West Yorkshire Combined Authority | Tracy Brabin Mayor of West Yorkshire

West Yorkshire: Digital Blueprint

Contents

Foreword from the Mayor

"West Yorkshire is the most inclusive place to be digital."

Aims

- Create an inclusive society and thriving economy through the growth of digital skills for all.

- Be a leading region for high-speed gigabit-capable broadband connectivity and mobile coverage (5G) and be pioneers in our approach to connected places.

- Build one of the best digital sectors in the UK and grow the prevalence of digitally enabled businesses.

One pager/Executive Summary

Guided by this Digital Blueprint, we will…

Showcase West Yorkshire as the UK's premier inclusive and digitally connected tech destination.

Elevate WY to become a global leader in **advanced technologies** and create a thriving ecosystem where businesses and communities flourish.

Empower West Yorkshire residents and organisations to embrace the **hybrid-digital era** and thrive in a hyperconnected world, where seamless connectivity fuels informed decision-making and unlocks a world of possibilities.

Foster a digitally **inclusive** West Yorkshire by embedding Equality, Diversity and Inclusion principles into digital skills initiatives, promoting inclusive practices among digital and tech businesses, and collaborating for universal high-quality connectivity.

Harness digital innovation to empower West Yorkshire as a global leader in **sustainability**, contributing to our aim to achieve net zero by 2038.

Transform West Yorkshire into a **data-driven** powerhouse, enabling businesses and individuals to harness the power of data for innovation, growth, and informed decision-making.

Convene an open and collaborative tech ecosystem in West Yorkshire and beyond, where best practices are shared, emerging challenges are addressed, and regional opportunities are coordinated and maximised.

Defining 'Digital'

The YourVoice Survey

To create this strategy, a public consultation was circulated in October-November 2023. 121 respondents fed back their views on digital. These views are incorporated throughout this Blueprint. 72% of respondents were members of the public, giving their views as individuals. 23% were responding on behalf of, or as a representative of, a business or organisation. (5% other).

With regards to their digital knowledge, 7% consider themselves to be expert; 63% average; and 30% expert.

Full results and demographic splits of the respondents can be found in the appendix.

Digital Skills Plan

*This blueprint builds on the Digital Skills Plan (December 2022)*

The West Yorkshire Digital Skills Plan outlines inclusive digital skills provision as a key priority for the Mayor. This Plan is our footprint for delivery to support everybody, from the residents who want to use digital to connect with their families, to the businesses looking to grow and innovate here, to the people looking for opportunities to work in our thriving tech sector. This Digital Blueprint updates the Digital Skills plan statistics and actions and considers the position of digital skills as enablers for the wider digital economy.

The Digital Skills Plan aimed to increase the numbers of residents with on Essential Digital Skills for Life (75%) and Work (59%) to match the leading region's 82% and 69%, respectively, by 2025 (data published in 2021). In line with the Equality Act (2010), diversity will be embedded throughout our targets. Over the last year, Lloyds and IPSOS MORI have removed the pre-requisites from the Essential Digital Skills Framework.*

Within the new bands of the framework, the 2023 statistics are as follows: Essential Digital Skills for Life (95%), making Yorkshire and the Humber the leading region, and Essential Digital Skills for Work (85%), just 1% behind the leading region.   Previously, an individual had to have the Foundation level to be eligible for EDS for Life, and had to have EDS for Life to be eligible for EDS for Work. Now, someone can start their digital journey in any of the framework areas and will be counted within the measure.

West Yorkshire
Digital Skills Plan
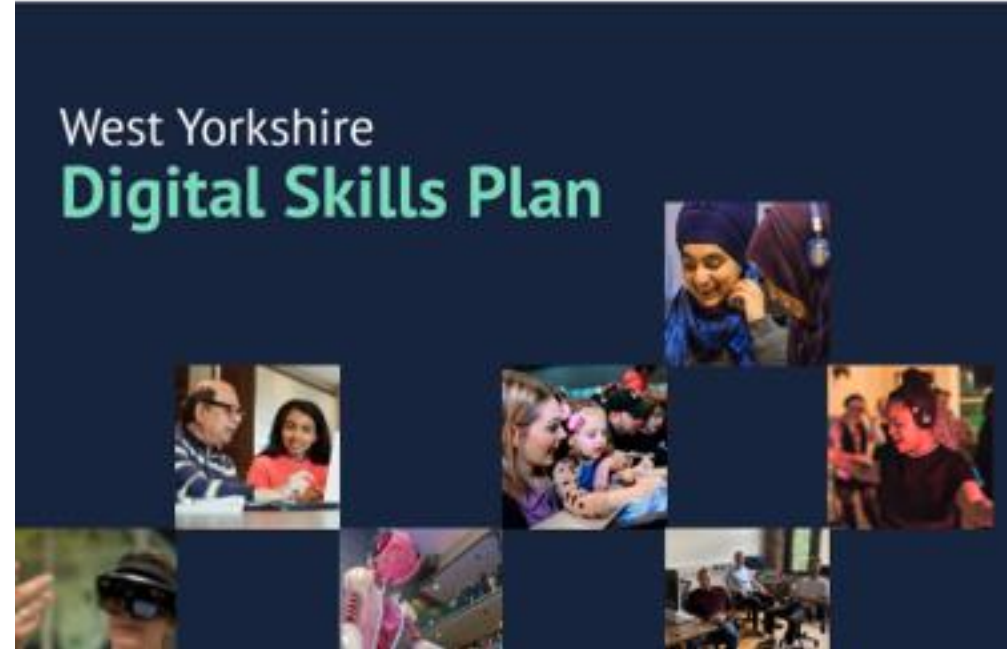
Matrix of change – Across the 3 policy areas of Place, People and Education and Business and organisations, we have identified 7 priority themes to take action to influence change and to make West Yorkshire a digital destination.
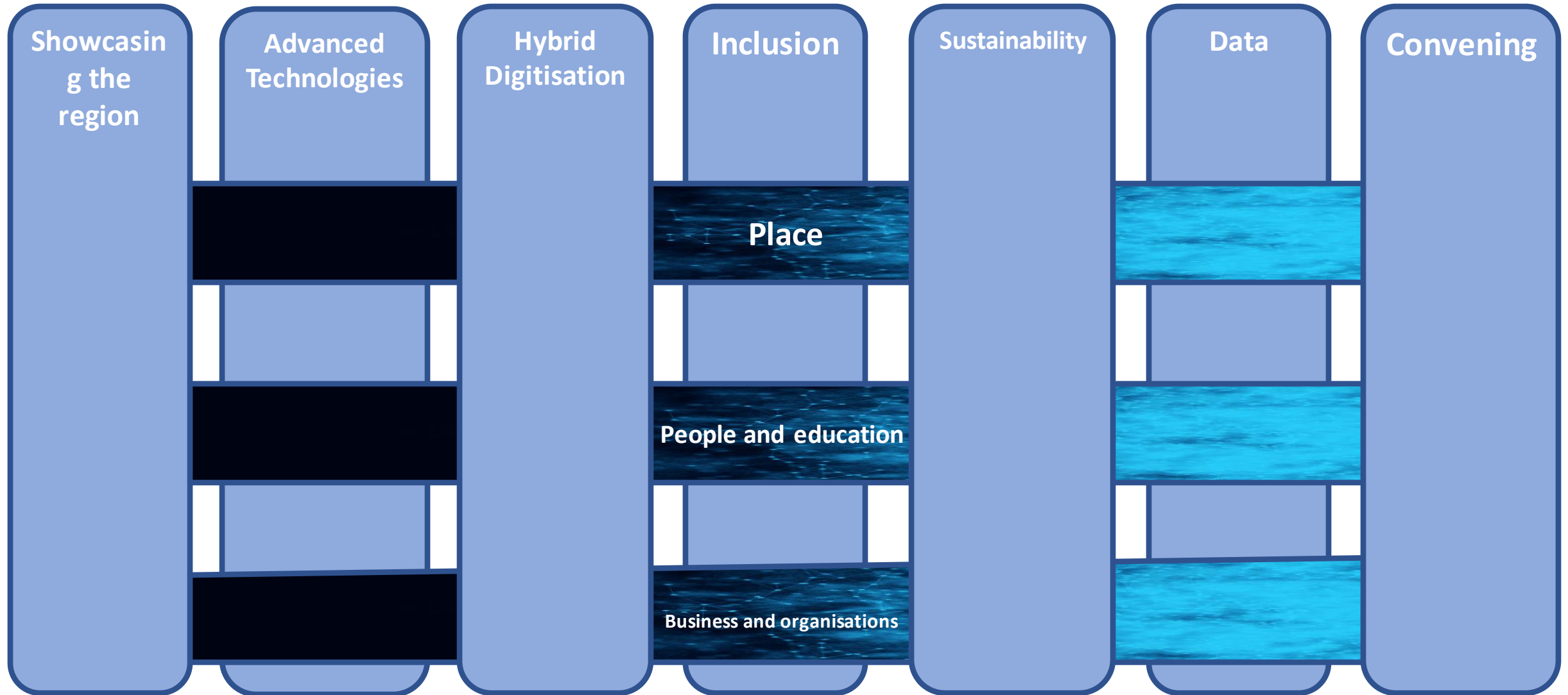
SHOWCASING THE REGION

