

For WMCA Board Approval  
Images to be updated



West Midlands  
Combined Authority

# West Midlands Digital Roadmap

2021

# Mini-Forewords



DRAFT

**Andy Street**  
Mayor of the  
West Midlands

Digital connectivity is going to be vital to our economic bounce back. It is the golden thread that links all of our industries – Advanced manufacturing, automotive, life sciences, professional services, construction, low carbon, transport, healthcare, public services - all are being transformed by the power of digital technologies. We have a key role to play in ensuring that our schools, colleges and workplaces are fit to support the jobs of the 21st century.

In my time at John Lewis, I witnessed the power of the digital revolution, taking our products online and allowing us to compete with growing digital commerce companies like Amazon. I know how important it is that we innovate to keep up with the needs of our time.

That is why I am delighted to be introducing this comprehensive refresh of our regional digital strategy. The document is forward looking. It aims to realise the ambitions of our Local Industrial Strategy, build on the successes of our 5G testbed, and tackle decisively the issue of digital exclusion. But we cannot do this alone. This refresh aims to really push the boundaries of collaborative working, maximising areas of mutual interest between the public, private, and third sectors.

I hope that this document makes clear our intent to digitise the West Midlands and embrace the opportunities that lie ahead.



### Cllr Pat Harley

WMCA Culture and Digital  
Portfolio Holder and  
Leader of Dudley Council

Over 2020, the importance of digital technology has become clear to all of us – for work, communicating with family and friends, providing entertainment, and helping us manage our health. Businesses and communities have adapted remarkably, showing the trademark innovation that our region is known for.

Yet too many of our communities are still left behind by the digital divide, forced to share a single laptop between large families or unable to navigate digital platforms. And too many of our businesses are unable to realise the benefits of digital, through limited connectivity or outdated technology.

This Roadmap sets out an ambitious direction of travel for the West Midlands – to become a forward looking and inclusive digital economy, where data is used to improve our public services and the latest technology used to reduce our carbon footprint. If we work together, both pushing past frontiers and fixing our foundations, the West Midlands can lead the way in this fourth industrial revolution as we did in the first.



### Kari Lawler

Young Combined Authority  
Digital Lead

As a tech entrepreneur, I have seen first-hand how pivotal investing in and levelling-up digital capabilities is for our region. Countless opportunities can be created through improvements in connectivity, data usage, and innovation. A strong focus on digital inclusion can then provide everyone with equal access.

From my experience speaking to thousands of young people through my digital youth initiative, I see a lot of talent but too little support. So we need to make sure industry support is in place for these young people to gain vital careers advice, industry

## Summary - 5 Missions for 2021 - 2026



Securing access for everyone to digital opportunities, particularly those in poverty



Sharing and using data to improve people's lives



Becoming the UK's best-connected region



Realising the potential of digital to transform our economy and build economic resilience



Using digital public services to build a fairer, greener, healthier region

## CONTEXT

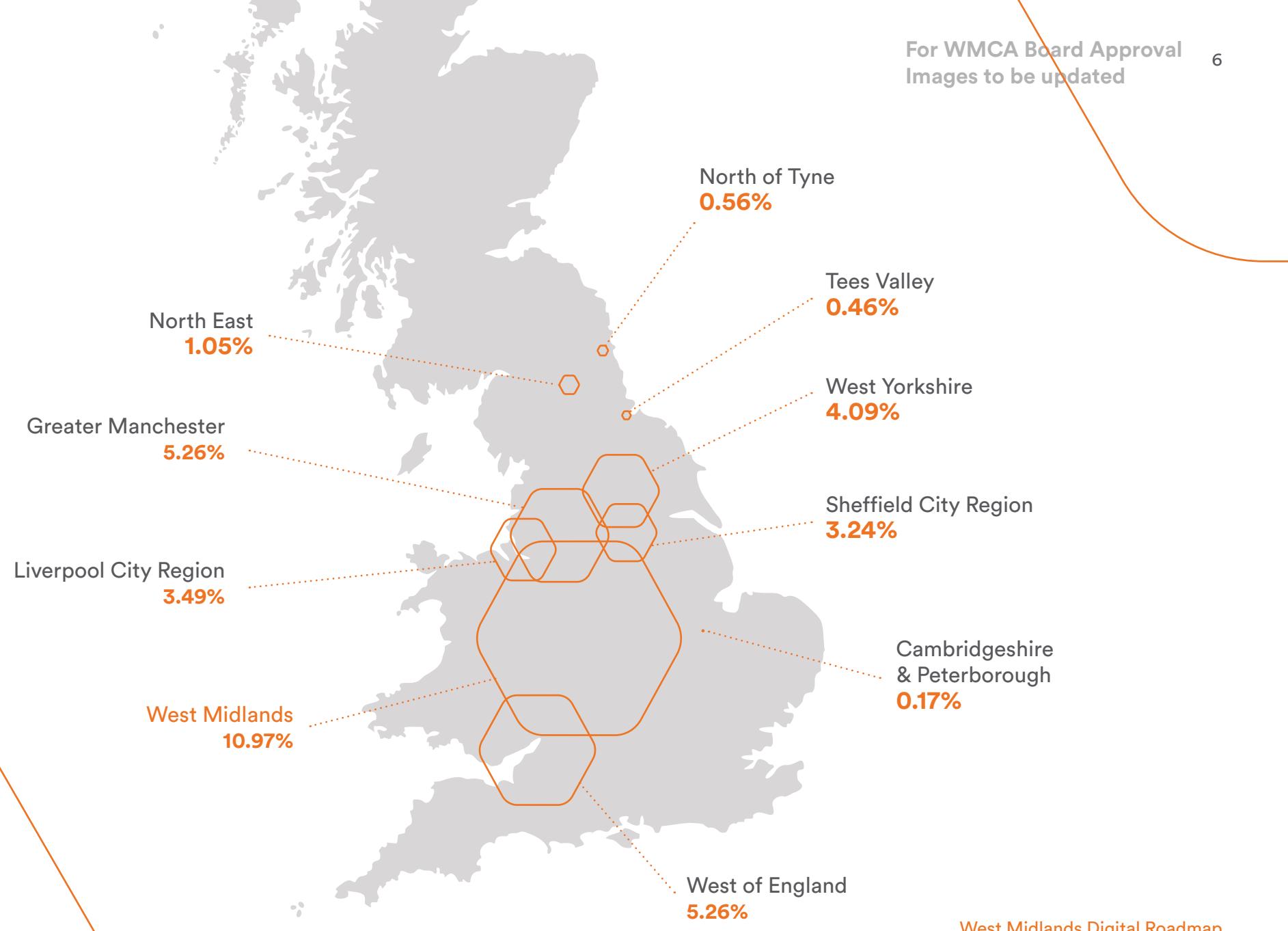
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Where are we now?

