils and encapsulates the longer strategy document.

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.

3. Addressing DIZ Challenges - Foundations and Big Ideas:

Introducing the seven foundational objectives that form the heart of the strategy. These are the things the DIZ should aspire to achieve if the DIZ, and the region, its institutions, businesses and the 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 can make a difference.

4. Next Steps:

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

Appendices:

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

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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, business and employment are still far from certain.

Challenging as these changes will be, we believe we have a unique and exciting opportunity to capitalise on them through the Essex and 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 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. The area has already received or is pursuing substantial investment in local infrastructure and amenities, including:

- £1.5bn purchase of Stansted Airport and an additional £200m in improvements
- Tens of millions of pounds have already been invested in superfast broadband infrastructure within the DIZ geography and further multi-million investment is planned by both private and public sectors
- £200m invested at Kao Data at Harlow Enterprise Zone
- £400m at the new Public Health England HQ in Harlow
- £500m bid for Princess Alexandra Hospital, creating a real opportunity to redefine the delivery of health and care services transforming public services through a new medical campus

Building on these investments, the DIZ aspires to advance digital innovation, maximising the delivery of real benefits to local people.

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

With the exciting plans to deliver around 59,400 new homes, particularly in the emerging garden town communities, we also have the opportunity to harness place-making and underpin new whole system digital approaches to creating better, more vibrant places that are future proofed from inception.

The DIZ Vision

The DIZ Partnership will work collectively to fulfil a 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 vision of the DIZ is:

‘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 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, delivering this strategy will put the DIZ at the forefront of 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 e.g. health and care provision
- Digital communities in which local residents have the skills to thrive in a digital world

Location advantage

The DIZ is situated between two international digital innovation powerhouses, London and Cambridge. This is a major advantage that needs to be fully exploited for the benefit of local communities and businesses. 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 Foundations for the DIZ

The DIZ has set itself 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 short and medium term. These foundations and the recommendations are driven by key principles that the strategy should:

‘Help residents and businesses to help themselves’

‘Help residents and businesses to help others’

‘Help us to help residents and businesses’

1. Establish the Essex-Herts DIZ brand:

The first priority is to establish a strong brand for the Essex and Herts DIZ. The area is unique – it represents the urban-rural mix of England, and the 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 vision 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 digital leadership to champion HealthTech and AgriTech innovation:

The DIZ’s 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 University, Harlow Innovation Centre on the Harlow Science Park and the M11 Health Enterprise Forum, digital has the capability to foster convergent technologies to support sector innovation. This could be delivered through:

Executive Summary...(continued)

- **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 translate into a real return for local people
- Forming an open digital innovation programme around a new DIZ investment fund
- Undertaking focused innovation work with local employers in key sectors e.g. medtech and agritech
- Working with central government to develop digital intensive growing and delivery systems to help 'close the gap' in food production
- Making connections and building partnerships with organisations that are willing to test innovations e.g., hospitals, CCG, producers, academics

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**
- 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 and covered in operational reports to committees
- 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

- 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 lead the way in developing models 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, using creative approaches to develop community and family based learning opportunities
- 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 'digital census' of residents use, capabilities 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, in particular addressing the negative health impacts of social isolation

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

The future of employment and job roles 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**
- Understanding any potential barriers that SMEs may face in embedding digital learning and skills development
- 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 with local Skills Boards 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 Further Education colleges
- Developing digital careers advice and pathways in schools
- Developing a strong digital 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 retain its advantage as a great place to do business, the DIZ will need competitive digital infrastructure, and the DIZ 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
- Establish commitment from local authorities in the DIZ to drive up and promote the 100% fibre to the premises gigabit connectivity
- 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 and building the capacity to bid for

Executive Summary...(continued)

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 e.g. automatic installation of ducting in new roadworks
- Leveraging existing and new development opportunities to improve the digital infrastructure

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

The DIZ will strive to deliver cohesive quality places that retain and attract skilled and talented people and businesses by meeting their needs for access to education, the natural environment and cultural and leisure activity. This could be delivered through:

- **Big Idea 7: Integrating the DIZ strategy into 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 infrastructure
- Exploring opportunities to put people at the heart of the design process through digital innovation, 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 become leaders in demonstrating how digital technology can enable better economic and social and health outcomes
- Reviewing how planning tools can expedite and increase certainty of planning decisions for connectivity infrastructure
- Setting common targets for new development connectivity levels

Governance and Leadership

One of the DIZ’s strongest characteristics is the unique consortium of partners and stakeholders it represents. This inclusive approach, which is increasingly endorsed by central government, 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. This needs to be underpinned by clear political and operational leadership through local authorities and the identification of lead officers and elected members.

The design of that programme and its governance will need to recognise the collaboration, co-investment and co-management needed between and across 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
(See figure x.x)

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 Testbeds and Trials, Local Full Fibre Networks (LFFN) and Local Digital Fund programmes
- Direct private sector investment from business, network providers, infrastructure and property investors
- Bending mainstream public sector budgets to invest in digital
- Securing funds from Local Enterprise Partnerships to build the DIZ

This strategy sets out an ambitious programme of work linked to partners' agreed strategic aims. It would, however, be unrealistic not to acknowledge that resourcing delivery will be the key challenge facing partners.

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. Partners have signed up to a common digital vision, and the 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 this strategy and identifying and addressing the resource requirements in delivering the recommendations put forward in this document.

Partners need to leverage our location, develop sector expertise and specialisms to differentiate the DIZ regionally and build a recognisable and distinguishable brand. The locational benefits of London and Cambridge mean that the DIZ has cutting edge businesses and access to finance and networks on its doorstep. It is also ideally placed to provide an alternative location for overheating and constrained development for digital businesses in London and Cambridge.

Being a part of the London-Stansted-Cambridge Innovation Corridor strengthens the DIZ's ability to lobby and raise awareness of its opportunities for digital growth. It will need to ensure it builds effective relationships with bodies such as Cambridge Ahead and London First to fully exploit these opportunities.

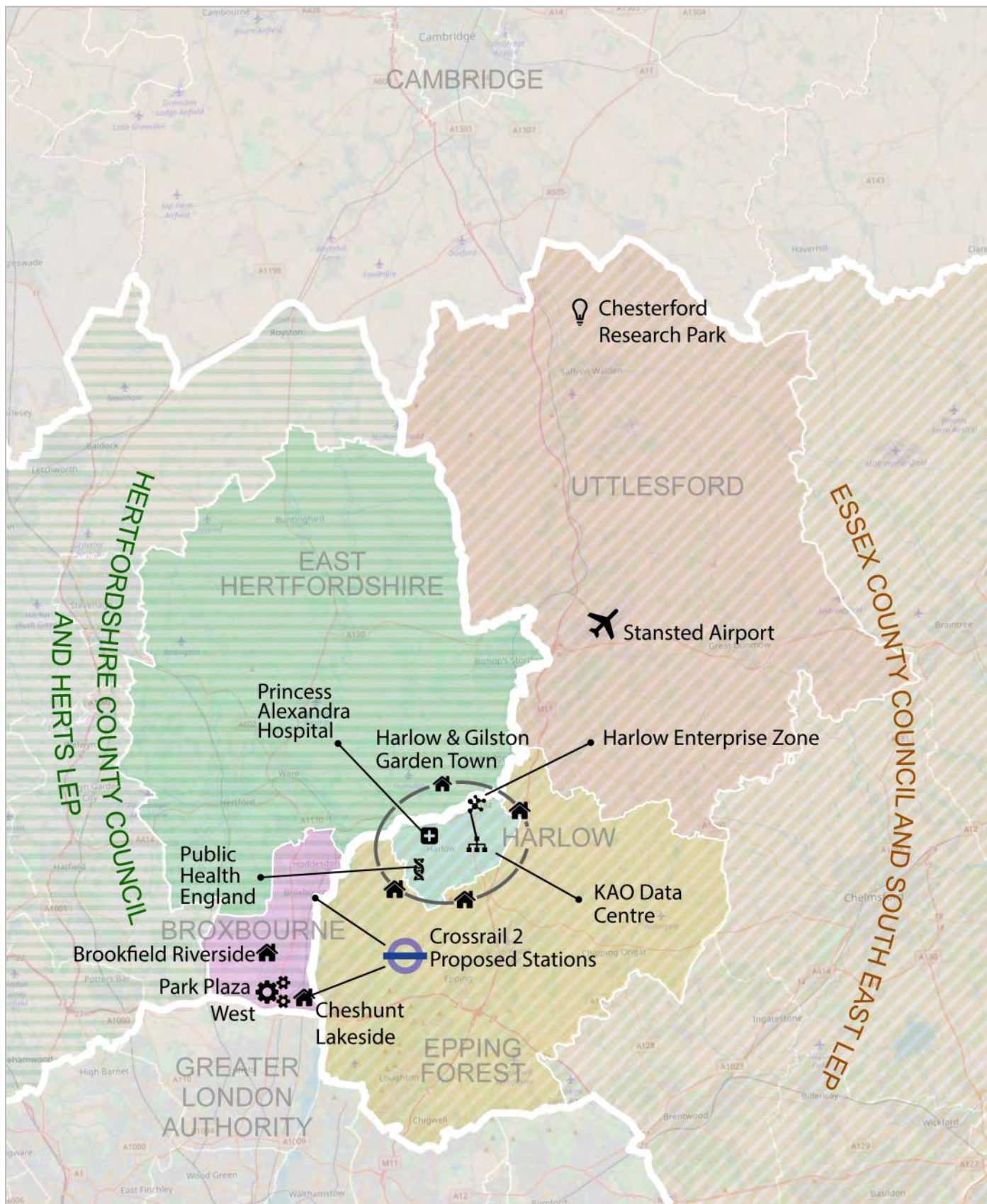
However, proximity to London and Cambridge also brings along competition, both for businesses and talent. The DIZ needs to therefore ensure that it develops specialist focus areas that differentiate it, but also complement the strengths of its neighbours.

