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BUILDING THE FUTURE WE NEED

WALES DIGITAL DIALOGUE AND REGIONAL REPORT 2020

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TECHUK DIGITAL DIALOGUES

Throughout the past year, techUK held a series of Digital Dialogues with leaders across the United Kingdom's nations and regions to better understand how we can harness digital innovation to build a better future in the wake of the coronavirus (COVID-19) pandemic.

Working together with stakeholders and members these conversations were intended to help understand what actions could be taken at the local level in the short, medium, and long-term to support a levelled-up recovery and build the future we need.

Ambition in the face of adversity

The COVID-19 pandemic continues to present huge challenges for the UK's nations and regions.

As we plot a course to recovery, we have an opportunity to apply technology with purpose to deliver better outcomes for people, society, the economy, and the planet.

Our mission should not be simply to get back to where we were, but to the build the future we need.

A future that empowers people, strengthens society, grows the economy, and restores the planet.

"

THE PANDEMIC HAS SHOWN US THAT DIGITAL EXCLUSION IS A SIGNIFICANT BARRIER TO PEOPLE ACCESSING ESSENTIAL SERVICES. BUT THE PANDEMIC HAS ALSO SHOWN US THAT WHILE DIGITAL EXCLUSION IS A BARRIER FOR USERS, FOR LEADERS DIGITAL IGNORANCE IS A GREATER BARRIER. TOO MANY PEOPLE IN LEADERSHIP POSITIONS SEE DIGITAL AS BEING ABOUT IT, THEY THINK OF IT AS THE WIRING, RATHER THAN SEEING IT AS AN ENABLER OF CHANGE. THE THING I FIND EXCITING ABOUT DIGITAL IS THAT IT PUTS THE USER AT THE CENTRE OF SERVICES.

Lee Waters MS, Deputy Minister for Economy and Transport

Executive summary

The Wales Digital Dialogue brought together local leaders from across the public and private sectors on 29 September 2020 to discuss the impact of COVID-19 on Wales and how digital technology can support a levelled-up recovery.

The discussion revealed serious concerns about the social and economic impact of COVID-19 and the long-term ambition to level up the whole of the UK.

However, these concerns were matched with optimism about the opportunity to accelerate digital transformation and apply digital technology to address both long-standing issues and new challenges brought about by COVID-19.

There is a strong desire for greater collaboration across public and private sectors to drive digital innovation and help Wales recover from the impact of COVID-19.

This report sits alongside six other national and regional reports, as well as a UK-wide report, and sets out some recommendations, based on the Digital Dialogue, about how this could be achieved in Wales, focusing on the following areas:

› Strengthening local digital capital

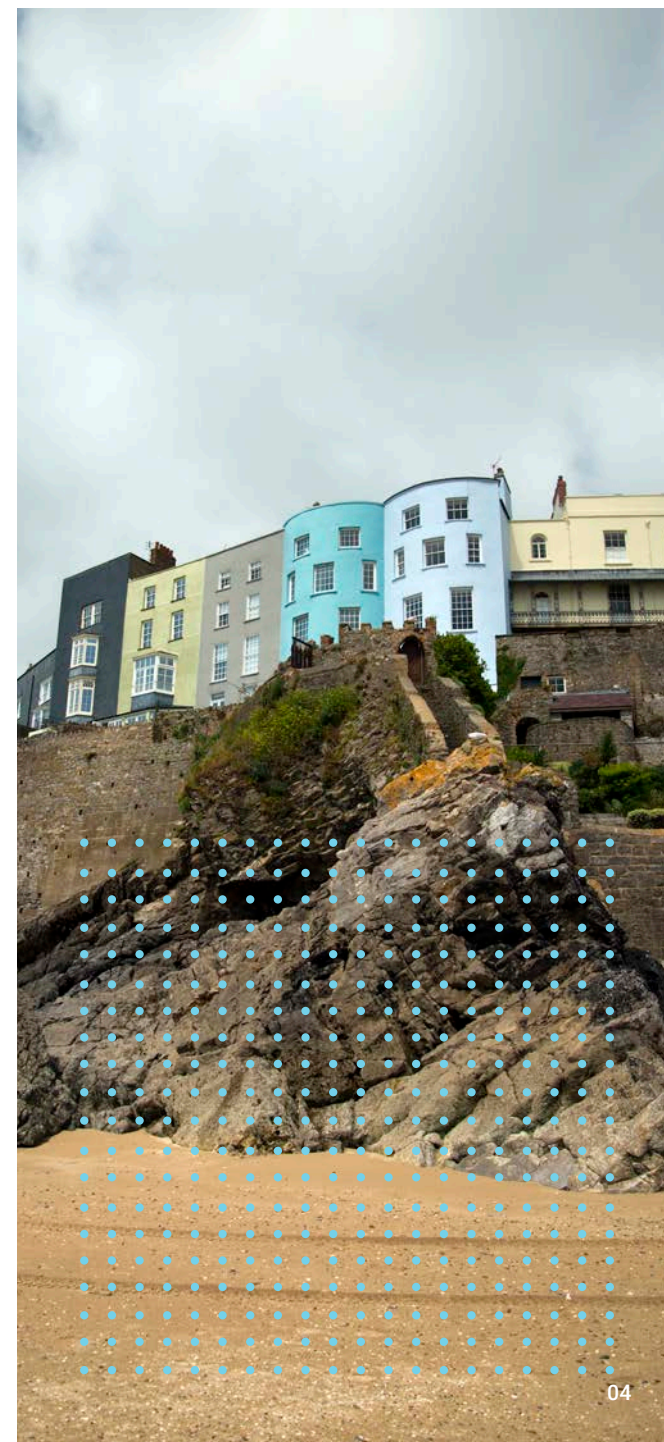› Seizing local growth opportunities

› Innovating to tackle urgent problems

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WALES DIGITAL DIALOGUE

Participants

The key senior stakeholders who participated in the digital dialogue came from a variety of organisations, from the tech sector and beyond. These ranged from large corporates to small and medium-sized enterprises (SMEs); professional services and legal firms; trade organisations, cluster groups, and incubators; the public sector and government; and universities and other educational institutions.

The impact of COVID-19 on Wales

In Wales, rural areas and the Valleys have tended to be the most economically affected by the COVID-19 pandemic so far.

Between March and August 2020, **the claimant count for Universal Credit rose in all Welsh local authorities and doubled in 13 of the 22 local authorities**.

Three Welsh local authorities – Newport, Torfaen, and Carmarthenshire – had less than half the level of vacancies in August compared to mid-March, and 17 of the 22 Welsh local authorities had fewer vacancies in August than in mid-March.

Local authorities in the Valleys and north Wales have the highest percentage of businesses in sectors that were required to close during the pandemic. In Conwy and Neath Port Talbot, 23% of businesses are in these 'shutdown sectors'.

"

MANY OF OUR STAFF HAVE ENJOYED WORKING FROM HOME, PEOPLE WHO HAD BEEN AGAINST WORKING FROM HOME. WE'VE FOUND THAT THERE IS A DESIRE TO DO THINGS DIFFERENTLY, BUT I FEAR A RACE BACK TO NORMAL FROM THE PEOPLE WHO WANT TO GET BACK TO HOW THINGS USED TO BE. WE SHOULDN'T RACE BACK TO DOING SOMETHING JUST FOR THE SAKE OF DOING SO.

Digital Dialogue Participant

Concerns from the Digital Dialogue

Digital skills and retaining talent within Wales: participants discussed the lack of a pipeline of digital skills, the need for a foundation of digital culture in schools, and the fact that the wider population lacks basic digital knowledge. Participants were also concerned that many students acquire good digital skills at university, but then leave Wales for London or other big tech hubs to find jobs.

The digital divide: many disparities and divides across Wales, from access to tech and remote learning, infrastructure and ability to access public services, to difficulties getting women and minorities as interested in computing.

Vision: the need for a clear vision and pipeline of how to make progress – with clear and distinct steps, a clear focus on positive social outcomes, and on tech being used for good outcomes.

Racing back to normal: the concern that many people will want things to go back to how they were before the pandemic, and will potentially lose out on a lot of the digital transformation progress that has been made so far during the COVID-19 pandemic.

> **"** WE SEE LOTS OF YOUNGSTERS GET THE SKILLS THEY NEED FOR A TECH CAREER, BUT THE FIRST THING THEY DO IS LEAVE WALES AND MOVE TO LONDON AND OTHER TECH HUBS.
>
> **Digital Dialogue Participant**

> **"** THERE ARE BIG DISPARITIES BETWEEN THOSE WHO HAVE ACCESS TO TECHNOLOGY AND THOSE WHO DO NOT. IT HAS BECOME EVIDENT THAT ACCESS TO ONLINE LEARNING VARIES, AND THERE ARE LOTS OF FAMILIES SHARING ONE TABLET BETWEEN ALL OF THEM. THAT'S A BIG DIVIDE.
>
> **Digital Dialogue Participant**