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# West Midlands leading UK on 5G Connectivity

Combined Authorities: 5G%



# Internationally Competitive Digital Industries

High Potential Opportunity (HPO) schemes led by Department for International Trade to boost FDI

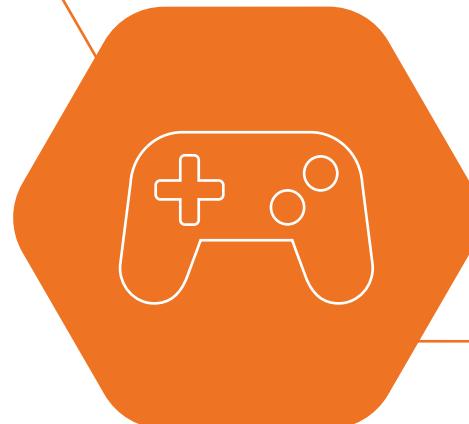
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## Coventry and Warwickshire

Connected and Autonomous Vehicle  
Modelling and Simulation (2020)



## Birmingham and Solihull

Data Driven Healthcare & Technologies (2020)



## Warwickshire 'Silicon Spa'

Gaming Industry (2018)

# Building Digital Skills in Partnership

- Adult Education Budget
- Private Sector
- Other Partners



# Digital Retraining Fund

## Round One

Spectra - training 50 care leavers in AI, coding and cyber

Princes Trust - working with 800 younger adults across technologies

Generation - retraining 700 JCP customers to get into work

Fircroft College - bootcamp and digital café focussing on ethnic minorities & people with mental health challenges

School of Code - working with 120 adults across region

Caudwell Children - training 60 young autistic people in cloud infrastructure and cyber security

Code your Future - training 300 adults employed in low paid employment in coding, focussing on refugee community

Netcom - 20 individuals rapidly retrained with higher digital skills in infrastructure and cyber

Dudley College - Training 500 adults in manufacturing technology, drone technology and VR

Open University - retrain 60 remployed adults in cyber, focussing on women

## Round Two

Halesowen College - support focussed on disadvantaged ethnic minority women

Birmingham University - female learners for coding and data analytics into employment

Tech Talent Academy - software and digital for women and underrepresented individuals

Ashley Housing Group - supporting and upskilling ethnic minority individuals

TDM - Level 3 Training for digital jobs, women, employers digital transformation

Brit Asia TV - supporting low wage ethnic minority individuals in digital media skills

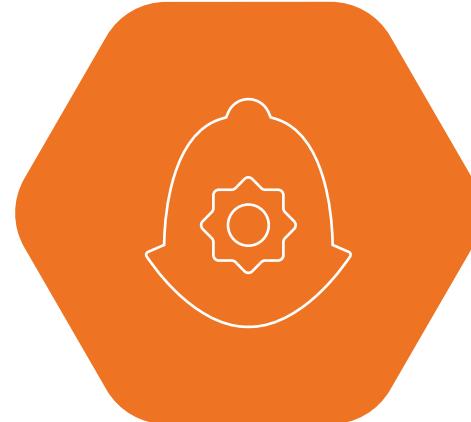
LEAD - women in technology, digital processes, design thinking and service design

Digital Innov8ors - support and mentoring for low wage and unemployed people, focussing on women

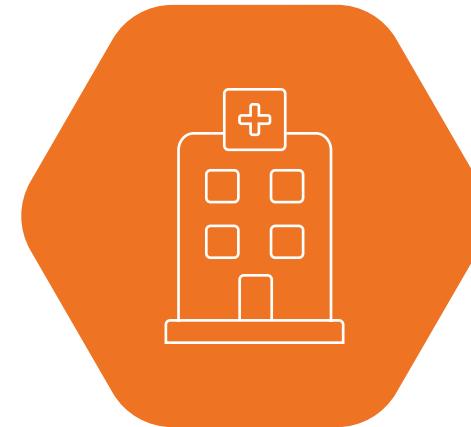
Comp TIA - technical, soft and career readiness skills, & mentoring

Niyo - web/mobile application for skills for black women

# Innovative Uses of Data and Digital in Public Services



West Midlands Police seen as national leaders in the use of data analytics, cloud technology, and digital transformation.