The DIZ should work hard to unleash the potential of its universities and research establishment to develop its capacity and offer to business.

The UK Government has committed to developing a world-leading digital economy and digital runs through almost all aspects of its Industrial Strategy. The DIZ Partnership needs to build a close working relationship with national government to show how it could play a pathfinder role in achieving this. It 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 the goals set out in this report.

Promoting its brand and working closely with DCMS and other relevant government departments such as DoH, 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.

The Digital Innovation Zone Geography



Methodology - How the strategy was produced

The DIZ is an innovative, complex, cross-border, multi-agency partnership. Creating a strategy for it has also been a 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.

The 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, the DIZ 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 key focus areas and priorities for each authority and member organisation, as well as their strengths and aspirations around harnessing the growth potential of its digital industries.

2. Stakeholder interviews

Having distilled the results of the literature review, ARUP undertook over 30 interviews with representatives from DIZ member organisations as well as local businesses to discuss the following:

- The 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 partner is willing to take to

make the DIZ a reality

3. Symposium

This brought together over 70 key stakeholders at Harlow College's iHub on 15 June 2018. and included representatives from the health sector, the private sector, voluntary groups, local businesses, various councils and further and higher education. ARUP presented progress to date, the findings from the literature review and the stakeholder interviews, particularly around emerging aspirations for joint working and barriers to achievement.

ARUP also gave an inspirational talk on how technology is changing how we live and what the future holds in areas such as robotics, artificial intelligence (AI), internet of things (IoT) and autonomous vehicles. This set the scene and prompted participants to think through how the DIZ could meet current and future needs.

ARUP also used relevant national and global examples, alongside the individual knowledge of participants, to stimulate thinking and develop opportunities. 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. The results have influenced this strategy at every level.

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. This attempted to identify challenges and potential for disruption to current economic sectors in the DIZ as well as inform discussion around viable opportunities for future growth.

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.^[i] 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^[i]. 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 (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 'cluster' the area.

www.gov.uk/government/publications/phe-harlow-science-hub-proposals/phe-harlow-science-hub-proposals#about-phe-harlow



Harlow Enterprise Zone



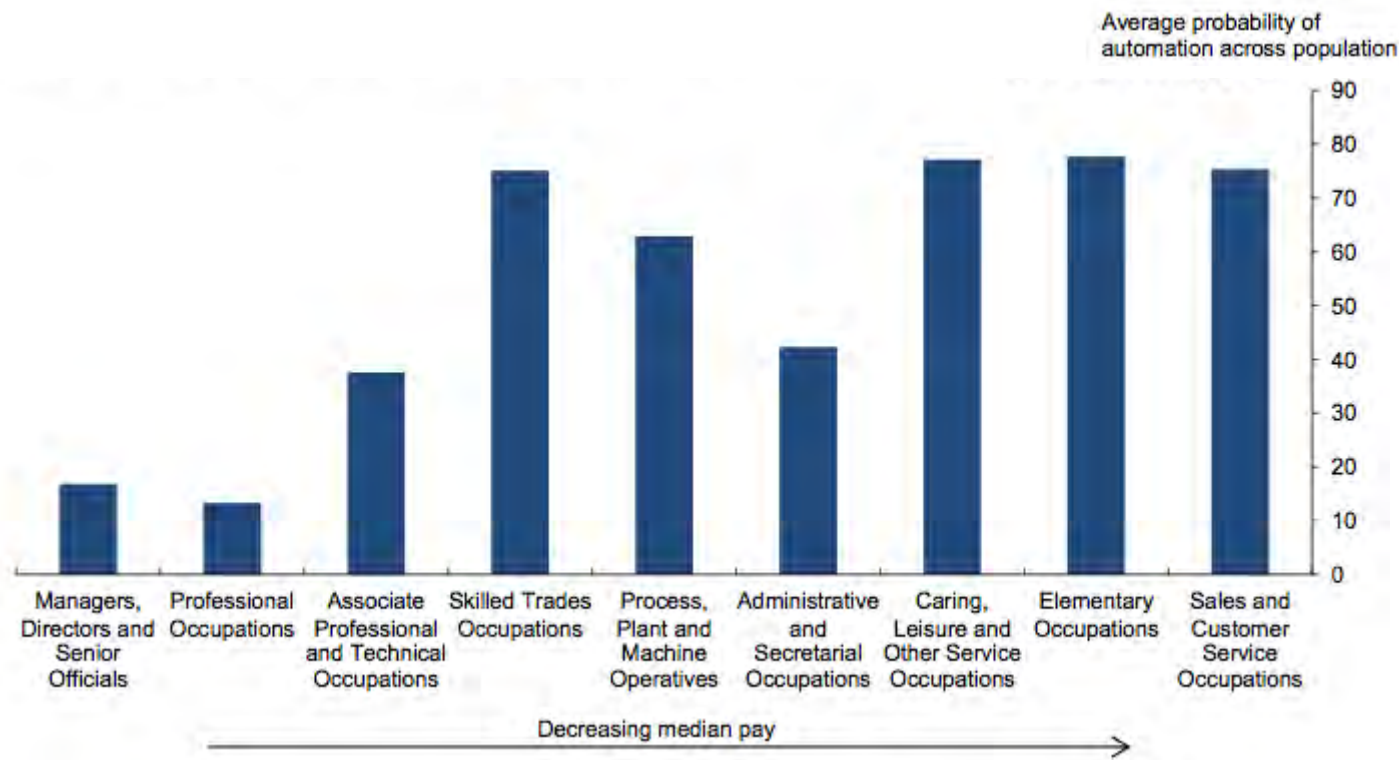
Harlow Enterprise Zone provides 51 hectares of development opportunity across two locations in Harlow. The London Rd location is located on the site where Sir Charles Kao and George Hockham's invention of fibre optic cable in 1966 changed the world of optical communications forever and paved the way 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 Innovation 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 Harlow Innovation Centre providing innovation space for businesses in the medical and advanced engineering sector and providing access to the University's research and development facilities and expertise.

harlowez.org.uk/

helloharlow.co.uk/



technology hotspot as a “Smart City”, the 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 adding greater value to the offer of ‘place’ to businesses that want to come or stay and making the whole greater than the sum of its parts.

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 the region, combining assets and strengths, and by harnessing the power of digital

technology, the DIZ can succeed beyond its potential as individual towns, villages and places. It can harness the scale and innovation of major employers such as Public Health England and KAO Data; it can benefit from transport hubs such as Stansted Airport, the fastest growing airport in the UK, and the business, investment, science and technology expertise concentrated in the London Stansted Cambridge Innovation Corridor; and the DIZ can capitalise on the quality of life that its green and pleasant natural environment makes available to residents.

The future economy offers some particularly attractive and exciting opportunities for the DIZ. It can harness 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. This is particularly relevant to an area that contains the core of the UK’s glasshouse and intensive growing industry.

As the world’s population grows towards 9 billion, increasingly concentrated in vast “megacities” of populations above 10million 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 to ‘closing the gap’ in the UK’s ability to feed itself. And that is just one of the exciting – and truly important – opportunities available. Food is just one of the influences on health, another crucial challenge in the UK as our population ages. With the headquarters of Public Health England, the bid for a

KaoData

This 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, is 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



New Digital Garden Communities Across the DIZ



At the centre of the DIZ will be the new Harlow-Gilston Garden Town, a new garden community providing for 16,000 homes up to 2033. A further 7,000 new homes are planned beyond 2033. It will be home to over 50,000 residents and offers a unique opportunity to plan and design an urban environment and quality place that is digitally future-proofed from the outset. Partners, developers and key stakeholders are working to ensure this development is the benchmark for digitally enhanced and enabled living and a digital masterplan is being commissioned with support from the DIZ.

Brookfield Riverside is to be a retail and life style led town centre offering up to 43,500 square metres of new retail and leisure floor space together with around 1500 residential units in a garden village extension. A comprehensively planned garden suburb that will encompass a retail, civic and leisure centre, a business campus and homes for around 5,000 people.

Chesterford Research Park

Located in Uttlesford District in close proximity to the Genome Centre and other Cambridge Science assets the Chesterford Research Park covers 250 acres, of which approximately 350,000 sq. ft. are purpose built lab and R&D facilities. Many of the businesses are at the cutting edge of the digital data economy.

The Park has ambitious plans to develop up to 1 million sq. ft. and grow its share of the digital economy over the coming years, benefiting from the huge expansion of this work in Cambridge.

www.chesterfordresearchpark.com



Introduction ...continued

new Princess Alexandria Hospital, and truly innovative schemes for procuring new, technology-enabled public services, the area has an emerging and real opportunity to make a contribution to the future health of the country.

This strategy sets out a series of initiatives that will potentially enable the DIZ to harness potential across its geography – its talented people and communities, innovative education and research institutions, thriving businesses and the quality of life enabled by its attractive region. By delivering it together, the DIZ 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 digital 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 and compete effectively to retain and attract business.

The objectives of the Government Industrial Strategy

The DIZ, and this strategy 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 will act 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 this 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. At its core is a vision of delivering digitally for 'place' rather than simply each individual organisation.