Why WY is a Great Place for Digital

West Yorkshire is a region boasting a rich heritage in innovation and is now a place of high-level ambition and a digital destination for businesses, individuals and families:

PLACE

- West Yorkshire is a region boasting a rich heritage in innovation and is now a place of high-level ambition and a digital destination for businesses, individuals and families. The region outperforms the national average with statistics including:
  - <u>85%</u> of premises have gigabit-capable internet connections, 7 percentage points higher than the national average.
  - 4G mobile coverage is growing in West Yorkshire and exceeds the national average. 91% of premises are covered by all providers, compared with 85% nationally. Our highest covered area is at 92% and the lowest has 87%, but this is still 2 points above the national average (85%).

- West Yorkshire is a great place to live, work and raise a family, with a life satisfaction rating increasing by 0.25 points, compared to 0.15 points on average.

- Between 2015 – 2020, the West Yorkshire economy grew above the UK average (excluding London).

- West Yorkshire is strategically well-placed in the UK, with the M62, M1 and A1 running through the region. Major rail infrastructure secures links between West Yorkshire and London, as the UK's major global city, as well as large northern cities. This enables opportunities to collaborate, share information and access to supply chains and workforce.

Why WY is a Great Place for Digital

PEOPLE AND EDUCATION

- According to the YourVoice survey, people and education was of great significance. When asked, 'What do you think is the biggest thing the Government can do to support the West Yorkshire digital sector 79% of respondents selected either 'Ensure everyone has access to digital technologies, despite barriers such as cost, skills, infrastructure, location' (Digital Inclusion) or 'Increase the skills of our residents to increase the digital talent pool.'

- West Yorkshire's biggest asset is its inclusivity within the digital system. Our skills programmes are set up to have a broad reach, ensuring a diverse talent pipeline and our businesses embody the theory that diversity in the workplace is better for innovation and productivity.

- In West Yorkshire, we understand that everyone has a role to play in creating a more diverse and inclusive tech industry. As of the latest census, 23% of the population of West Yorkshire now identifies as being from an ethnic minority. Across WY, approximately one third of households accommodate at least one disabled person. 49% of people in West Yorkshire are female

- In a sector that is typically dominated by men, a third of apprenticeship starts in West Yorkshire in 2021/22 were women, up from just 18% in 2017/18. People from ethnic minorities are well represented – 21% of digital apprenticeship starts are people from an ethnic minority

- Employment in specialist digital disciplines continues to grow strongly. Annual average employment growth for digital occupations has been 7% over the last decade in Yorkshire and the Humber, compared with 1% for the overall economy.

- The percentage of people in West Yorkshire with high digital capability is above the national average (65% vs 63%)

BUSINESS AND ORGANISATIONS

- In Yorkshire, we're known for getting things done, doing them well, and then moving on to the next big project. Our region takes the lead in developing subsectors in line with the UK Government's goals for growth. This includes areas like geospatial information, space technologies, FinTech, AI, HealthTech, RegTech, AgriTech, and more.

- Just under half of respondents to the YourVoice consultation (46%) believed that more investment into the tech sector would positively impact their life, which can be encouraged with effective showcasing of the region.

Leeds – Consulting & Computer software. 99% of University of Leeds's computing research activity is either "world –leading" or "internationally excellent".	**Bradford –** Strengths in EdTech and boasts highest postgraduate enrolments in applied artificial intelligence and data analytics in the UK.
Wakefield – Creative digital and gaming strengths. Home to Production Park, a live entertainment space which has hosted artists such as Beyonce, Ed Sheeran and Lady Gaga.	**Kirklees –** Home to the University of Huddersfield and 3M BIC. Centre for enterprise and innovation for businesses across the region, with a strong focus on SMEs. Strengths in Computer hardware and Computer software.
Calderdale – Strengths in consulting and computer software. Home to two very significant Digital Health organisations: The Health Informatics Service (an NHS organisation providing digital and IT services to health and care providers) and VISFO (makes evidence-based decisions for pharma and biotech).	