University Hospitals Birmingham Foundation Trust and the Birmingham and Solihull Mental Health Foundation Trust are both NHS Global Digital Exemplars



Established the West Midlands Office for Data Analytics as part of 2017 Devo Deal

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## Significant Challenges Across the Region

- Highest number of non-internet users in UK (1/5th), with a further 1/5th limited users
- Low broadband connectivity, particularly Black Country - full fibre coverage under 10% in Sandwell, Walsall, and Dudley
- Limited mobile connectivity – approx 10% of geography with no 4G coverage
- Highest proportion of employers saying they find digital skills difficult to obtain from applicants of any UK region (38%)
- Limited data analytic capacity and capability within local government and ad-hoc approach to data sharing
- Limited equity investment - lowest deals per 10,000 SMEs of any English region

## Impact of Covid

- Large productivity gap – particularly Digital and Creative sector (-£7,157 GVA per employee compared to UK average)
- Limited cross-regional governance to drive shared progress on these challenges, particularly around data sharing, digital inclusion, and basic digital infrastructure
- Shift to working from home has accelerated pressures on connectivity and changed business models of public and private sector
- School closure highlighted challenges of digital exclusion, with children unable to access learning
- Acceleration of digitisation across business presents opportunities for growth, but also challenges for firms who struggle to 'catch-up' and to growing companies who cannot find necessary digital skills



## TechUK Recommendations

TechUK's December 2020 report on how digital technology can support a levelled-up recovery in the West Midlands, based on a 'Digital Dialogue' with public and private sector leaders, made 3 key recommendations:



- 1 **Work together to strengthen local digital capital**
- 2 **Use digital to accelerate local growth opportunities**
- 3 **Launch local innovation challenges to tackle urgent problems**

The region's potential to recover will depend upon the strength of its local digital capital. Local stakeholders from across the public and private sectors should work together to develop an integrated regional plan to strengthen the eight component parts of local digital capital.

- 2 **Use digital to accelerate local growth opportunities**

The West Midlands has several sectors that are primed for success, including advanced manufacturing, Industry 4.0, and unique regional opportunities like HS2, the Commonwealth Games, and Coventry City of Culture. Concerted action should be taken to ensure that these sectors are at the forefront of digital adoption to support and accelerate their growth.

- 3 **Launch local innovation challenges to tackle urgent problems**

COVID-19 has taken a heavy toll on many businesses, services and communities across the region. The West Midlands Combined Authority should challenge local innovators from across the public and private sector to come forward with new ideas and innovative solutions to some of its most urgent local problems, from housing and healthcare to supporting high streets and the creative economy.

# West Midlands Digital Roadmap

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## The 5 Missions for 2021 - 2026

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Securing access for everyone to digital opportunities, particularly those in poverty



Sharing and using data to improve people's lives



Becoming the UK's best-connected region



Realising the potential of digital to transform our economy and build economic resilience