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

Park Plaza West—Space to Grow



Park Plaza West, 'Twentyfive25', is situated in Broxbourne 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, and space 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.

www.twentyfive-25.co.uk/



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, a founder member of the DIZ, as already one of the places in the UK with better connectivity than big cities such as London and Birmingham.

This resulted from 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 public services and employment locally.

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



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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 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

Stansted Airport

London Stansted Airport is the third largest in London (4th in UK) serving over 28 million passengers a year. Firmly positioned as a market leader for short-haul travel across Europe, with over 200 destinations across 40 countries, Stansted serves more scheduled connections to Europe than any other airport in the world apart from Munich. With capacity to serve up to 43 million passengers a year, Stansted has the ability to support the introduction of new and innovative services.

Stansted also boasts an impressive and growing range of transport links that benefit from close proximity to the M11 and A120, as well direct trains to London and Cambridge. Stansted is the UK's leading major airport, and one of the best-performing in Europe, for public transport use with over 50% of passengers travelling to and from the airport by rail, coach or bus. 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



Harlow College, which has just opened a second large campus at Stansted airport, is attended by 2,500 students and has a major focus on digital skills which has been developed with Apple.

The College is the first in the UK to be designated Apple Distinguished, a status reinforced by a flying visit from Apple CEO Tim Cook to view the college's developing digital facilities and its digital syllabus. The college is working with other Further Education providers in the DiZ area to better understand what digital success looks like for skills and to ensure the right provision is provided jointly across the whole of the DIZ area.

www.harlow-college.ac.uk

Bishops Stortford - Gateway to Stansted

Bishops Stortford, the largest settlement next to Stansted airport is undergoing substantial development in and around the town centre alongside sites to the North and South.

As well as new housing, this will deliver additional employment space, business parks, retail, social and leisure offerings increasing the reach of Bishop's Stortford as a destination without compromising its market town character.

Offering excellent quality of life, the town boasts some of the best schools in the country and is ideally located on the M11 and mainline rail station linking Cambridge and London.



The DIZ Vision

The DIZ Partnership will work collectively to fulfil a 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 together in a changing technological world. By considering the four key contexts within which these changes are taking place, delivering this strategy will put the DIZ at the forefront of 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 e.g. health and social care provision
- Digital communities in which local residents have the skills to thrive in a digital world

Stakeholder objectives and aspirations: In the creation of the DIZ strategy, ARUP undertook extensive stakeholder engagement through over 30 one-to-one interviews with DIZ partners, a symposium with over 70 participants and regular meetings of the DIZ Board. This engagement showed that the DIZ 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

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. These sectors are already substantial elements of the DIZ area's economic base.



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 the 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 establishments 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 also nationally, to attract business and investors; and must promote its social and environmental qualities as well as its 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 on 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 show the sector specialisations of each place compared to England. They show the ratio of employment in a sector in the DIZ

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.

compared to what would be expected if employment was the same as the England 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 businesses located in East Hertfordshire. The DIZ also specialises in scientific research and development, air transport, and manufacture of electrical equipment. These can be 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 highlight key areas where digital innovation may also play an important role in bolstering those key sectors. And within the DIZ, three further 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 the 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 £20bn 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 the DIZ partners to take this opportunity to deliver digital transformation collectively as the Digital Innovation Zone. By sharing capacity the DIZ can access broader and deeper skills, share the burden of delivery, maximise spending power and present a more sizeable opportunity for returns on investment.

ARUP's 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 Herts LEP and the DIZ local authorities recognise that private sector intervention and investment is required within their geographical context. The interventions span 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. The DIZ needs 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, the 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 and surrounding countryside. 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 also nationally, to attract businesses 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

The Big Idea Identify a prominent figurehead from the private sector to champion the DIZ at national level.



Foundation 2. Create leadership in HealthTech & AgriTech innovation

The Big Idea: 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

The Big Idea: Coordinate a region-wide skills-for-the-future agenda.



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

The Big Idea: Coordinate a future timeline of infrastructure and property investment opportunities.



Foundation 3. Engage and invigorate the public sector

The Big Idea: 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

The Big Idea: Enable the "unusual suspects" to shape the DIZ by creating civic innovation programmes.



Foundation 7. Harness placemaking in new developments and existing centres

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



Foundation 1: Establish the DIZ brand and identity



What does that mean?

The first priority is to establish a strong brand for the Essex-Herts DIZ. The area is unique – it represents the urban-rural mix of England and the brand needs to reflect that.

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

All DIZ stakeholders need to feel ownership over how the DIZ story is told and how the brand best represents its 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 ground

How could the DIZ achieve this?

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

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

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

The DIZ 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.

DIZ 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 its strengths and accomplishments.

To anchor the DIZ and its brand, it needs to brand its 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 the DIZ's 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.

The DIZ wants to be acknowledged by Central Government, the LEPs and other potential funders as a leading innovator in digital delivery. To do this, it needs to ensure that in its structure an activity it is mirroring the Government's agenda around the Industrial Strategy, innovations in health delivery and 'place-making'. A key method of achieving this would be designation of the DIZ geography as a pathfinder or 'beacon' area. This could be achieved in effect by becoming a 5G rural challenge area. This would help deliver on the over-arching priorities of the DIZ around identity, visibility and positioning. Making Government departments, other potential funders and private sector investors aware of the brand and what the area has to offer in a very competitive environment

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

One of the key identified strengths of the DIZ is its location between two international digital hubs in London and Cambridge. Both these economies are vibrant and expanding but are curtailed in growth terms by available space and costs. The opportunity to promote the area into both these economies as the key choice for expansion or relocation of digital businesses is clear. The DIZ will need to ensure that it raises awareness, particularly amongst umbrella business groups in these areas of the opportunities that this geography has to offer and construct a message that it constantly promotes and reinforces at every opportunity.

Foundation 1: The Big Idea

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

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

This person will ideally be 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, Catapult networks etc.) as well as with the 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 and AgriTech innovation



What does that mean?

The DIZ's 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. It will do this by building on its existing strengths and synergies between its 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 proximity of many London-based VCs to the 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 the DIZ achieve this?

1. Monitor performance and uptake from innovation space.

The 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 a new DIZ investment fund, linked to the networks, capabilities and objectives of regional partners.

In addition to the incubation space, the DIZ will also seek to 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 the DIZ will aim to set up 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 the Lea Valley glasshouse industry 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 (PHE) and Princess Alexandra Hospital (PAH) to ensure opportunities emerging from investments translate into a real return for local people.

PHE is a world-renowned research institution with a key focus on digital. PAH is actively pursuing the digital healthcare delivery agenda in its proposals for a new hospital. The potential for linking these together in practice within the DIZ is obvious and will again reinforce opportunities for funding and innovation in networks and applications.

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

These sectors are key strengths of the local economy in the corridor and in London and Cambridge. These sectors are also at the forefront of digital innovation. There is a real opportunity to capture and align these programmes in the area to help make the whole greater than the sum of the parts.

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 focuses 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 in the area. 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. It will also need to understand and represent the local needs of the whole region.

Finally, the DIZ's proximity to London and the venture capitalists (VCs) that operate in close proximity to 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). The DIZ 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, the DIZ 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 as 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 the DIZ 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 up implementation plans and commit resources to achieving the outcomes of the vision.

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

The DIZ 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

'Foundation 2'. Allowing department heads and officers to source innovative solutions through new routes will facilitate creativity and swift trialling of innovations within the Councils. Examples exist from the London Borough of Sutton to New York City of how the 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. The DIZ 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. The DIZ 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.

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

- i. To understand whether digital projects are achieving their intended outcomes,

Foundation 3: The Big Idea

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

The DIZ 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. 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 public sector 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 innovative businesses who would want to engage with the DIZ.

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

- 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: The DIZ will identify resources to monitor the progress of the recommendations within the DIZ Digital Strategy. It will also establish collaborative approaches to align the MRV process with other council monitoring processes. It 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: The DIZ will establish measures against which the progress of the strategy will be measured.

3.Agree objectives and targets: The DIZ will set key objectives and targets for each project that it undertakes 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.

The public sector are already major investors in digital infrastructure and applications and there is a clear realisation that this technology will increasingly be applied to the delivery of public services. The opportunities for these public sector investors to work better together' is a driving motivation for the DOZ. Public organisations also realise the need to use and lever this investment to create stronger and more resilient communities and economy. Bringing leaders, both elected members and senior officers together to ensure this ongoing focus is a key role for the DIZ.

Once this strategy has been agreed partners will need to bring forward coherent and realistic proposals for funding and capacity to drive forward and coordinate delivery of the ambitions and aspirations it contains. Without this, the impact of this strategy will be limited and its delivery delayed.

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

It is important that the DIZ is clear on its objectives and has mechanisms in place to demonstrate how its decisions have been reached and their impact. But that this process is informed by the need to be able to react to changing circumstances and new opportunities. The DIZ will need to constantly review how it conducts its business to ensure it reflects latest best practice.

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

This strategy is being subjected to scrutiny and evaluation of the DIZ Board. It is important that it is adopted and endorsed at the most senior level by each partner to ensure 'buy-in' and that the relevant objectives are included in individual organisations key plans and strategies.



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



What does that mean?

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

The DIZ will strive to achieve digital inclusion by addressing infrastructure, equipment and skills disparities. Focussing on areas of deprivation and digital skills gaps, DIZ partners will work with councils and registered providers, FE colleges and skills providers and owners of community assets to bolster skills and provide 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.

The DIZ will enable residents to participate in creating solutions to address the challenges identified within its geography. It is a key priority to ensure that the DIZ reaches people from all communities and that 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). Yet 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), suggesting 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.”² 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 services³

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 (an 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
- Further Education (FE) colleges and training providers
- Community groups and owners of community assets
- Apprenticeship providers and business community
- DIZ Local Authorities
- NGOs, charities and social entrepreneurs
- Registered providers

How could the DIZ achieve this?