Showcasing – CASE STUDY

West Yorkshire Innovation Festival

Created in 2020, the West Yorkshire Innovation Festival is a celebration of innovation across West Yorkshire. It brings together academics, businesses of all sizes, entrepreneurs and experts to share resources, showcase innovative ideas and to cast a spotlight on our region's most ingenious success stories. From workshops and panel events to masterclasses and talks, the festival is a great opportunity to learn about the latest trends in digital innovation, and to connect with other businesses and organisations that are working to make a difference in their sectors and the region.

Showcasing intended outcomes

People and Education – Establish West Yorkshire as the most inclusive place for digital and tech

Advocate for further devolution of employment and skills powers and funding in order to deliver best outcomes for West Yorkshire in digital skills

Celebrate as role models those in the digital sector who are embodying greater representation and diversity

Work with partners to maximise the skills in the region in terms of advanced technologies, digitisation of day-to-day services, sustainability, and data, all in a digitally-inclusive way.

Ensure promotion and positive narratives around the successes of the continued delivery of the region's first Digital Skills Plan (2022)

Business and Organisations - Promote West Yorkshire globally as an inclusive, thriving tech destination through trade missions, Mayoral events, and by supporting international businesses to invest here and supporting indigenous businesses to export.

Establish a West Yorkshire tech representative on the West Yorkshire Business Board to spearhead the region's digital agenda, champion the region as a great place for digital, and connect digital and wider business networks.

Anchor digital as a high opportunity area in West Yorkshire's inward investment focuses, including policy interventions which boost investment into the sector. A digital focus would also be relevant to other strong areas such as the financial, health and creative sectors.

Form partnerships with leading digital hubs from around the world, which could facilitate trade missions, shared learnings and collaborative projects, showcasing digital in West Yorkshire on the global stage.

Place – Make West Yorkshire a well-connected region, with world class digital infrastructure, where businesses and communities thrive

Ensure everyone has access to quality gigabit-capable broadband to enable people to work from home, for the self-employed, for businesses, schools and the public.

Work with our partners to support and highlight the community services already in place to increase reach and impact to ensure no one is left behind.

Work with our partners to support communities with access to myth busting terminology to help enhance understanding and take up of infrastructure products on the market.

ADVANCED TECHNOLOGIES

Advanced Technologies

This displays how we are benefitting from advanced technologies such as AR/VR/AI/IoT. This includes higher level skills, sub-sector strengths and the role of smart cities and innovation.

PLACE

- West Yorkshire supports new and innovative advanced technologies and can shift to new opportunities to benefit the region.

- To be fully prepared for future technologies we need to facilitate the infrastructure and connectivity landscape to unlock opportunity. West Yorkshire is already in a great position with an average coverage of 85% across the region. Types of coverage are suboptimal, however.

- Fibre to the Premises (FTTP) figures in West Yorkshire are mixed. Having more FTTP coverage alongside other gigabit capable solutions would enable better connection speeds, meaning that individuals, businesses and communities can access more benefits from advanced technologies such as IoT, AI, AR, VR – all of which can play a part in supporting connected places.

- Having the infrastructure that enables connectivity and data transfer will unlock incredible opportunities for Connected Places infrastructure and ecosystem.

- According to the Your Voice survey 17% of people are excited by new technologies. Respondents felt that there was a potential for impact on individuals, communities, their work and day to day life.

Advanced Technologies - Context

PEOPLE AND EDUCATION

- West Yorkshire's higher-level skills provision is extensive with 9 universities, 7 colleges and numerous Independent Training providers.

- The University of Leeds is joint 9th in the country for Computer Science Research Quality (REF 2021). The University of Bradford has the highest number of Applied AI and Data postgraduates in the country.

- The Combined Authority (CA), working with employers, is building a talent pipeline. We have supported almost 200 schools and colleges to improve careers support and destinations for students, including teacher Continuous Professional Development (CPD), teaching resources for digital skills, and digital careers factsheets for students. The CA reaches 2.5 million people each year through our all-ages career platform, providing local knowledge on West Yorkshire's growing sectors, fresh job opportunities, and the best pathways into good, well-paid jobs. The Combined Authority also offer targeted, intensive employment support to people of all ages to help move those furthest form the labour market closer to, enter or return to work or progress within their current work, including linking residents directly to jobs in local businesses.

- In West Yorkshire, there were 1,370 qualifiers from digital courses in higher education in 2021/22. There were 3,120 enrolments on foundation level ICT courses in further education in 2021/22, 6% higher than in 2019/20. There were 170 Skills Bootcamp starts on ICT courses in the first half of the 2022/23 academic year. With 1022 digital apprenticeship starts in 2021/22, digital apprenticeship starts are well above pre-pandemic levels, growing strongly at Advanced and Higher Level.

- The digital skills gap prevails, with digital skills provision not meeting the growth of the digital sector. This national problem is estimated to cost the UK economy nearly £63 billion a year in GDP.

BUSINESS AND ORGANISATIONS

- Advanced technologies are becoming pivotal in streamlining operations, enhancing productivity and driving innovation. West Yorkshire has the potential to lead in this area with institutions like NHS Digital and NHSC. The region also boasts over 600 health and life sciences firms, 250 MedTech companies and 65 digital health ventures.

- According to DCMS' 'Assessing the UK's regional digital ecosystems' report, Yorkshire's digital sector shows strong growth in economic output (6.5%, 2014-2019), faster than the UK's Digital Sector. The strong growth in digital sector employee jobs, at 8.2% per annum, surpasses any other UK region. The recent digital occupation growth rate, at 6.7% per annum, is also in the top quartile of UK regions.

Advanced Technologies - Context

BUSINESS AND ORGANISATIONS

- West Yorkshire's prowess extends to sectors as varied as finance, logistics, manufacturing, and agriculture.

- The UK has up to 234,000 data vacancies, signalling a growing demand for machine learning expertise.

- Leeds has been ranked eighth outside London in AI-readiness, showcasing the region's commitment to digital advancement. The rapid adoption of AI is leading to growing emphasis on AI development to be transparent, ethical and responsible. This ensures that as the region advances technologically, it remains rooted in values that prioritise the well-being of its citizens.

- Despite the recent press surrounding AI, ONS found that between 3 to 16 April 2023, just 16% of businesses across the UK are currently using at least one of the AI technologies asked about in the survey, meaning more needs to be done to increase the appetite for businesses to engagement with advanced technologies.

- 14.8% of business respondents to the YourVoice consultation said they were not looking to implement new software systems, AI, machine learning, digital machinery, or cloud-based services. There is potential to better present how one or more of these technologies can help all businesses and organisations in the region.

Advanced Technologies – Case Study

Skills Connect

The benefits of the Skills Connect programme is that the training is unaccredited, and employer endorsed, where the Combined Authority has the flexibility to commission activity based on labour market information and using intelligence gathered by employers and steering groups, without the need for commissioning an established qualification on the RQF.