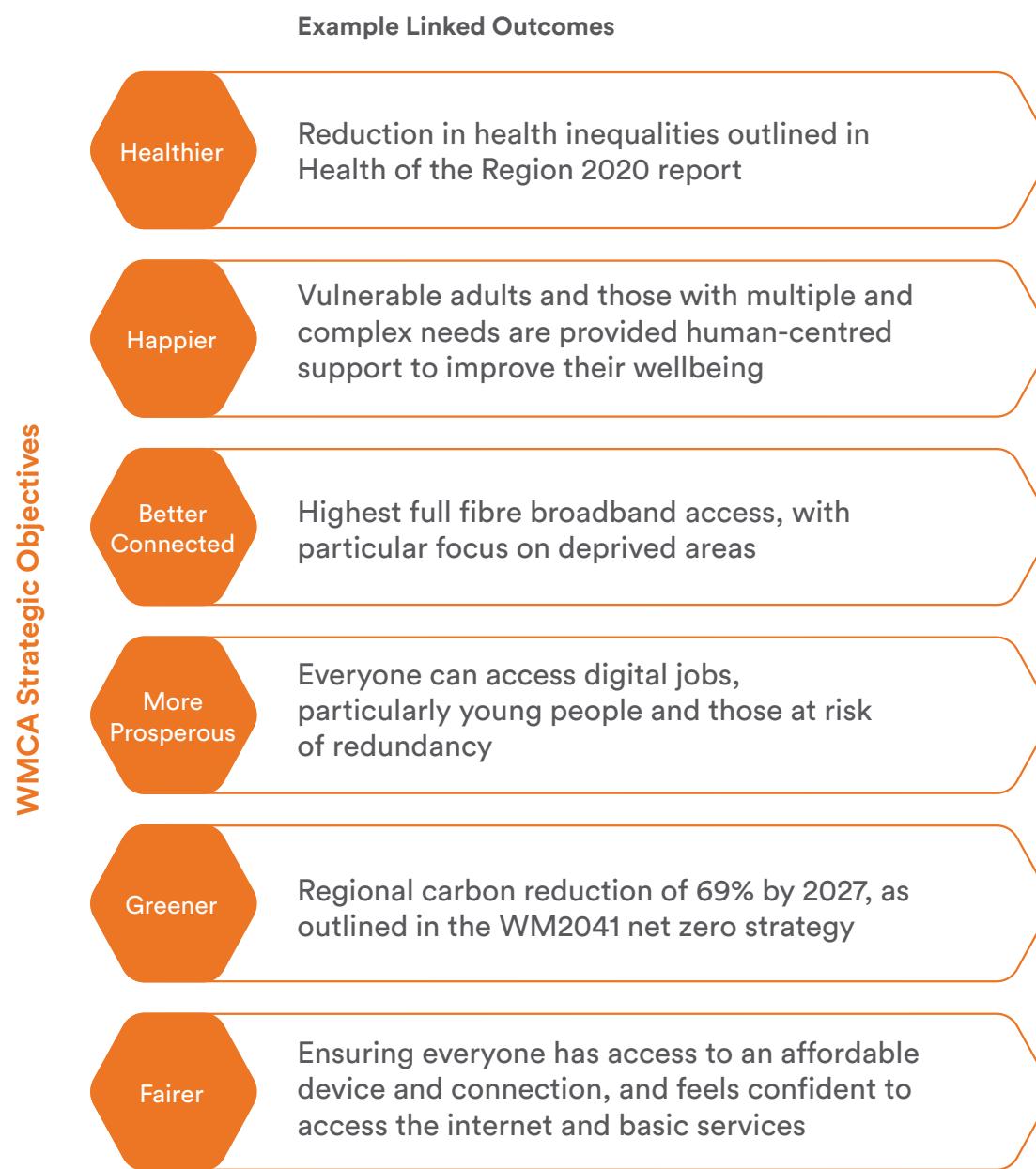


Using digital public services to build a fairer, greener, healthier region

## Strategic Objectives and Outcomes

Together these missions help achieve the overall WMCA regional strategy of a healthier, happier, better connected, more prosperous, greener, and fairer region.

Each Mission has a small number of outcomes which align with our regional strategy. Some linked outcomes are mapped below for illustration – the full list are mapped in the following slides.





## Regional Activity

The items outlined as ‘regional activity’ combines several categories of activity:

- 1 Current activity** that will carry on into 2021-26 and supports achievement of outcomes
- 2 Proposed new activity** that is featured in our Recharging the West Midlands investment case, Community Recovery Roadmap, and/or Spending Review Submission
- 3 Potential new activity** that we are exploring, and is at an earlier stage

This regional activity builds on work that led by Local Authorities, LEPs, businesses, universities, the third sector, and others that we’ve engaged with in the development of the roadmap.

The ‘key actions’ do not cover all activity within the region, but instead set out some ‘lighthouse’ projects and programmes that show how the Roadmap translates into practice.



## Securing access for everyone to digital opportunities, particularly those in poverty

### Outcome

**Everyone has access to an affordable device and connection, and feels confident to access the internet and basic services.**

### Regional Activity

Work with Local Authorities, the third sector, and community groups to form a digital inclusion ‘coalition’, reducing the number of internet ‘non-users’ in the West Midlands from the highest level nationally down to the UK average (22% to 15%). The coalition would share best practice on issues like hardware loans and voucher schemes, and use our collective voice to leverage more investment from the public and private sector.

Improve digital literacy through Adult and Community Learning offers, delivered by LAs and funded through the Adult Education Budget.

Work with young people and schools to improve digital literacy and build core skills from an early age through initiatives like BT Barefoot in primary schools.

Establish the West Midlands as a pathfinder region for the Good Things Foundation ‘Great Digital Catch Up’.

Work with Local Authorities and Community Groups to embed resilience to online disinformation across the region, by boosting multi-platform information literacy and critical thinking skills.

Make use of creative content across all platforms to attract and engage diverse audiences to digital technologies.

Ensure that all digital content is accessible and that nobody is left behind by a move to digital-by-default.

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### Key Actions in 2021

Launch the West Midlands Coalition for Digital Inclusion, and host a regional Digital Inclusion Summit in February.

Build a granular evidence base of the digital exclusion challenges in the region.

Support BOM in establishing a regional Centre for Digital Culture and Inclusion.



## Securing access for everyone to digital opportunities, particularly those in poverty

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### Outcome

**Everyone can access digital jobs, particularly young people and those at risk of redundancy.**

**The supply of digital skills meets demand.**

### Regional Activity

Support collaboration between the public, private, and third sector through the Digital Skills Partnership, and increase awareness of available programmes to individuals and businesses.

Support young people through enhanced careers advice and digital skills pilots in schools.

Deliver the Digital Retraining Scheme, supporting unemployed people and adults facing the risk of redundancy.

Use the Adult Education Budget to increase the volume of technical and advanced digital skills, and also establish a basic digital offer.