1. Seek additional DIZ Board membership from organisations that promote its communities.

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

- Seeking a community-focused 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
- Involve the voluntary sector to reach 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.

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.

The DIZ will start by mapping local support services, voluntary organisations and social enterprises and

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

engage them in strategic dialogues. It 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. It will also work towards increasing the digital footprint of the voluntary sector by enhancing its capacity to use digital tools to deliver services to their communities.

The DIZ will create mentoring relationships between students and older citizens and incorporate this in schools (primary and secondary) and FE programmes. A scheme could be implemented to use intergenerational digital projects to help improve digital literacy amongst older generations. This would be a coordinated scheme across all the districts 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 old people – creating learning opportunities between generations. 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 help people develop their digital skills and confidence and take full advantage of all things digital. For example, Barclays Digital Eagles are

promoting basic digital literacy skills. These initiatives 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

The DIZ local authorities 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.

Inclusion has been central to the approach of the DIZ since its inception. This has been a key focus in all of the Smart Place Seminars whether looking at infrastructure, skills or health and social care. The DIZ has been looking at how digital can fundamentally 'help people help themselves' and 'help people to help others' as well as looking at helping public service providers to help their customers.

Partners are aware of concerns about how digital can challenge cohesion but the partnership will also need to look at how innovative digital approaches could help enhance cohesion as well. It is also important that inclusion is mainstreamed within all initiatives. All programmes should ensure that when testing effectiveness impact on social cohesion is a key metric.

The maintenance of a strong voice from the community sector at the highest level of decision making on the DIZ will need to be maintained and an annual partner review with a specific focus on inclusion should be established.

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.

This is a key area of work. More investigation is required to understand how this can be effectively achieved through discussion at Board level.

8. Conduct a clear and independent 'digital census' of residents and businesses use of and attitudes towards emerging technology and digital service delivery.

DIZ Partners want this strategy to begin and end with the needs of residents, service users and businesses. While excellent mechanisms are in place for accessing qualitative information the DIZ will need to look at innovative ways of establishing and tracking residents views and experiences of the digital economy and delivery as the programme develops. This customer focus will also be a key element of all bids the DIZ will make to funding organisations and its annual reports to partners and local people.

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

The DIZ is already working closely with partners in the Voluntary and Community Sector to better understand the digital needs of the sector and opportunities to invest in their ability to deliver more. The DIZ will look closely at both of the planned Smart Place Seminars led by the VCS which will be hosted in 2019 to inform delivery on this commitment.

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

Digital connectivity will increasingly be a primary platform for supporting those who are at risk of being unable to fully participate in the opportunities - economic and social - that the DIZ can offer. The DIZ has already begun exploring how public and private investment can be channelled to areas of greatest need and how people can be supported to access these opportunities. As more and more support and welfare services are also provided through this channel the capacity and ability to connect will become fundamental.



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 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 colleges, providing basic digital proficiency for all residents and helping certain sectors adapt to rapid change. Learning does not stop at age 18 and 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^[1]. 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 (FE) 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 the DIZ achieve this?

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

The DIZ 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.

The DIZ will encourage educational institutions across the area 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 developments. 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 digital skills they will need in order to work (or pursue further education). The Skills for the Future programme

Foundation 5: The Big Idea

• Coordinate a region-wide 'Skills For The Future' agenda

The DIZ has already sponsored discussions locally to help define what digital success looks like in terms of digital skills development and investment. There is still a lack of clarity nationally and locally on approaches, products and qualifications. The DIZ will need to innovate in this area while ensuring this is driven by the local needs of communities and current and emerging businesses.

The DIZ 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.

Conversations with Local Enterprise Partnerships and Government agencies charged with skills and curriculum development should be undertaken with the DIZ promoted as a beacon or pathfinder area given its strength and engagement with all sectors.

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

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.

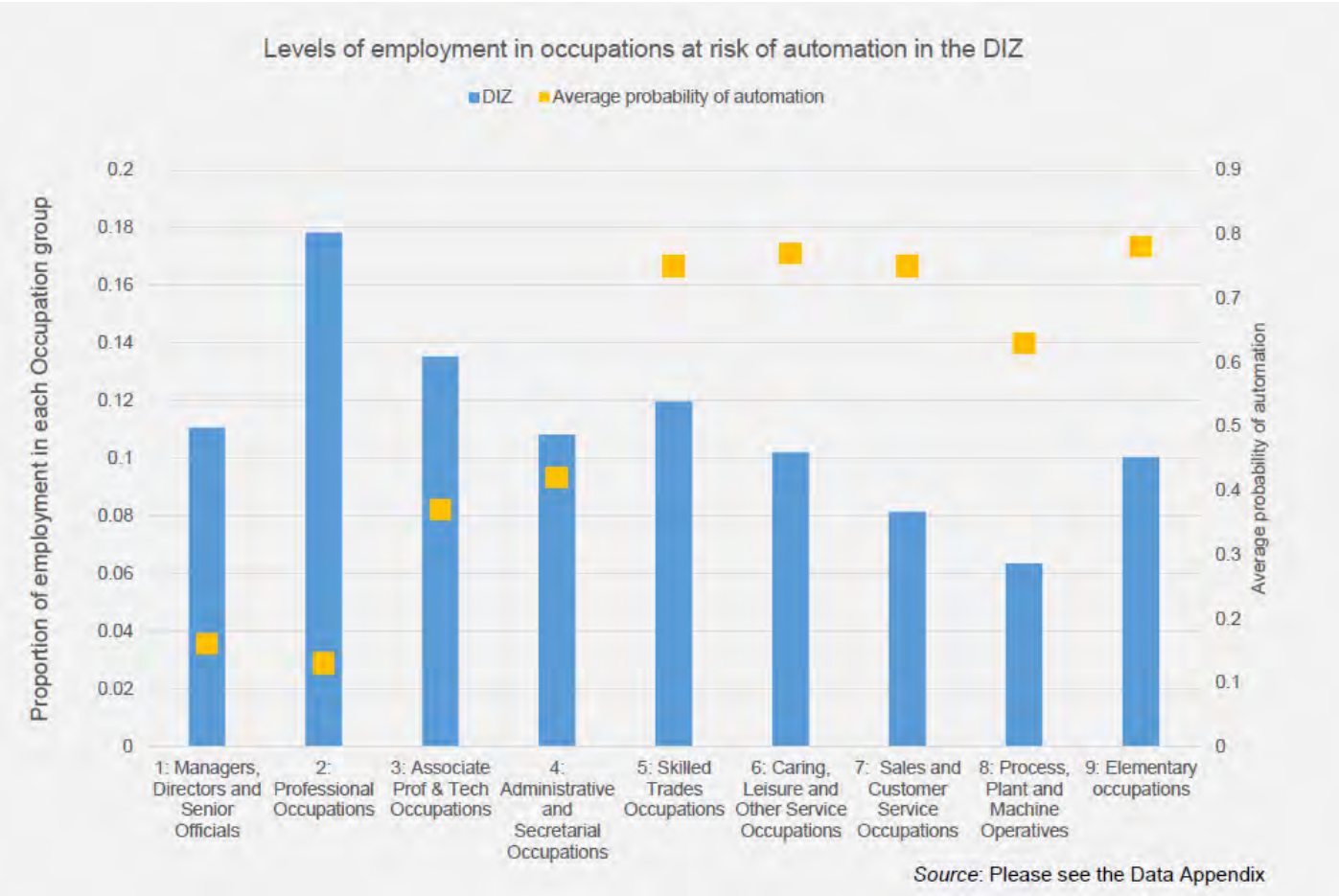
With an ever changing technological world it is more important than ever that the DIZ provides support mechanisms for reskilling and upskilling citizens. This will enable the workforce to be changeable and reactive to the demands of the labour market. Each LIS should build a strong evidence base for 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 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 Further Education 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. The 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 of the DIZ through its series of Smart Place Seminars.

The Smart Place Seminar approach, bringing leaders together from the widest cross-section, including the local community is an excellent mechanism to engage with and draw ideas from those delivering services and those planning service innovation. It is important that the Smart Placed Seminar series continues to be informed and driven by need and opportunities in the local economy.

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

Partners have reinforced the message that digital needs to be a core element of education and skills not just at higher and further level but also at primary, secondary and beyond formal education. It is unclear to what extent there is seamless and integrated progression between the various tiers of education and skills provisions or an integrated skills offer linked to the needs of current and emerging businesses.

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

It is important that all local education institutions, but particularly FE colleges, pursue and achieve the highest levels of accreditation / recognition for the provision of digital skills. This will offer confidence to pupils, students, parents and employers that the area is delivering the skills and tools to ensure our communities are properly resourced to access future opportunities, either socially or economically. In particular, ensuring help and support is in place for older generations to access services and opportunities will be a key challenge.

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. The DIZ 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 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
- Local authority ICT departments
- Broadband infrastructure operators

How could the DIZ achieve this?

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

A Common Assets Register of local digital assets would help the DIZ to identify the strengths and gaps in its digital infrastructure. It will create this 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 incorporating 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 could 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 ultrafast 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, the DIZ will make itself 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.

ARUP's 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

Foundation 6: The Big Idea

• Coordinate a future timeline of infrastructure and property investment opportunities

The DIZ will map future infrastructure and property investments and align them to requirements for digital infrastructure and services. It 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 this Foundation 6

Assets and Infrastructure: As above

Open Data: As summarised in Foundation 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 Foundation 3, the DIZ will champion better use of digital technology by local authorities

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

See pages 52 and 53 for an illustration of the master-planning framework

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

planned infrastructure development to facilitate better coordination across public and private sector organisations.