Training is commissioned to support individuals to progress into new employment, or to support individuals to access increased responsibilities as a result of the training. Courses are delivered with a clear line of sight to improved labour market status for learners.

To date, over 1,000 learners have been supported via the Skills Connect programme, with delivery due to take place until March 2025.

Examples of the digital courses are Essential Digital Skills, Creative Technologies, IT Roles, Technical Skills, Digital Management Roles, Ethical use of AI.

Advanced Technologies intended outcomes

Place –West Yorkshire as a place that supports and encourages new and innovative advanced technologies and can shift to new opportunities to benefit the region.

Increase gigabit capable connectivity, including FTTP which is lower powered and future proof. Connectivity should be an essential utility that is resilient.

Develop a mechanism to explore how we prepare and future proof infrastructure projects and programmes to save public money.

Use existing assets in the region to catalyse growth in tech, research and data to improve access to facilities and services.

Explore how Smart Cities Infrastructure, including IoT technology can offer opportunities to make our places function better. Examples include using technology to enhance traffic management and road space allocation, as well as monitoring and mitigating climate impacts such as flood impacts, high temperatures and air quality.

People and Education – Increase the higher level digital skills in West Yorkshire to support advances in technology for social, transport and career purposes

Inspire school-aged students to consider digital careers, based on the four pillars of digital in schools, as advised by our education partners: Functional IT (e.g. Excel, Word), Media and creative, Computer Science (e.g. Software, coding), Tech support (Cyber security, networks, AI)

Encourage more digital apprenticeship starts among 16-18 year olds, as this age bracket is lower than other age brackets

Raise awareness of the availability and high-quality higher level skills courses in our region, and the increase in quality of life (high salaries in these sectors)

Support the use and culture of AI addressing concerns in communities. Educate and embrace, frame it as positive rather than negative.

Ensure promotion of AI and skills training that arise through the Investment Zone

Continue to encourage apprenticeship starts from diverse backgrounds with a focus on underrepresented groups

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Business and Organisations – Support businesses to increase productivity through embracing AI, and bolster businesses against the threat of AI

Encourage businesses to use New advisory service to help businesses launch AI and digital innovations - GOV.UK (www.gov.uk) via the CA's Growth Hub

Develop challenge competitions focusing on solving advanced technology problems and creating innovative solutions, creating interest in advanced technologies and potentially providing businesses with the tangible benefits they bring.

Provide fiscal and non-fiscal support for businesses and organisations looking to adopt advanced technologies that may not have the required expertise to effectively implement them.

Integrate advanced technologies into Combined Authority services, which as well as modernises our offer to the region, acts as an example to businesses and organisations as to how advanced technologies can be utilised outside of their specific sectors.

Ensure promotion of AI opportunities for businesses that arise through the Investment Zone

HYBRID DIGITISATION

Hybrid Digitisation

How digital makes day-to-day life easier for West Yorkshire residents and businesses, and how we make day-to-day services more accessible (without removing the need for humans).

PLACE

- Digital is fully embedded in our society. In 2022, in the UK, 58% of people believed that on balance, digital technologies had made their lives better. As such, we need to better understand what this means for our communities, homes, leisure spaces and work.

- We understand that technology should never fully replace human-to-human contact. Instead, it should enhance, simplify and facilitate better communication and productivity between all.

- In West Yorkshire, we want to support our region and prepare all for change, whether that be systems or infrastructure.

- When it comes to ways digital technologies help you live your life, the YourVoice consultation showed that technology can help in many ways. Common responses included daily working, the booking and planning of travel, communication and shopping - with technology speeding up these activities.

- For transport, hybrid digitisation includes higher level of automation during ticket purchasing and journey planning, as well as broader connectivity with information relating to travel. For West Yorkshire this means the ability to purchase tickets and plan onward journeys whilst on the go. The digital transformation of transport works together with other services also. Digital technologies such as AI and IoT provide information needed to address transport problems such as traffic jams, utilisation of vehicles and pollutant levels. This data collection helps better identify causes of problems and find solutions such as new public transport services and routes.

Hybrid Digitisation

PEOPLE AND EDUCATION

- In an increasingly digital society, digital is often the solution to help people manage their careers, money, health, housing, leisure, career, and mental wellbeing.

- As of 2023, 95% of adults in Yorkshire and the Humber have essential digital skills for life. This is a significant increase from 75% in 2021. Essential Digital Skills for Life include using video call technology to socialise, searching for work via online platforms, or safely using comparison websites to help them save money when shopping for large-ticket items such as insurance.

- In 2023 data, 85% of adults in Yorkshire and the Humber have the full range of essential digital skills for work, up from 59% in 2021. Essential Digital Skills for Work include using the email address book in their organisation to 'cc' in colleagues; working remotely using a virtual private network (VPN); using document formats such as PDFs; using video-conferencing platforms.

- When it comes to behaviour, the YourVoice consultation showed that new technologies such as artificial intelligence 'means nothing' to 6%, 'scares' 19%, 'intrigues' 57%, 'excites' 18%. Ensuring that the one quarter who are scared or unsure of the benefits and threats of technologies such as AI and leveraging the excitement and intrigue of the remaining three quarters, will be key in supporting people to partake in society more effectively and efficiently.

BUSINESS AND ORGANISATIONS

- Only 77% of SMEs within Yorkshire and Humber have high digital capability. The 23% of SMEs with low digital capability are less likely to: have Essential Digital Skills among their staff; offer their own website; use email to communicate with customers; use social media to interact with customers and suppliers; use government services; use Internet Banking; use online accounting software.

- Digital platforms have connected West Yorkshire businesses more than ever. UK-wide studies show that over 60% of SMEs collaborated with other businesses digitally in 2021, reflecting inter-business networking and growth.

- Digital tools have substantially improved operational efficiency. According to a 2019 UK report, businesses that adopted digital tools saw a 20% increase in productivity compared to those that didn't.

- Remote work saw a significant boost due to the pandemic. By mid-2020, 46.6% of people in employment in the UK did some work at home. This shift has allowed businesses in West Yorkshire and beyond to tap into a broader talent pool and offer greater flexibility, which often correlates with increased employee satisfaction. ONS data from 2022 tells us that around 25% of employees in the Yorkshire & Humber region work from home at least some of the time.

Hybrid Digitisation – Case Study

MCard

The MCard is one of the largest travel smartcard schemes outside London's Oyster card. It simplifies travelling across West Yorkshire. MCards can be loaded with a range of multi-operator bus and train travel products, including weekly or monthly tickets and day-savers. Over 11,000 people in West Yorkshire have downloaded the MCard app that enables them to buy and load travel tickets anytime, anywhere straight from any Android smartphone.