Support growth in higher level and advanced skills in partnership with HE and FE.

Boost technical education by doubling the number of digital apprenticeships, promoting the Apprenticeship Levy in the digital sector, and supporting curriculum development.

Develop higher level data analytic skills to support both economic growth and public sector analytic capacity, and retain and support graduates coming from our region's universities with these skills.

### Key Actions in 2021

Expand the digital retraining pilot capacity to support 3000 people pa, rising to 5000 pa the following year.

Expand digital bootcamps to develop talent, working with employers to identify skills gaps and focussing initially on coding, cyber, and software development.



## Sharing and using data to improve people's lives

### Outcome

Data is shared effectively across organisations to solve key regional challenges.

### Regional Activity

Explore the establishment of the 'West Midlands Datastore', inspired by the London Datastore 3.0, using a distributed storage model and a central registry, facilitated through shared standards and interoperable systems and platforms.

#### Focus sharing of data on key areas in Missions 4 & 5:

- Economic Recovery – Business level-data and economic analysis
- Reaching Net Zero – Transport, energy, & planning data to support WM2041 five year delivery plan

### Key Actions in 2021

Develop proposals for a West Midlands Datastore, connecting regional datasets to support economic recovery and reaching net zero.





## Sharing and using data to improve people's lives

### Outcome

The West Midlands are national leaders on data ethics, open data, and data security.

### Regional Activity

Develop and agree a regional set of data ethics and information assurance guidelines, to support the sharing and use of data by all parts of the public sector and relevant parts of the private and third sectors.

Use the West Midlands Datastore project to realise open data commitments, creating a one-stop shop to access regional datasets and improving transparency and accountability.

Leverage the expertise at the University of Wolverhampton's nationally-leading Cyber Research Institute, and skills projects like the TechTalent Academy's Hacking Lab in Birmingham, to build regional cyber security capability for the public and private sector.

### Key Actions in 2021

Support the creation of specific teaching materials for FE to ensure all students can be taught the basics of data ethics and cyber.





## Sharing and using data to improve people's lives

### Outcome

Advanced data analytic methods are regularly used to improve public services and grow our economy, particularly in a post-Covid context.

### Regional Activity

Develop the Office for Data Analytics and the West Midlands Regional Economic Development Institute (WM-REDI) as a shared regional resource for data and evidence innovation for private, public, and third sectors.

**Use data analytics to support the achievement of key strategies in Missions 4 & 5:**

- Economic Recovery – supporting Local Industrial Strategy and Recharging the West Midlands Proposals
- Reaching Net Zero – supporting WM2041 five year delivery plan, and leveraging TfWM Data Insights team
- Tackling Health Inequalities – as outlined in Regional Health Impact of Covid report

- Supporting Individuals with Multiple and Complex Needs – using improved insights from better connected datasets

Collaborate with experts in regional Universities working on advanced data analytics in manufacturing, healthcare, transportation, cybersecurity, and other areas.

Build the capability of staff across the public sector, from senior leaders to frontline staff, to use data to inform decisions and delivery.

### Key Actions in 2021

Build the investment case for increased regional data analytic capacity, as part of the UK National Data Strategy.



## Becoming the UK's Best-Connected Region

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### Outcome

Best 5G mobile coverage in UK - with at least 40% population coverage by 2025.

Highest full fibre broadband access, with particular focus on deprived areas - with at least 2 million people with access to fibre by 2025 and best fibre access in deprived areas.

Best 4G mobile coverage in UK – with >95% outdoor and >90% indoor coverage.

### Regional Activity

Reduce the cost and accelerate the time to deploy mobile and full fibre networks by at least 30% across the West Midlands.

- Further develop the digital connectivity map to confirm issues
- Set up a digital connectivity board and team – incl. LAs & carriers
- Establishing a best practice planning framework to remove deployment barriers across the region
- Lead a programme of work with the private sector, LAs, DCMS and WMCA to accelerate deployment and mitigate planning & other issues

Work as a region to address market failures such as full fibre broadband provision in deprived areas.

- Identify root causes of market failure
- Assess alternatives within the context of state aid and value

- Propose remedies, where appropriate, and lobby for funding
- Oversee execution and delivery of benefits, using secured funds

Attract inward investment for further connectivity innovation focusing on new bearers (e.g. WiFi6, 6G), new business models, real-world test and trials, start-up/scale-up innovation building on 5prinG, Universities and LEPs.

Link physical mobility (transport system), digital connectivity (telecoms system), and spatial proximity (land use system) to ensure accessibility for all our communities.

Support adoption of frontier connectivity technologies (such as 5G) by individuals and businesses through public information, accelerators, and business support.

### Key Actions in 2021

Continue to develop connected map & progress barrier busting to accelerate 5G rollout and extend regional leadership.

Deliver first 5G small cell pilots in city centres.

Seek to secure investment in 5G connectivity for key employment sites.

Establish Regional Digital Infrastructure Board to adopt barrier busting approach to full fibre and 4G.



## Realising the potential of digital to transform our economy and build economic resilience

### Outcome

All SMEs and micro business adopt basic digital technologies to boost output and productivity.

Firms across the regional economy adopt advanced digital technologies (e.g. AI, blockchain, VR/AR, 5G, IoT).