This is a clear opportunity to enhance value and maximise from individual investment decisions. While many partners assumed that this facility and programme of coordination was in operation the reality is that this occurs in an ad-hoc way and is not systematic. The DIZ has been actively pursuing the idea of a Common Asset Register and it is hoped, at some stage, that this will provide an 'at-a-glance' and up to date mapping of digital infrastructure as well as housing, land and other equipment assets linked to the public sector. Partners wish to explore the extent to which network mapping can also include private infrastructure providers as this has proved problematic in the past.

6. Jointly targeting central government funding streams that meet the strategic aims of the DIZ e.g. Local Full Fibre Networks, 5g Testbeds and Trials, Local Digital Fund programmes.

The DIZ has already indicated its ability to pursue external funding with some success. The comprehensive nature of the DIZ partnership clearly adds benefit to our bidding ability and this has been recognised by Central Government. The ability to pursue funding sources collectively that partners would be unable to access individually is perhaps the major strength of the DIZ and this will undoubtedly continue with a number of significant bids already being progressed. The target of achieving 5G Rural testbed status is not unrealistic but this will be a highly competitive process. However, if achieved this would provide significant resources for investment locally as well as in effect achieving beacon or pathfinder status for the DIZ geography. Future DIZ success cannot however be predicated on this sole funding source.

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

This will be a longer term aspiration of the partnership. There are clear benefits in this approach but aligning and coordinating procurement would require significant and sustained work.

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

The DIZ already understands the importance of a 'One Public Estate' approach. Steps being taken to begin the establishment of a Common Assets Register which identifies taxpayer owned assets from whatever source will provide the basis for future work. In the first instance this information can be used to facilitate faster and more efficient deployment of infrastructure investment, from either the public or private sector. The bid from the DIZ for LFFN funding is pursuing this approach of using public assets to drive connectivity for residents and businesses faster and further.

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

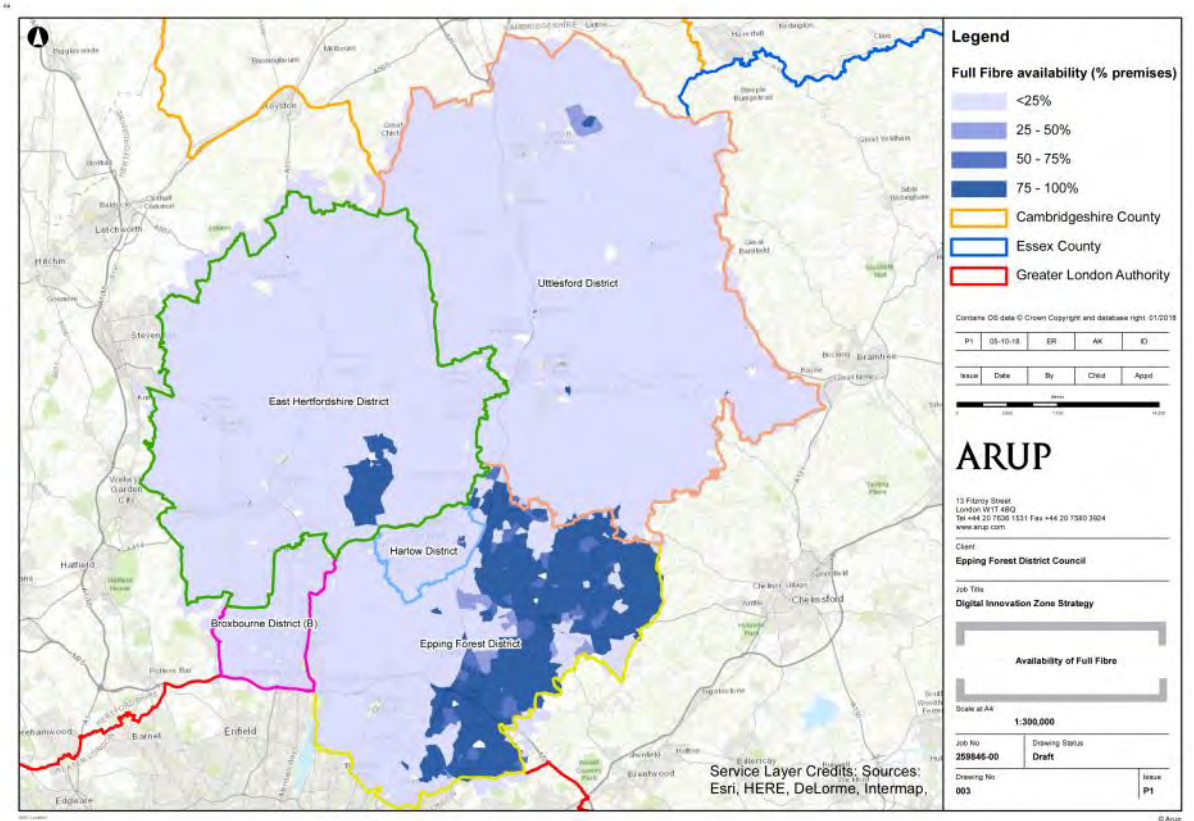
While the current commitment to invest significantly in superfast networks including in Epping Forest providing a gigabit of connectivity to the most rural area is being successfully delivered, partners are concerned about the next stage. Nationally and locally there are concerns that major competitors are defaulting to full fibre to the premises as the basis for future-proofed networks. DIZ partners are increasingly in agreement that this should be the challenge for this geography if it wishes to compete effectively for future investment and to attract new digitally based employment and businesses.