Hybrid intended outcomes

Place – Enable high-speed gigabit-capable broadband connectivity and mobile coverage capitalising on smart technology and connected places which allow people to navigate their surroundings making informed choices as they go.

Continue to work for better quality and reliable infrastructure which will support the following:

Enable and support hybrid working, ensuring that the tech that enables this is a viable and preferred option, allowing for great flexibility in people's work/life balance.

Champion and continue to explore hybrid transport systems, including the tech that facilitates the rollout of Autonomous Vehicles but in a safe environment with driver operated traffic.

People and Education – Enable the residents of West Yorkshire to benefit from the advantages of an increasingly digitised society

Increase the percentage of residents who can access digital services (whether that's broadband access / skills) e.g. to apply for Universal Credit, housing, manage finances.

Ensure AI does not replace jobs, but enhances the workforce.

Enable education about new technologies for those who are scared or unsure of the benefits and threats of them.

Leverage the buy-in of those who are excited and intrigued by new technologies to promote the benefits to others in the region.

Business and Organisations – Empower businesses to foster digital innovation and digitally upskill their workforces to increase productivity

Increase the percentage of businesses and organisations engaging in digital transformation activities.

Enable access to digital transformation support – provide fiscal and non-fiscal support for traditional businesses to engage in digital transformation initiatives, measured by increased productivity, efficiency gains, or the development of innovative digital products and services.

Fund and promote hybrid workspaces, where businesses can access meeting rooms, digital tools and workshop space all in one building.

Ensure jobs are enhanced rather than replaced by new technologies.

Encourage use of new developments / empty buildings / retrofit older buildings and offices in the wider region.

INCLUSION

Inclusion

Going from digital exclusion to digital inclusion for all. Ensuring West Yorkshire has 100%, affordable internet connectivity and enables all communities to access and use the internet as they wish

PLACE

- Our definition of digital exclusion refers to those who are not able to use the internet to participate fully in modern society. Digital disparities are not only a moral obligation we need to tackle but are undermining efforts to "rebalance and grow the UK economy" and will mean "the UK will struggle to maintain competitiveness" as a result (HoL, Digital Exclusion report 22/23).

- Digital connectivity is a utility, yet, of households earning £25,000 or less, 1 in 5 never use the internet, rising to 1 in 3 with disabled people and 1 in 2 of those aged 65+.

- Digital Poverty is a vicious circle. Those without digital connectivity lose out and become financially poorer. According to ONS, 1 in 3 people are not using the internet due to cost, despite Internet providers being legally required to provide affordable 'social tariffs.' It is suggested that the tariffs offered by providers provide basic speeds which on many occasions are not viable for a typical family and can attract stigma.

- Digitally excluded groups: Disabled people, older people, those from BAME backgrounds must be represented in datasets that inform algorithmic decision-making. Increasing usage of digital tools and learning patters and behaviour must result in redressing any imbalances and in-built biases in data.

Inclusion

PEOPLE AND EDUCATION

- Who is most likely to be digitally excluded? A homeless person trying to move into permanent housing while overcoming addiction and mental health challenges; An older person approaching end of life in a care home; An asylum seeker learning English and applying for settled status; A working person on a low income or a person who is unemployed; A person with health conditions or disability. Anyone facing and dealing with challenges in their everyday life.

- Nationally, the figures of those who regularly get online have fallen from 99% to 95% this year. Although the pandemic had accelerated the shift to digitally centred lives, the more recent costs of living challenges has further exacerbated the challenges with internet affordability – a key concern for many people.

- In Yorkshire and Humber 4% of people remain offline. 5% of adult residents of Yorkshire and Humber don't have Essential Digital Skills for Life.

- Up to 19 million people face digital poverty in the UK. There is a strong correlation with age, employment and housing status, and Digital Poverty. 1 in 2 older adults are in digital poverty, and 1 in 5 are in severe digital poverty. 20% of children are in digital poverty. Unemployed people are nearly 2-3 times more likely to be in digital poverty (West Yorkshire's official unemployment rate is 4%)

- The West Yorkshire Digital Inclusion initiative has responded to this urgent social and economic need to act. West Yorkshire will use devolved funding to deliver digital skills and access, via community organisations, to the digitally excluded.

- In the YourVoice survey, when asked 'Thinking about people you know that don't access things online, what are the reasons for this?', only 20 of the 120 respondents to this question selected, 'I don't know anyone that isn't online.' The remaining 83% of respondents know someone who is offline, for reasons such as behavioural: 'they don't know how/they are scared/they just don't want to' and related to access, 'an internet connection is too expensive for them/lack of available service where they live/they don't own a computer or smartphone'.

BUSINESS AND ORGANISATIONS

- 23% of SMEs in Yorkshire & Humber have low digital capability. These businesses are missing out on the opportunity to improve productivity, cost efficiency, accessibility, innovation, increase customer base (83% of business have a website) and increase access to the talent pool (online recruitment).

- In West Yorkshire's dynamic third sector, an estimated 12,000 organisations and groups employ 29,700 full-time equivalent individuals. These organisations play a crucial role in addressing social disparities and delivering essential services to communities across the region, and their total economic added value is estimated between £3.1bn and £4bn. Serving as a lifeline for vulnerable groups grappling with poverty, homelessness, disability, or discrimination, these organisations are steadfast in their commitment to social inclusion and empowerment, including digitally-focused initiatives.

- There is a lack of diversity in venture capital investment. Digital inclusion includes breaking down the barrier female entrepreneurs face when accessing VC investment (only 3% of VC funding went to all female teams, compared to 68% to all male teams – report by Extend Ventures).

- Underrepresentation in the tech industry is still commonplace. For example, in the UK tech market, only 26% of workers are women. Tech has a marginally higher proportion of BAME people than the labour market as a whole, 11.8% for all occupations, and 15.2% for tech. However, this does not represent the WY population, where, according to the 2021 Census, 23% of people are from an ethnic minority. Comparing the national tech workforce percentages to regional averages, West Yorkshire may face challenges in achieving full representation. Addressing these disparities could involve targeted initiatives to foster inclusivity and equal opportunities the region's tech sector.

- Tech now accounts for around two million jobs in the UK but only 9% of all IT specialists have a disability.

Inclusion – Case Study

Digital Inclusion West Yorkshire Leeds

The West Yorkshire Combined Authority is launching a regional offer to tackle Digital Inclusion across West Yorkshire.

Digital Inclusion West Yorkshire will be coordinated regionally to level up the region, provide support and wider context, enable the sharing of best practice and delivered locally to tackle local challenges and priorities. The programme will build on the success of 100% Digital Leeds, which is one of the most successful, high-profile and well-respected digital inclusion programmes in the country. Digital Inclusion Officers will be based in each Local Authority to help the voluntary, community and social enterprise sector across the region to tackle digital poverty.