### Regional Activity

Realising the role of digital in driving the four major new market opportunities in the Local Industrial Strategy:

- Future of Mobility – particularly connected and autonomous vehicles
- Data Driven Health and Life Sciences
- Creative Content, Techniques, and Technologies – particularly gaming cluster, eSports and screen sector (supported by Create Central)
- Modern Services – particularly role of digital in ‘as a Service’ opportunities in professional services industry

Growth Hubs working with regional SMEs to boost digital technology adoption and promote e-commerce, alongside private sector partners such as Amazon Small Business Accelerator (with Enterprise Nation), Lloyds Bank Yes Business Can, Google Garage, Microsoft Store, Digital Boost (BCG and Founders4Schools), and Be The Business’s Digital platform.

Drive innovation through over 24 specialist schemes across LEPs, Universities, and other partners that provide digitally focussed business support, including Aston University’s Think Beyond Data and Coventry University’s Focus Digital (outlined in Innovation Ecosystem audit led by the MIT REAP project).

Ensuring digital is at the heart of HS2, through programmes like the HS2 Innovation Accelerator.

Support the first digital & 5G Commonwealth Games and City of Culture – enabling global audiences to experience these iconic events, and creating links with other regional cultural events like DESIblitz’s Online Literature Festival.

Promote our digital economy internationally, working with the West Midlands Growth Company and Midlands Engine.

### Key Actions in 2021

Partner with Be the Business to support the diffusion of digital technologies in micro firms and SMEs.

Seek to secure and rollout a West Midlands Made Smarter programme to accelerate tech adoption in manufacturing.

Drive 5G adoption and application in SMEs through WM5G 5PRING Accelerator based in our three cities.

Make case for the StudioUK innovation hub for media production, in partnership with the Digital Catapult.

Partner with the Institute for the Future of Work on being a pathfinder region for human-centred tech adoption.



## Realising the potential of digital to transform our economy and build economic resilience

### Outcome

Tech and digital firms that are looking to scale up can access support and finance in the region.

### Regional Activity

Develop a regional scale-up offer targeted at digital and tech firms, to improve retention of high growth firms in the region and increase equity investment.

Exploring establishment of a regional Enterprise Investment Growth Fund to use equity instruments to help tech and digital businesses grow quickly.

Support new co-working spaces for tech companies in the region, such as the 5G-enabled Enterprise Wharf (led by Innovation Birmingham, opening 2022).

### Key Actions in 2021

Support the launch of Birmingham Tech's Scale-Up programme across the region.





## Using digital public services to build a fairer, greener, healthier region

### Outcome

Regional carbon reduction of 69% by 2027, as outlined in the WM2041 net zero strategy.

### Regional Activity

Drive carbon reduction and improve air quality through a reliable, efficient, and environmentally friendly mobility network. Innovate mobility through projects such as:

- Regional Transport Coordination Centre - providing realtime view of the transport network and disruptions
- Midlands Future Mobility programme
- Future Mobility Zone
- WM5G developing 5G enabled transport products and services to combat road congestion, reduce emissions, highlight parking space availability, maintain infrastructure, and improve traveller experience

Develop proposals through Circular Economy Taskforce to realise potential of digital to reduce waste through innovation on sharing platforms and 'Products as a Service', working closely with the third sector and community groups.

Work with Local Authorities to reduce the carbon footprints of new housing through regional taskforces on Advanced Manufacture in Construction and Zero Carbon Homes.

### Key Actions in 2021

Support a cohort of WM2041 ClimateTech firms in the Birmingham Tech Accelerator programme.

Deploy sensor networks to support IoT applications in transport.

Develop and expand public realm digital twin tool sets to support transport planning.



## Using digital public services to build a fairer, greener, healthier region

### Outcome

Reduction in the health inequalities outlined in Health of the Region 2020 report.

### Regional Activity

Innovate in the delivery of healthcare, in partnership with the NHS, through WM5G pilots focussing on remote monitoring and support of care home patients, home delivery of endoscopy services to help tackle bowel cancer, and connected ambulances to improve at-scene and in-transit care.

Support collaboration between the public and private sectors in healthcare innovation, through the Serendip Digital Health Incubator, the Health & Wellbeing Innovation Network (Uni of Warwick and partners), and the Birmingham Health Innovation Campus (Uni of Bham and partners).

Leverage the 2 Health Data Research UK Hubs hosted at UHB on Acute Care (PIONEER) and Eye Care (INSIGHT), and the supporting health data infrastructure, to support population health.

### Key Actions in 2021

Expand WM5G pilots focussing on support of care home patients and home delivery of endoscopy services to tackle bowel cancer.

Make case for investment in a regional network of 5G-enabled diagnostic screening hubs.





## Using digital public services to build a fairer, greener, healthier region

### Outcome

Vulnerable adults and those with multiple and complex needs are provided human-centred support to improve their wellbeing.

### Regional Activity

Collaborate across the region to share best practices on digital public services, and to increase collective expertise in user research, human centred design, and agile delivery.