Lister House Health Centre

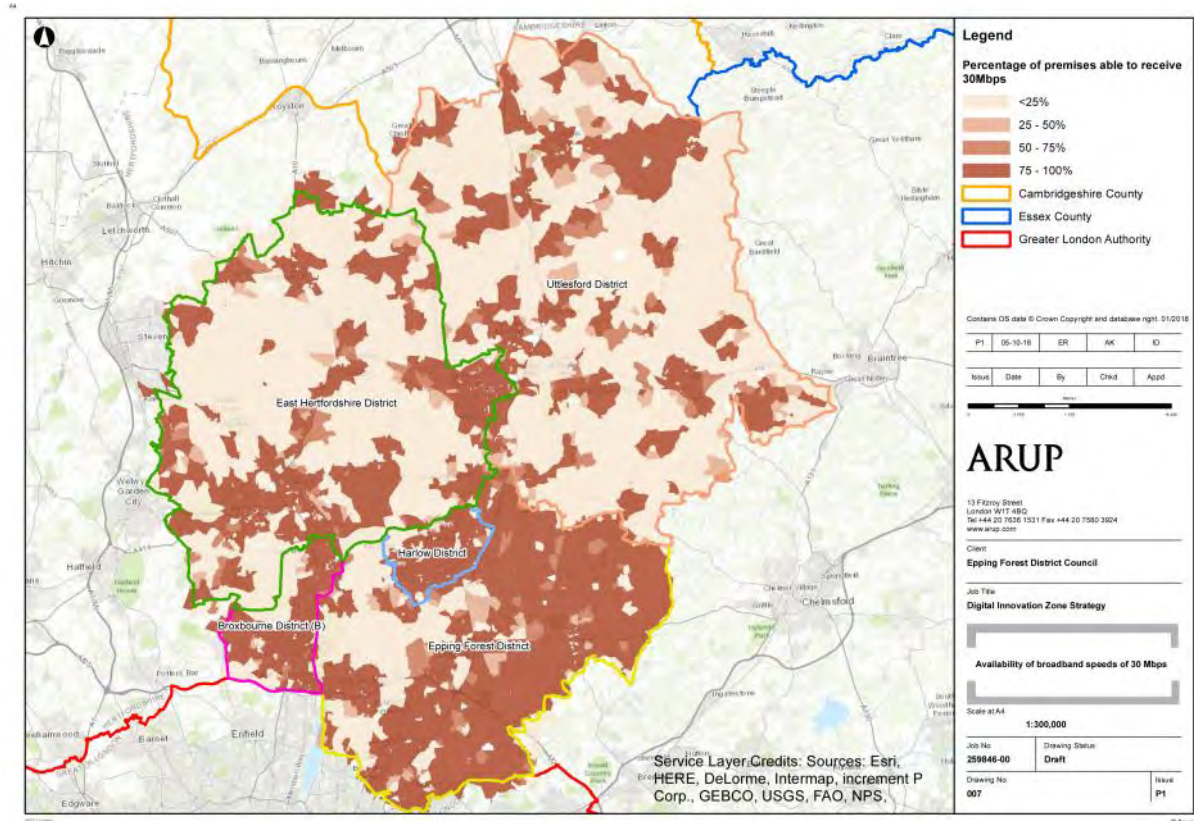
WHS ♦ METWEST PHARMACY

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

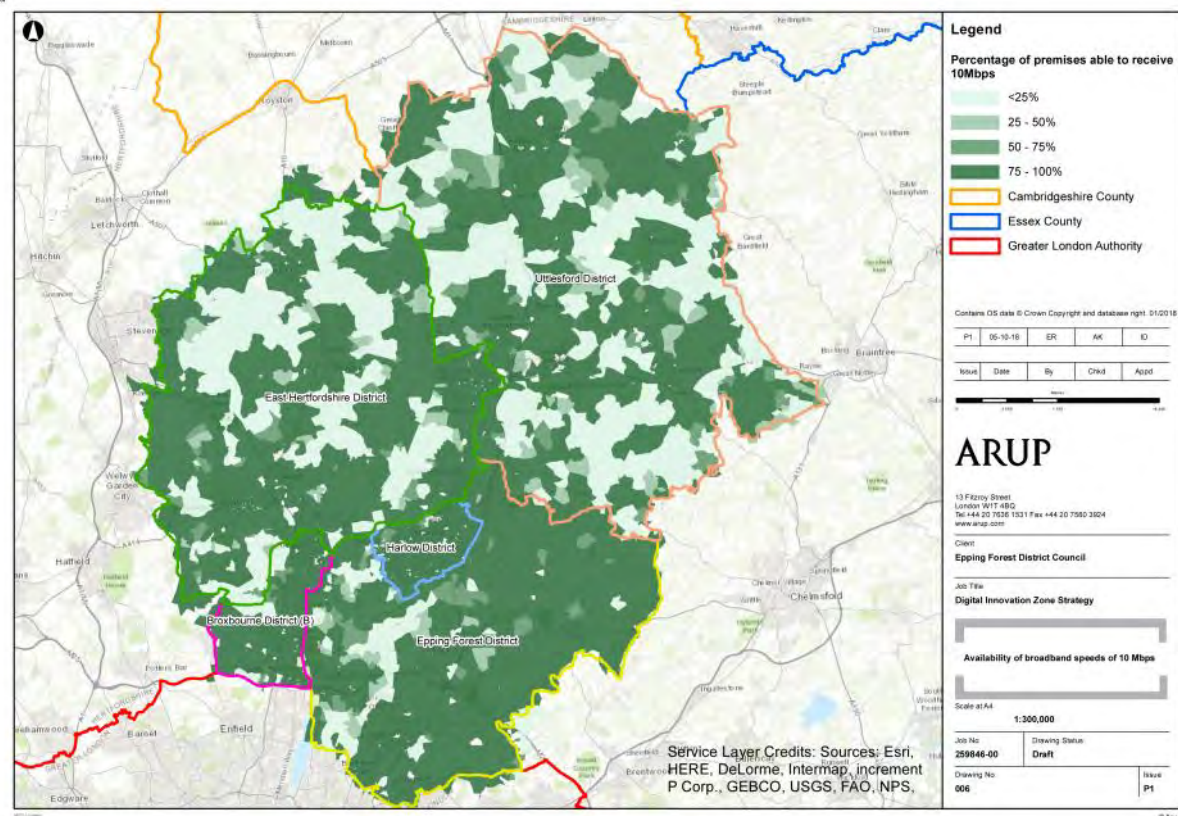
Map showing levels of Full Fibre to the Premise (ultrafast) broadband availability in the DIZ



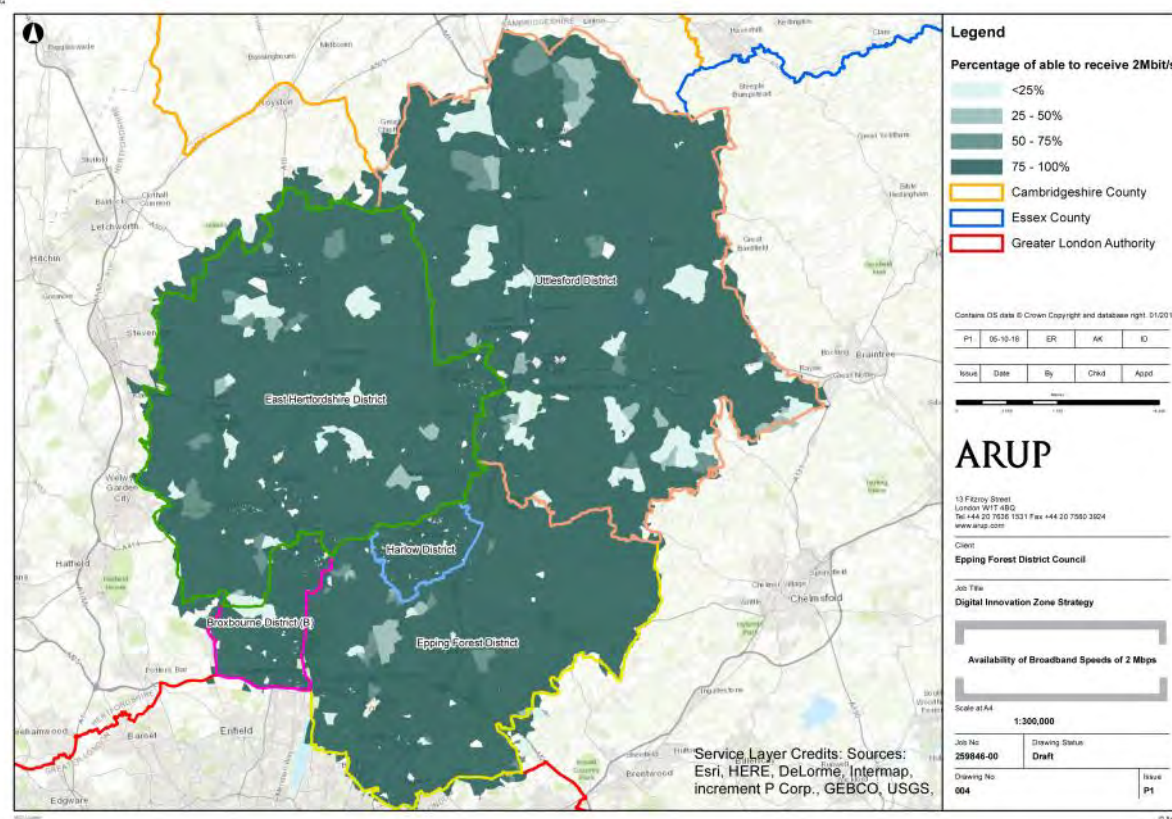
Map showing levels of 30Mbps (superfast) broadband availability in the DIZ



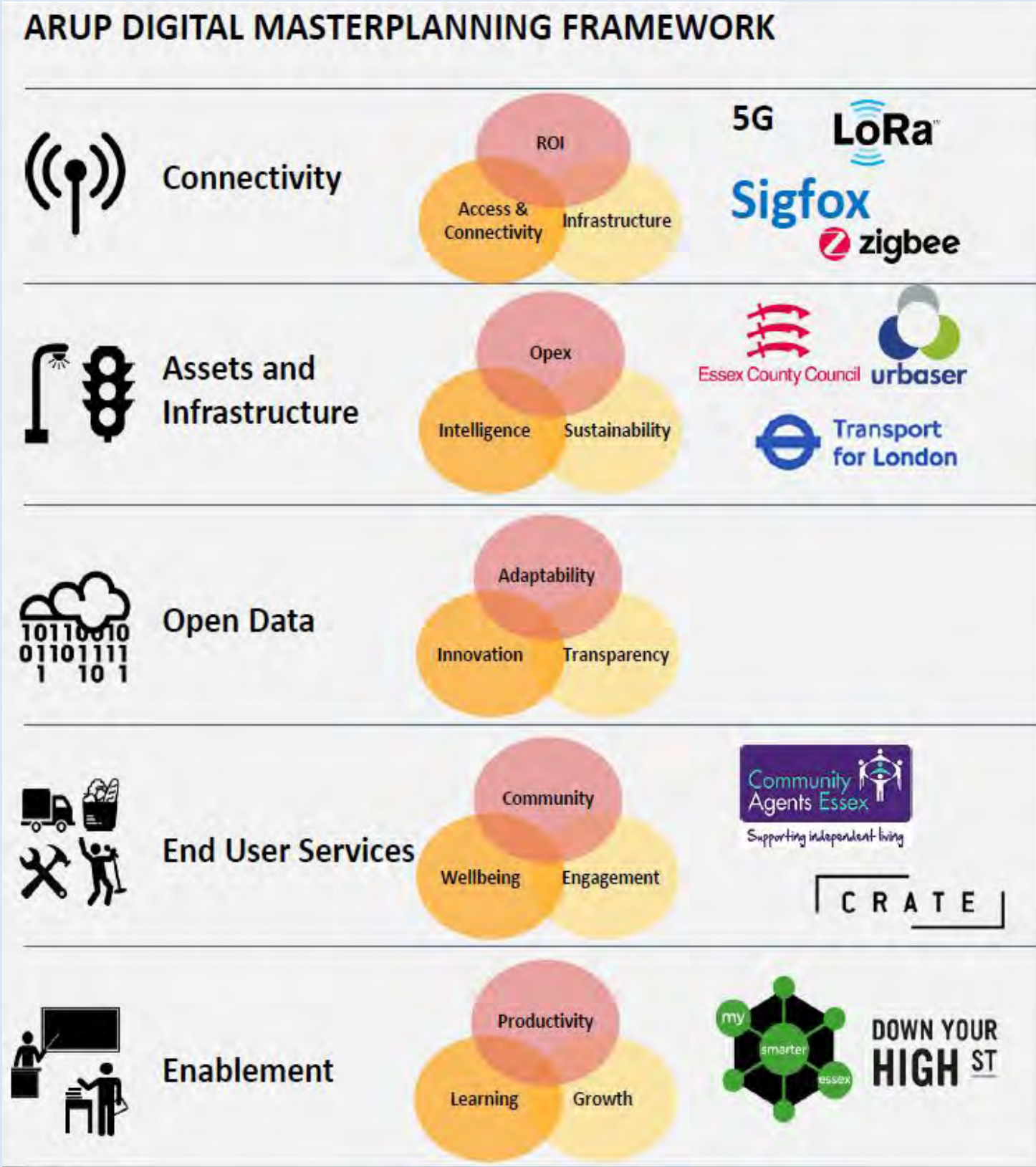
Map showing levels of 10Mbps broadband availability in the DIZ



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



Capability	Benefits	Source of Investment
- Fixed broadband - Mobile end-user (4G / 5G) - IoT (LoRa, Sigfox, Zigbee)	- Resident, business, employee and visitor access to digital services - Enablement of intelligent infrastructure and services	- New developments - Connectivity providers - Operators
- Smart lighting - Smart traffic management - Smart utilities - Smart buildings - Smart energy	- Cost effective operations - Provision of connectivity infrastructure - Reduced congestion and environmental impact	- New developments - Operators - City service providers
- Open data and APIs to enable adaptability of the environment - Enable development of innovative services	- Enable 3rd party innovations - A resource to support modern businesses - Enable transparency of public services	- Very little investment required if included in initial plan - Leverages business, venture and social investments
Innovative urban services in food, retail, transportation, logistics / deliveries entertainment, leisure ...	- Create community events, interactions and engagement - Attract job-creating businesses	- New developments - Leverages business, venture and social investments
- Digital skills - Business development and incubation - Community initiative support - Innovation programme	- Provide opportunities for local residents to develop new skills - Assist local businesses to grow and evolve - Attract new innovators	- New developments - Leverages business, venture and social investments

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 the built environment and how it is used.