Inclusion intended outcomes

Place – Work with partners to ensure high quality connectivity across West Yorkshire

Ensure everyone has access to digital connectivity by addressing not spots, understanding reasons for market failure and to work with commercial sectors to address this.

Work with the commercial sector to drive low-cost internet access to ensure anyone, anywhere can access low-cost, high-speed internet connection.

Work with local authority partners to help expand methods for getting online, including opportunities to use public sector assets to get communities connected at home, in a digital hub or through public Wi-Fi.

Engage government to ensure there is ongoing new national approaches and funding to tackle digital poverty and the broader issue of digital inclusion.

Skills and Education - **Continue to ensure Equity, Diversity and Inclusion are firmly embedded in any digital skills initiatives delivered in West Yorkshire.**

Tackle digital exclusion in West Yorkshire through the Digital Inclusion West Yorkshire programme and monitor the success of the Digital Inclusion West Yorkshire programme.

Address the problem of diversity in tech talent pipeline, through programmes such as the Mayor's Diversity in Digital Initiative, devolved Skills Connect digital courses and Department for Education digital bootcamps.

Business and Organisations – Encourage digital and tech businesses in West Yorkshire to apply inclusive practices, and benefit from inclusive practices

Diversify VC investment and brokerage for access to finance for digital businesses.

Encourage businesses to advertise tech roles following inclusive practice e.g. a transparent salary and to describe the performance objectives of a role rather than a 'check list'.

SUSTAINABILITY

Sustainability

How digital is working towards supporting, accelerating and transitioning towards net zero goals in West Yorkshire, and how the West Yorkshire Combined Authority is enabling this:

- The Combined Authority has a bold and ambitious target of reaching Net Zero by 2038. Digital sustainability and sustainable digital technologies can help to reduce emissions and improve resource efficiency.

PLACE

- Digital technologies and data can make significant contributions to achieving our climate and environment goals. It was found by the World Economic Forum that digital solutions can reduce global emissions by 20% by 2050

- Sustainable forms of connectivity: fibre optic cables have a longer lifespan than traditional copper cables. They require less power to operate and have lower energy transmission which results in reduced carbon emissions. Digital therefore has a part to play in our target of West Yorkshire becoming a carbon free region by 2038. Evidently, fibre cables have a longer life span compared to traditional copper networks. They're durable, which minimises the need to frequent replacements, and will stand the test of time as we continue to experience changing weather patterns and more frquent heatwaves and flooding events.

- Work-place: high-speed connectivity opens the possibility of hybrid working. The hybrid model of working, accelerated in its implementation during the pandemic, is being adopted by many companies after finding employees were just as effective working from home, as they were in the office. Flexibility in working leads to a happier workforce.

- Applications: help us to better understand what activities and actions we can take to reduce or offset our impact on the environment. For example, often the biggest water waste is due to leaking pipes. Sensors and analytics could cut those losses by having better access to information. In fact, Beijing reduced deadly airborne pollutants by roughly 20% by tracking sources of pollution and regulating traffic and construction accordingly. Sharing real-time air-quality information with the public via smartphone apps enables individuals to take protective measures. This can reduce negative health effects by 3-15%, depending on current pollution levels.

Sustainability

PEOPLE AND EDUCATION

- The crosscutting work on digital, covering people, places and business will support work tackling the climate emergency. When it comes to sustainability, digital skills are an enabler, supporting movement into productive and emerging jobs within the region, such as those committed to by the Mayor's 1,000 Green Jobs Pledge.

- Evolution of digital skills to support all sectors will be key to helping businesses develop their sustainability and therefore cut costs, cut carbon emissions, and enhance their productivity. This includes innovation skills required across the 'green sector' to tackle climate challenges.

- The emerging technologies within Place will require a workforce that has the skills to implement and embed them. For example, growth in sustainable infrastructure will increase demand for people who can retrofit fibre and copper wiring (to improve internet access) and install smart homes safely (to help save energy and reduce waste). For this reason, the Combined Authority has approved a £7.5m package of skills support to focus on green and digital skills, for businesses and individuals.

- West Yorkshire can ensure that it reaches its net-zero target by investing in digital skills. This is achieved through:
    - Digital skills plan will support 'better jobs' and more productivity.
    - Upskill people to retrofit fibre and copper infrastructure and installation of smart homes to help save energy and reduce waste
    - A £7.5m Gainshare programme focused on green and digital skills.

BUSINESS AND ORGANISATIONS

- Digital Interactions: With over 70% of businesses in the region adopting online services, traditional customer-business interactions have changed. This shift has led to a potential reduction in regional travel emissions by up to 5%, making both business and leisure interactions more eco-friendly.

- Going Paperless: As the modern workplace in West Yorkshire evolves, there's been a significant 40% decline in paper usage. Beyond the immediate benefit of saving trees, this transition cuts down the broader environmental footprint associated with paper production.

- Cloud Storage Benefits: As about 60% of local businesses transition to cloud storage, the region experiences energy conservation. These centralised cloud solutions offer up to 30% more energy efficiency compared to conventional data storage, reflecting a broader shift towards green tech solutions.

- Efficient Deliveries: In a region with bustling trade and commerce, the use of digital mapping for deliveries has led to a marked 15% decrease in fuel consumption, optimising routes and making every trip count.

- Greater adoption of digital tech by business will facilitate efficiency and reduce waste e.g. WFH & hybrid work balance

Sustainability – Case Study

LoRaWan

As part of the West Yorkshire Flood innovation programme (WY FLIP), of which the CA is a contribution partner, one of the projects being led by Wakefield Council is the Digital surface water flood warning system – LoRaWan (Long Range Wide Area Network).

Surface water flooding is a growing problem across West Yorkshire, it can be unpredictable and fast flowing causing not only damage to properties but also health risks. The aim of this project is to improve the response to surface water flooding events by exploring the use of LoRaWan to provide a flood warning system which uses accurate, real-time information. Rolling out a network of sensors across West Yorkshire would evolve current flood responses to surface water flooding which are reactive to becoming proactive. The network of sensors would transmit real-time surface water levels to a central hub and create early warning systems of potential flooding, helping operational local teams to direct resources to where they are most needed to take preventative action.

Sustainability intended outcomes

Place – Use digital capabilities and opportunities to create a more sustainable and climate ready West Yorkshire.

Work with partners to promote the use of digital and smart infrastructure using innovative approaches to reduce energy use.

Work with partners to capture and use data from smart infrastructure to help with planning and identify blockers to progress. Work towards and support more information sharing.

Build on GIS capabilities to help plan renewable deployment (solar mapping)

Asset mapping, allowing delivery alignment and strategic sequencing to ensure we 'dig once'.