Innovate in the delivery of services to prevent and address multiple and complex needs, in partnership with the VCSFE, Local Authorities, health and criminal justice agencies to:

- Ensure coordinated delivery of appropriate offers and services using digital platforms
- Identify and deliver more responsive approaches to those in crisis

Collaborate regionally, building on the foundations laid by ADASS, we will develop a comprehensive and robust package for the adult social care sector.

### Key Actions in 2021

Develop and implement a pathfinder for data sharing in at least one area of Multiple and Complex Needs (Family Drug and Alcohol Court).

Expand collaborative partnership to develop a virtual network and best practice directory, focussing on human-centred design.



# Bringing it Together

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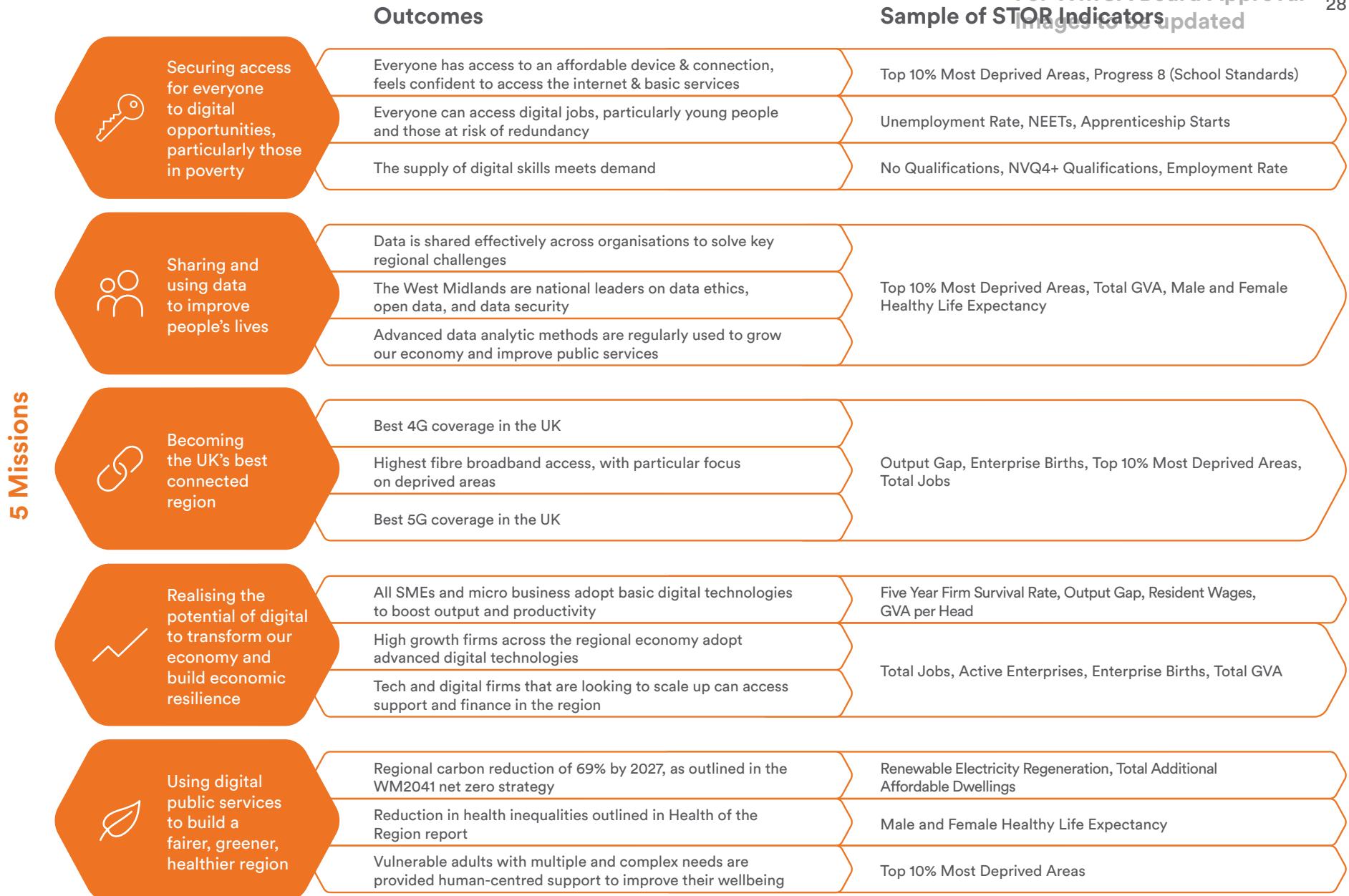
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## 5 Missions

	Outcomes
 Securing access for everyone to digital opportunities, particularly those in poverty	<p>Everyone has access to an affordable device &amp; connection, feels confident to access the internet &amp; basic services</p> <p>Everyone can access digital jobs, particularly young people and those at risk of redundancy</p> <p>The supply of digital skills meets demand</p>
 Sharing and using data to improve people's lives	<p>Data is shared effectively across organisations to solve key regional challenges</p> <p>The West Midlands are national leaders on data ethics, open data, and data security</p> <p>Advanced data analytic methods are regularly used to grow our economy and improve public services</p>
 Becoming the UK's best connected region	<p>Best 4G coverage in the UK</p> <p>Highest fibre broadband access, with particular focus on deprived areas</p> <p>Best 5G coverage in the UK</p>
 Realising the potential of digital to transform our economy and build economic resilience	<p>All SMEs and micro business adopt basic digital technologies to boost output and productivity</p> <p>High growth firms across the regional economy adopt advanced digital technologies</p> <p>Tech and digital firms that are looking to scale up can access support and finance in the region</p>
 Using digital public services to build a fairer, greener, healthier region	<p>Regional carbon reduction of 69% by 2027, as outlined in the WM2041 net zero strategy</p> <p>Reduction in health inequalities outlined in Health of the Region report</p> <p>Vulnerable adults with multiple and complex needs are provided human-centred support to improve their wellbeing</p>