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 are going 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 the 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 residents 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 the DIZ 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 and 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.

The Smart Places Seminar hosted at Chesterford Research park focused on the critical question of maximising digital opportunities in the different green-field garden communities being planned and built across the DIZ geography. These are explored in more detail in the following section on pages 56-59.

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

The DIZ Board recognise that investment should be built around the actual and future needs of residents, customers and businesses and not the technology. With its focus on building its knowledge of its residents and partner needs through Smart Place Seminars, Digital Census etc. the partnership is demonstrating its ongoing commitment to put the customer at the heart of its planning and investment programmes. One of the key learning points of the DIZ programmes has been the importance of 'How we do things' as well as 'What things we do'.

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 the DIZ expects digital infrastructure and services to bring to developments and regeneration in the area, and their importance to achieving place-making outcomes. The DIZ 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.

The local authorities of the DIZ should aspire to be leaders in achieving this aspiration.

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

Delivering Future-Proofed New Garden Communities

All of the constituent districts of the DIZ are grappling with similar pressures when it comes to housing provision and, in particular the identification of new sites on greenfield sites that can accommodate the predicted levels of population growth. As well as in-fill sites in existing locations and small areas of green belt land at the edges of settlements, the local authorities of the DIZ have chosen to also pursue the opportunities that exist to develop entire brand new, garden communities.

Such new communities offer the planners, developers, local authorities and regulators the opportunity to start from a blank canvas and get it right from the outset. This will ensure these communities are future-proofed and avoid the costly option of retrofitting in the future. But whilst these new communities offer a once in a lifetime opportunity to consider how these places could be prosperous, inclusive and healthy from the outset they also bring along challenges that will need to be overcome if they are to be sustainable and successful.

Digital will clearly have a major role to play in supporting the development of these communities, maximising the benefits for residents, businesses, students and visitors in these communities can achieve. In December 2018, the DIZ held a Smart Places Seminar 'Future-Proofing Garden Towns Through Digital' and asked the key partners and stakeholders present to look into the future of these garden communities and ask 'What does digital success look like for these places' and 'What are the barriers that might prevent these places from achieving their full potential?' The outcomes from those discussions have been collated into this strategy to set out how the DIZ should approach the development of garden communities over the coming years.

The outcomes from the workshops and discussions have been summarised under a number of key headings:

Digital health and care:

If digital is to be an enabler of excellent health care then there needs to be excellent access to that care and, by extension, that means excellent access to digital connectivity. Using technology to make better use of existing resources by helping people to help themselves and others, relieves pressure on acute services and reinforces the sustainability of the community. This could be achieved through wearables, self-testing and monitoring but will require there to be joined up health services.

This will, also, require upskilling of local communities to make this effective. This would avoid people bypassing services to go straight to A&E, inaccurate self-diagnosis via the internet, or a lack of confidence amongst hard to reach groups. Current DIZ projects eg. Digital Buddies and Living Smart at Home could fulfil this need and build confidence in the community?

Built environment:

These new places need to stand the test of time requiring digital providers to think strategically long into the future including a shift from reliance on cars; installing intelligent street furniture and planning for technology that moves beyond immediate needs of the community to strategic issues such as flooding risk or shifting away from car transport

Balancing the current community needs for a stake in the planning process with a lack of understanding of what tomorrow's citizen will demand is a big challenge. Constant community engagement will ensure new service initiatives are effectively launched but planning for the longer term may mean that not all short-term community needs are met.

Housing, transport and infrastructure:

For these communities to succeed there needs to be a

demand from people to live there. Achieving a balance of housing that is fit for purpose and well designed enables people to live, work, study and play whilst at home. Utilising digital technology to make these places flexible so that people can manage all aspects of their lives from their homes, and adapt as work-life balances and sustainability demands grow and change, can make them truly future-proofed. Digital can also help support the successful integration of new developments with existing communities through online networks, communication and information sharing building an overall sense of pride in the community.

To meet their challenging modal shift targets will need behavioural change and new approaches to public transport. A sustainable and digitally enabled transport infrastructure or policy can help to find the right balance between provision for current transport and the need to plan for alternative modes. Funding or investment is also a key challenge.

Supporting vibrant economies:

The economy needs to work for the community and be both inclusive and resilient. Digital connectivity can be used to both attract large anchor institutions and encourage SMEs and social enterprises to start up. A strong digital skills base and infrastructure will help these places attract people to work and live there. To do this, there also needs to be a recognition of social value in the procurement of digital infrastructure and thought given to how social enterprises are supported and encouraged to grow?

Community:

Digital connectivity needs to encourage interaction, including intergenerational activities with flexible 'free to access' community facilities and creative spaces.

The needs of the community must come first and developers should be challenged on how they will ensure their places are digitally future-proofed. Thought also needs to be given to how new communities can be supported and enabled to engage with existing communities.



At A Glance: The Key Take-Aways from The Garden Town Seminar

Get the infrastructure right first time. Retrofitting is the most expensive option and equals failure

Put the current and future needs of residents at the heart of digital deployment and functionality

Enable community hubs, digitally supported, to provide a focus for local communities

Use new applications eg. 'ShareTown' to enable and support community cohesion

New garden communities need to be economically vibrant in their own right to avoid becoming dormitories and underpin home-based economic activity

New models of health and care delivery should be at the centre of thinking and planning



Share the learning between each garden town on what works digitally

To maximise the benefit to the new garden communities, cohesion with existing communities must be central to planning and thinking

Digital can play a critical role in achieving the ambitious targets for transport modal shift

Operational recommendations - bringing the strategy to life

Whilst this strategy looks towards the long-term strategic development of the DIZ, there are key steps and actions that could be adopted more rapidly to 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 below under the relevant strategic headings:

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, private investors 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
- To continue to develop and build upon the DIZ 'Design In the Public Sector' project undertaken in conjunction with The Design Council and the LGA to explore options for improved flow of patient information to ambulance crews at the point of emergency care

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
- That the DIZ continues to work closely with and support the efforts of the voluntary and community sector to reach out to and include the views and experiences of local communities. To also implement where appropriate the recommendations of the planned Digital Inclusion Smart Place Seminars
- To support the ongoing 'Digital Boomers', 'Digital

Buddies', 'Living Smart At Home' and 'Citizens Online Switch' programmes, ensure lessons learned are shared widely across the DIZ and target future funding opportunities in this area

- To undertake a pilot, in one DIZ district, of the 'Sharetown' model to support digital community cohesion and share learning and results with partners

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
- To establish a digital education network of Higher and Further Education providers
- That all local FE colleges move rapidly to attain a recognised form of digital college accreditation
- The DIZ to jointly seek 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 focused on ways to encourage private and public take-up of services enabled by superfast broadband
- 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, where possible, the Essex and Herts smart street lamp rollout across the DIZ
- To establish a baseline register of the public sector fixed assets across the DIZ geography to underpin bidding for external funding and 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 pursue an application to the DCMS Local Full Fibre Network programme and, if successful, to fully implement the Ultrafast GPs project and identify further local projects linked to LFFN for future bids
- To establish the DIZ as a 'go-to' testbed for digital connectivity and 5G initiatives as they emerge, promoting the identity, visibility and positioning of the area to underpin future bids and develop a range of real-life use cases for this technology.

Foundation 7: Harness local place-making

- Ensure that the outcomes of the DCMS consultation on fibre to the premise provision in new housing developments are actively promoted to local authority planning departments to facilitate early introduction of developers to infrastructure providers
- Planning gain / Section 106 / Community Infrastructure Levy arrangements should include a discussion on investment in furthering digital connectivity as standard
- New employment premises should be asked to score against the Wired Certification standards
- Ensure that each of the proposed new garden communities commissions a digital masterplan

Resourcing the DIZ

- To 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 implementation of this Digital Innovation Strategy's Delivery 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
- The DIZ will explore best practice in terms of knowledge and data management and lessons learned to ensure all partners are able to share in the learning and to inform the design and delivery of future projects and programmes.

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 under sustained pressure, there remain a number of sources of funding and investment to support digital initiatives such as this strategy – and, in fact, our recommendations and The Big Ideas are shaped in order 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. Foundation recommends 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.

Foundation I recommends 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 by them and to maximise local insight into future opportunities.