Support the development of High-quality Local Area Energy Plans (LAEPs) using analysis of robust local, regional, and national datasets to digitally interrogate opportunities regarding energy performance certificates, insulation, and possibilities for heat pump installation etc.

Work with partners to share information and knowledge of the benefits of Smart energy appliances, smart tariffs (Kraken system), online advice.

People and Education – Create a West Yorkshire where everyone has the skills and mindset to innovate for sustainability.

Promote awareness of the benefits of digital skills supporting growing sectors to develop and innovate their sustainability.

Promote schemes that offer green and digital skills training, such as WYCA's £7.5m Gainshare projects focused on Green and Digital

Work with industry to develop digital and green skills that are fit for purpose for the jobs and infrastructure of the future

Offer equitable access to advanced high level digital skills so that all in West Yorkshire have the skills and mindset required to innovate with sustainability as the goal, linking through to schemes such as KTPs

Use digital technologies e.g. social media, to raise awareness of sustainability issues and to encourage people to adopt more sustainable behaviours.

Business and Organisations – Establish West Yorkshire as a beacon of digital sustainability by setting ambitious regional targets, promoting sustainable practices, and incentivising eco-friendly technologies and waste management.

Develop a regional digital sustainability target for businesses and organisations.

Promote digital sustainability initiatives as part of West Yorkshire's business offer.

Green technology incentives for businesses and organisations adopting energy-efficient digital technologies, such as renewable energy sources, low-power computing equipment and energy-efficient data centres.

E-waste recycling programmes for businesses and organisations to responsibly dispose and recycle electronic equipment.

DATA

Data

‘*Data is the driving force of the world's modern economies.*’ *It is important that we understand data, know how to use and collect it and store it safely. We need to also understand and support digital data skills, as well as understand the architecture of data.*

PLACE

- Whether looking at 5 star reviews, to choosing a restaurant, data has transformed our everyday lives. But we need data and data sources to be secure, safe, good quality, timely to access, and, have integrity.

- Data infrastructure is the systems and services that store, process and transfer data e.g. cloud compute, data centres, servers. Data infrastructure is a vital asset and supports our economy, delivers public services and drives growth.

- Smart Cities: use data and digital technology to improve decision making and improve the quality of life and resource efficiency. To ensure that data is appropriate and usable we need three layers

    1. A technology base e.g. smartphones, sensors, high-speed communication networks
    2. Specific applications e.g. data translation into alerts, insights and action.
    3. Usage e.g. cities, businesses can use smart technology to improve experiences.

- Data storage: we must have robust systems in place to protect people. We must also make our region data rice to respond to community and business needs.

- AI: Incomplete, insecure or biased data risks failing to solve problems and even worsening or entrenching disadvantage. AI and data will be useful if we ensure data sets are not misused, are transparent and the purpose and use of the data is transparent. Clear accountability, governance and oversights on any decision and projects are also key to ensuring fairness in data usage.

Data

PEOPLE & EDUCATION

- Data Analyst and Data Technician apprenticeship starts are in the top 4 digital apprenticeship starts in the region, demonstrating the strength of the talent pipeline for data in the area. Nevertheless, growth in specialism such as AI and cyber are driving demand for supply of broader data skills at foundational level to feed the pipeline of advanced skills and to provide businesses with foundational skills they need to work with data.

- As data and technology change the skills, knowledge and behaviours needed from people in different sectors also change, and simultaneously increases the demand for technology-driven roles e.g. data architects and scientists. This requires us to have a greater understanding of and support in place for data skills. In 2019 PwC reported that 69% of employers were predicted to demand data and analytics skills from job candidates in 2021, but only 17% of UK workers were "data literate".

- There is significant demand for data skills with UK companies recruiting for 178,000 to 234,000 roles requiring hard data skills. 48% of businesses are recruiting for roles that require hard data skills but 46% have struggled to recruit for these roles over the last 2 years. The supply of graduates with specialist data skills from universities is limited. While many companies undertake to train their own workers internally, half of all workers surveyed reported they had not received any data skills training within the last two years despite considerable interest in undertaking training.

- Yorkshire and the Humber has better 'machine learning' and 'data literacy' skills compared to the rest of the UK. Yorkshire and the Humber is strongest, in 'basic IT skills' (83%), 'industry/sector expertise' (76%) and 'data literacy' (75%) skills.

- As of 2020, DMCS-commission analysis predicts data analysis will be the fastest growing digital skills cluster over the next five years. Exponential growth in the demand for advanced applications of data science and machine learning will occur in all sectors of the economy.

- Use of data and behaviour must be acknowledged. Fear of cyber hacks is one of the barriers stopping those who are digitally excluded from accessing the internet. In the YourVoice survey, when asked, 'Thinking about people you know that don't access things online, what are the reasons for this?', the most common responses were 'they don't know how', 'they are scared to use the internet.'

- In the YourVoice survey, only 21% of respondents said they were 'very confident' to keep themselves safe online, even though 30% consider themselves to be 'experts'. 13% of respondents said they are not confident to keep themselves safe online, yet only 7% believe themselves to be 'beginners' when it comes to using the internet. This shows a discrepancy in the perceived skill levels of general digital usage versus online safety.

BUSINESS

- Effective use of data will benefit businesses through boosting productivity, encouraging competition, creating new businesses and jobs, improved public services and position the region as a forerunner of the next wave of innovation. Overall, WY will be more attractive to multinational companies to situate or headquarter themselves.

- West Yorkshire was recognised as a High Potential Opportunity in Artificial Intelligence and Big Data by the UK Government. With expertise in data analytics draws a range of world-ranging organisations.

- 31% of SMEs in West Yorkshire do not use data to aid decision-making (FSB, 2021). Of the SMEs in West Yorkshire that use data to make business decisions, 59% said that data analytics has helped them to increase sales, 68% said it has helped them to improve customer service, and 64% said it has helped them to reduce costs.

- There is a large disparity in data analytics between small and large businesses. In Yorkshire and Humber, only 22% of businesses with fewer than 10 employees are using data analytics, compared to 63% of businesses with more than 250 employees. (2021)

Data – Case Study

Data Bootcamp

Bootcamps offer intensive training, targeted at career changers, funded by the DfE. For example, a data bootcamp run by Generation. Generation Data Bootcamp helps build the roadmap to employment and aims to build confidence in its applicants. It provides participants with support via instructors and mentors in 1-1 sessions. Here participants can receive help with personal bio writing and interview preparation in order to help them secure a job. The support on-programme is followed by post-programme support.

Data intended outcomes

Place – Access and use good quality safe data to help make well informed decisions which will benefit West Yorkshire.

Ensure data is collected for the right reasons and used in the right way.

Use place-based data to inform decision making, understanding limitation and biases.

Share data and information where appropriate to help partners and stakeholders to make informed robust evidence-based decisions. Support and lead ethical data usage, by examining our own approaches and building guidelines.