# Digital supporting progress on indicators in the annual State of the Region Report

## Sample of STOR Indicators updated



## Building Local Digital Capital

A key recommendation from the 2020 TechUK report on the West Midlands was the need to build local digital capital.

One avenue to achieve this will be the establishment of a regional Digital Roadmap Steering Group, fostering collaboration on the 5 missions.

### Principles:

- Ensure that all activity takes place at the right level, and that anything taking place regionally adds value by joining dots or filling gaps
- Balance the coordination of different strands with focussed delivery by teams and organisations that have the expertise
- Work in a way that builds capacity in communities and civil society, harnessing the power of relationships and community groups

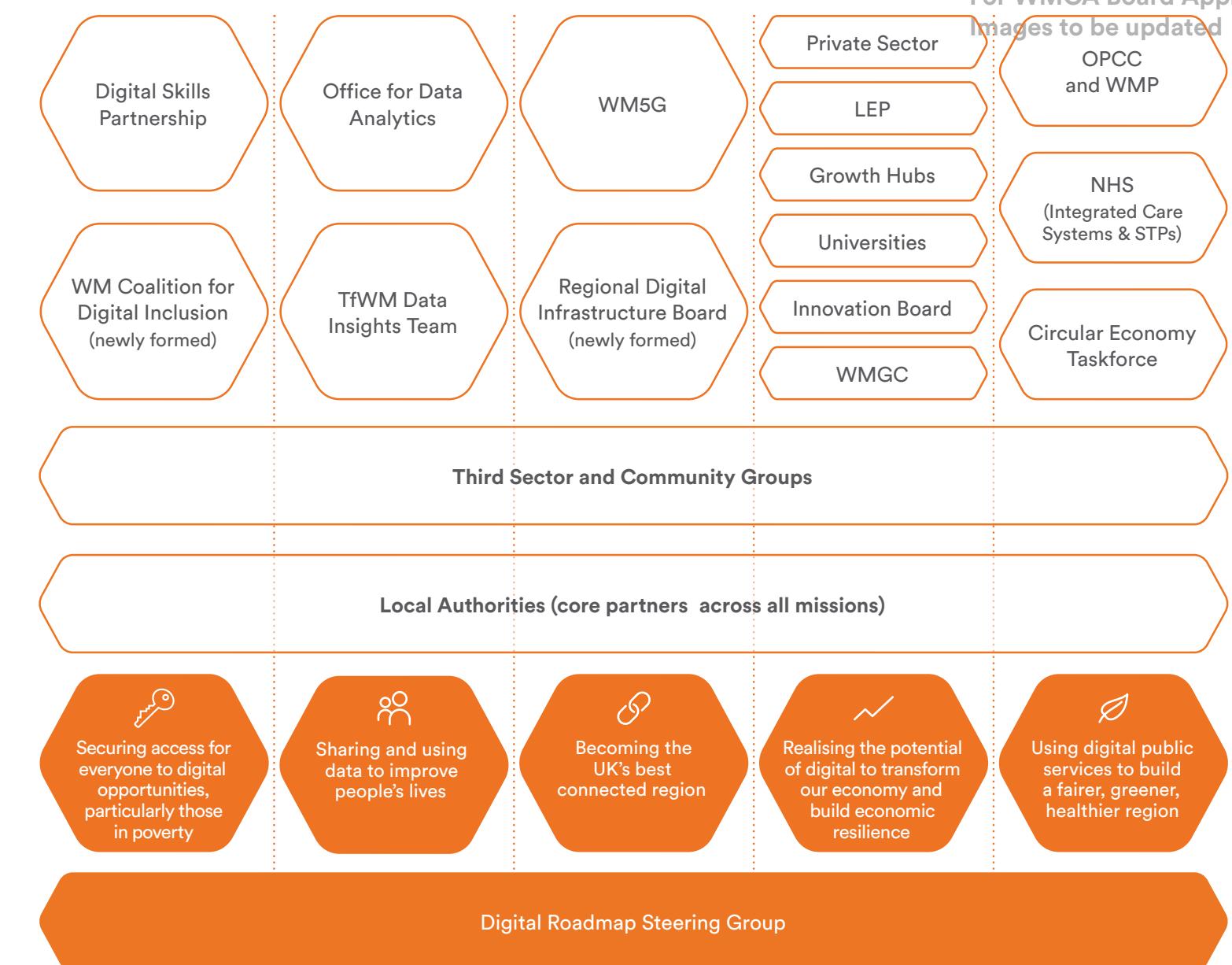


# Digital Roadmap Stakeholder Map

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Combined Authority