National Productivity Investment Fund

This fund exists to invest in the infrastructure 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 2019, DCMS will begin to mobilise work around the rural element, which is expected to culminate in a competition later this year for a number of separate demonstrators. The DIZ partners should seriously 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 should consider producing an outline business case for an LFFN bid, seek a meeting with DCMS as soon as possible and maintain an ongoing dialogue with DCMS.

Local Digital Fund / Local Digital Declaration

The government made a "digital pledge" backed by £7.5 million of government funding in July 2018 to help councils transform their digital services in line with the Local Digital Declaration. The funding was to help change the way councils invest in technology, share expertise and ensure members of the public are receiving the best quality digital services.

Whilst the initial funding for exemplar projects has been allocated there remains a strand of funding committed to support digital skills training.

This part of the fund is designed to build capacity in:

- the sector's leadership, helping them to lead the transition to interoperable local digital services
- the sector's IT and service delivery community, helping them to learn by doing Government Digital Service-style service design and delivery

The leadership training offer will:

- equip council CEOs, directors, and councillors with the confidence, skills and knowledge to empower their teams to deliver modern, effective, and user-centric digital public services; and
- build a cohort of local digital leaders across the UK who form the basis of a new leadership community of digital leaders that spread change across their local networks

This will be complemented by delivery skills training for hundreds of 'front line local digital' staff. It will allow councils to select from a number of GDS academy courses, based on their local needs, equipping them to deliver better local digital services. The DIZ should continue to pursue these opportunities.

This is closely linked to the Ministry for Housing, Communities and Local Government's (MHCLG) Local Digital Declaration scheme. All organisations funded through the Local Digital Fund or accessing the Digital Skill training are required to sign up to the Local Digital Declaration as a condition of accessing this support.

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

Resourcing the DIZ ...continued

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 the Foundation 6 Big Idea 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 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). This 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.

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.

The recommendations in this strategy are intended to maximise the DIZ area’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 the DIZ will aim to ensure that it collaborates with national government to achieve this for the area. It will also lobby Government to provide better support to ‘smart places’ not just ‘smart cities’ and offer incentives to areas like the DIZ to test new digital approaches and technologies to help it achieve its goals.

By promoting the brand and working closely with DCMS and other relevant government departments, the DIZ will ensure that it 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 initial recommended governance and delivery structure for the DIZ., subject to further amendment following agreement on capacity and resources.

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 the DIZ adopts will follow from the initiatives contained within this strategy, and on the infrastructure, services,

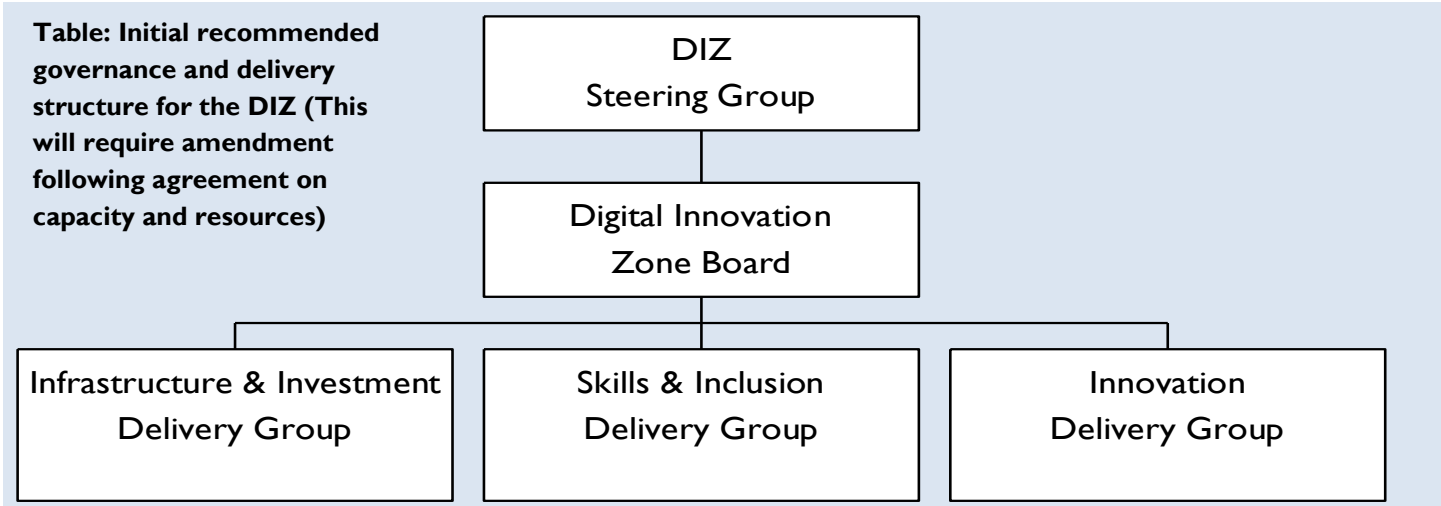
institutions and funding involved. Previous research from Centre for Cities demonstrates that the form of governance for initiatives involving public sector collaboration can involve varying levels of formality, from co-operation and collaboration to co-investment and partnership.

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

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



- **Build scale:** By co-investing, partners create a larger 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 the DIZ should:

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

The DIZ strategy has been prepared in collaboration with member organisations and key partners, and it reflects the priorities and goals of each member as well as the DIZ partnership as a whole. Partners have signed up to a common digital vision, and the 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 the 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.

The DIZ needs to leverage its location and develop expertise in specific sectors and specialisms to differentiate itself regionally and build a recognisable and distinguishable brand. The zone's proximity to London and Cambridge means that it has cutting edge businesses and access to finance and networks on its doorstep. Being a part of the London-Stansted-Cambridge (Innovation) Corridor also means that it has good transport and digital connectivity, with an expanding international airport and significant planned investment at its core.

However, proximity to London and Cambridge also brings along competition, both for businesses and talent. The DIZ needs to therefore ensure that it develops specialist focus areas that differentiate it but also complement the strengths of its neighbours.

As discussed in 'Foundation 2', the medtech (incorporating health and care technologies) and agritech sectors are two priority areas that have regional and national strengths and could develop further. The 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.

The recent recommendation of the Princess Alexandra Hospital to opt to relocate to a facility on a greenfield site together with the already announced relocation of Public Health England's HQ to Harlow offer significant impetus to this work



Measuring Success

The DIZ should engage in continuous and 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 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:

- Listening 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

- Using data in new ways to better understand the 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 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
- Experimenting – try new things and set up clear feedback mechanisms to understand their implementation and impacts
- Peer reviewing – designate DIZ members and partner organisations, like universities or colleges, to review its programmes, monitor progress and estimate any impacts. A critical friend can provide important insights in the policy lifecycle, from development to evaluation
- Sharing 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
- The DIZ will explore best practice in knowledge management and sharing in order to ensure the widest learning is achieved amongst DIZ Partners and to inform the design and delivery of its future projects and programmes.
- Piloting new approaches to both qualitative and quantitative measurement . This could include a digital census of resident experiences and rating of progress plus tracking perceptions over time.

Conclusion

The impact of digital will have the power to increasingly reshape the way we live, work, study and do business. This strategy demonstrates the ambition of the Digital Innovation Zone to be at the forefront of the digital revolution and its potential role as the 'go to' area for government digital initiatives in smaller urban and rural communities, outside of the current Smart Cities. With the adoption of this strategy the Digital Innovation Zone will be well placed to fully engage with the Government's new industrial strategy and help shape how local partners individually and collectively respond to the digital challenge.

The inclusive approach demonstrated in this strategy has been identified by Government and other private sector partners as being one of the area's unique selling points. This innovative cross-border, cross-sector, multi-agency partnership incorporates over 20 partners from across the DIZ geography. Membership mirrors the integrated and closer working relationships the government is looking to foster between and within public services, and with partners in the private and voluntary and community sectors.

The strategy reflects the area's true character, its location, its existing and expanding new assets, and new opportunities, for example, from new garden communities, to integrate plans and initiatives to ensure the greatest dividend to local people and businesses.

The strategy clearly sets out long-term ambitions and an understanding of the area's current and future digital strengths and challenges. It does however also include a series of recommendations for immediate action at an operational level to improve digital performance.

To achieve its full impact the strategy will need to be adopted and endorsed by the full range of partners represented on the DIZ Board and incorporated into their work plans. This will be the first time in the UK where partners from the various tiers of local government, primary and secondary health care, further and higher education, local businesses and the community and voluntary sector have come together to agree an over-arching combined digital plan.

Following the adoption of this document by partners a detailed delivery plan will be drawn up and implemented at the earliest opportunity to maintain the clear momentum that's has already been established. Partners will also need to have discussions around how this ambitions programme can be resourced.

This document will also be a key element of any future bids for external funding and form part of the key information to be sent to digital businesses looking to expand or relocate into the area.

This strategy has been compiled with the ongoing support of a wide range of organisations, following detailed interviews with representatives from all sectors and a major conference to refine its objectives and content. While this strategy will need to evolve over time it puts the Digital innovation Zone well ahead of other areas that are not Smart Cities in preparing to meet the digital challenge 'better together'.

Notes:



The Essex and Herts Digital Innovation Zone (DIZ) has been created to deliver the following agreed vision:

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

Partners are working together to answer a number of key questions:

- What does our economy currently look like and how exposed might it be to a 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 required 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 provides more, or should we carry on as we are commissioning individual approaches?

If your organisation is interested in working with the DIZ to explore digital opportunities, please do get in touch.

For further information on the DIZ and its work programme visit the website at www.diz.org.uk.

Alternatively, you can contact:

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