People and Education – Make West Yorkshire the UK's leading region for data skills, supporting businesses and individuals to thrive in the data economy.

Deliver and promote adult skills training and upskilling opportunities in data

Leverage the existing success of specialist data apprenticeships by further promoting the opportunities

100% Digital will deliver community-based interventions that increase confidence and motivation to start engaging with digital (such as cyber security training) as secondary learning.

Raise awareness and confidence of online safety and protection of data for the residents of West Yorkshire.

Business and Organisations – Empower West Yorkshire businesses and organisations with data-driven innovation and collaboration

Facilitate the development of regional data hubs and cloud-based platforms, providing businesses with secure and accessible data storage solutions.

Develop data-sharing agreements to facilitate secure and ethical data sharing among businesses, research institutions, and government agencies, fostering collaboration and innovation.

Promote open data initiatives that encourage businesses to make non-sensitive data available to the public and other organisations, fostering transparency and innovation.

Provide training and resources to help businesses, particularly SMEs, harness the power of data analytics for informed decision-making and improved competitiveness.

Develop initiatives for businesses to undertake data-driven research and innovation projects, encouraging the development of data-driven solutions and products.

CONVENING

Convening

The role of CA, district partners, central government, the private sector and the public need to be aligned, agile and pull in the same direction in order to fully embed digital in all of West Yorkshire

PLACE

- The West Yorkshire Plan sets out our vision of making West Yorkshire an engine room of ideas where anyone can make a home.

- Our region has many opportunities for growth and is a test bed of innovation and ideas. Our extensive, trusted and established partnerships will harness our assets to generate opportunities for the people and places of the region, thus creating a brighter West Yorkshire that works for all.

- West Yorkshire is ready to negotiate further devolution of funding and powers. The current system is time consuming and stifles innovation due to siloed, restrictive and competitive funding pots. Devolution will drive efficiencies by reducing and removing government bureaucracy. It will further empower the region by enabling local authorities more freedom to deliver for the people.

PEOPLE AND EDUCATION

- Digital Skills: The digital learning space is complex and dynamic; therefore, it is crucial to convene stakeholders and work with partners in the area to ensure West Yorkshire is offering comprehensive and navigable digital skills training for all.

- There is currently not a single-entry portal that includes all provision from online only providers, state funded colleges and training organisations, universities, and large employers.

BUSINESS AND ORGANISATIONS

- A key aspect of unlocking potential in our region is to further develop our partnership with national government and the national and international private sector. These relationships can help shape our regional offer to businesses and organisations.

- There is not currently a provision map in one location for all digital networks and initiatives for businesses and organisations in West Yorkshire.

Convening – Case Study

LDSP

The LDSP played an important role in convening, coordinating and influencing digital skills in West Yorkshire, especially during the pandemic, where the partnership ensured donation of tech to families who needed to get online. The LDSP was also the partnership responsible for the delivery of the Digital Skills Plan, which has influenced the development of £7.5 million of funding for digital, green and skills for business funding. The LDSP also formed a platform of digital advocates and experts to speak directly to central government to influence national policy. The funding for LDSPs has ended, leaving gaps in the landscape and a lack of regional representation to national policy makers, which West Yorkshire Combined Authority intends to fill.

Convening intended outcomes

Place

Support and highlight issues with regulators and central government.

Funding simplification.

Use the Mayor's leadership and relationships to implement positive change, to help service users and customer understand products and get more benefits from digital transformation.

Work with local authority partners and the commercial sector to ensure we deliver the best outcomes for our region.

People and Education

Convene stakeholders and work with partners in the area to ensure that West Yorkshire is offering comprehensive and navigable digital skills training, accessible at all levels, leveraging the success of the Local Digital Skills Partnership.

Business and Organisations

Provide one place for businesses, particularly SMEs and those which have potential to increase their digital capacity, to view digital-related business support information.

Cross-matrix: Establish a group of digital stakeholders across West Yorkshire

This group will:

- Drive delivery of the interventions in development through the Digital Blueprint and oversee their implementation.

- Act as an open forum and intelligence hub where the West Yorkshire tech ecosystem can flag and troubleshoot emerging issues, concerns, or challenges.

- Share best practice by attracting national and global experts.

- Coordinate regional opportunities for the sector, relating to people and education, business and organisations, and place.

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Glossary

- **Data –** Information that has been processed into a format that machines can read and understand.
- **5G –** The fifth, and most recent, generation of cellular networks. Allows for faster data rates and less transmitting delays.
- **4G –** The fourth generation of cellular networks, preceding 5G.
- **FTTP –** Fibre to the Premises. A broadband technology that provides very fast internet speeds. Allows for a fibre-optic cable installed from the street cabinet into your home.
- **Digital Technologies –**Tools, systems and devices that can generate, create, store or process data. Examples include 5G, Artificial Intelligence, and Video Technologies.
- **Digital Transformation –** The process of using digital technologies to create or modify business processes to meet changing business and market requirements.
- **AI –** Artificial Intelligence. A simulation of human intelligence processes by machines (especially computer systems) to perform cognitive functions.
- **Cyber Security –** Protection of computer systems and networks from online attacks.
- **Hybrid –** A combination of digital and traditional methods.
- **IOT technologies -** Internet of Things. Describes the network of physical objects - 'things' - that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet
- **Climate Emergency –** A situation in which urgent action is required to reduce or halt climate change in hope to avoid irreversible damage to our environment.
- **Smartphone –** A mobile phone with highly advanced features and can perform many of a computer's functions.
- **Broadband –** Data connection that is able to support interactive services without the use of a telephone line.
- **Connected Places / Smart Cities –** Places which use information and communication technologies to increase operational efficiency.
- **Virtual Reality –** Computer-generated environment with scenes and objects that appear real.
- **Phone Service –** a company or public utility that provides reception to transmit information.
- **Gigabit Capable –** broadband that is capable of downloading data at a rate of at least one gigabit person second.
- **AR -** Augmented reality. Is an enhanced, interactive version of real-world environment achieved through digital visual elements, sounds and other sensory stimuli.

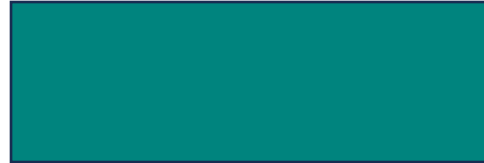# Local Authorities Digital Strategies

- Bradford: Digital Strategy (bradford.gov.uk)
- Calderdale
- Kirklees:
- Leeds Digital Strategy: Leeds Digital Strategy 2022 - 2025.pdf
- Wakefield: transformation-strategy-for-web.pdf (wakefield.gov.uk)

Key

- **Place**

- **People and Education**

- **Business and Organisation**