> I'M WORRIED ABOUT MANY OF OUR PRECONCEPTIONS. IT IS DIFFICULT TO GET FEMALE STUDENTS INTERESTED IN COMPUTING AND COMPUTING SKILLS, SAME FOR THOSE OF A BAME BACKGROUND. THESE SOCIETAL ISSUES CAN CAUSE A DIGITAL DIVIDE. IT'S THE PEOPLE WHO ARE REALLY IMPORTANT AND WE NEED TO TAKE AE HOLISTIC APPROACH TO RESOLVING THESE ISSUES.
>
> **Digital Dialogue Participant**

COVID-19 as a catalyst for change in Wales

Wales-specific ideas: participants discussed creating a national plan for Wales, similar to Estonia's nationwide digital transformation. Getting the Wales brand out there better, with a strong marketing and public relations pitch, and integrate that into grand challenge ideas with a longer-term outlook, on the scale of 15-20 years, longer than five-year Parliamentary terms. Digital needs to be horizontal and run through everything in Wales, joining up markets, sectors, and segments. Wales also needs a critical mass of local embedded companies with clear objectives, which will enable the exploration of ideas and opportunities and specific policy goals – we need to be asking, "how does digital tech help us become more prosperous or healthier as Wales."

Digital skills: need to be ahead of the curve of next-generation tech skills, and the need to drive the digital curriculum down to the early years and get people inspired by digital and give them good models – one specific opportunity discussed was expanding on previous work being done to take children into care homes to teach digital skills, whereby the children also learn values and morals.

Digital adoption grants: provide grants to businesses to encourage the uptake of digital tech, alongside raising awareness of business leaders and teaching them how to best use digital. Also, encouraging ambition and greater risk-taking to encourage innovative solutions problems. Finally, participants also spoke of the opportunity to create new tech clusters.

Carbon net zero targets: using tech to meet net zero targets – particularly in sectors like agriculture, manufacturing, tourism, and housing. Participants spoke in particular about the opportunity for carbon zero smart housing, ensuring that housing is redeveloped and all new housing uses smart tech to sustain independence for those living there and to meet net zero goals.

> "
>
> WE HAVE TO LOOK AT THE NEXT GENERATION OF TECH SKILLS AND DRIVE THE DIGITAL CURRICULUM DOWN TO THE EARLY YEARS. PEOPLE MAKE CAREER AND EDUCATIONAL CHOICES AT AN EARLY AGE, AND ARE INFLUENCED BY PARENTS WHO DO NOT ALWAYS UNDERSTAND DIGITAL AND HOW THE WORLD IS CHANGING. WE NEED TO GET YOUNG PEOPLE INSPIRED BY DIGITAL TO DRIVE THOSE PATHWAYS AND CHANGE.
>
> **Digital Dialogue Participant**

Recommendations

A wide range of ideas were discussed at the Digital Dialogue which have been synthesized into three broad recommendations for next steps:

Work together to strengthen local digital capital
Wales' 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.

Use digital to accelerate local growth opportunities
Wales has several sectors that are primed for success, including housing and construction, the green economy, and the development of a Wales-specific national plan. Concerted action should be taken to ensure that these sectors are at the forefront of digital adoption to support and accelerate their growth.

Launch local innovation challenges to tackle urgent problems
COVID-19 has taken a heavy toll on many businesses, services and communities across Wales. The Welsh Government 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, public spaces, and the creative economy.

"

I OFTEN HEAR CONVERSATIONS START WITH 'THE PROBLEM WITH THAT IS' RATHER THAN 'HOW CAN WE CRACK THAT ISSUE' – WALES IS SUCH A BEAUTIFUL AND WONDERFUL COUNTRY, AND WE COULD DO SO MUCH MORE IF WE JUST HAD A BIT MORE AMBITION.

Digital Dialogue Participant

STRENGTHEN LOCAL DIGITAL CAPITAL

Local Digital Capital

Local digital capital describes the inputs needed at the local level to maximise the benefits of digital.

These eight components were identified by participants across techUK's Digital Dialogue events as the essential inputs necessary for a nation or region to benefit from digital innovation.

techUK believes there is real value in thinking about these inputs in aggregate and developing a strategy that focuses on strengthening digital capital at the national and regional level.

Digital Skills

Trade Support

Digital Adoption

Collaboration and Coordination

Research & Innovation

Data Ecosystems

Finance & Investment

Digital Infrastructure

Strengthen local digital capital

While participants in the Digital Dialogue touched on many of the different aspects of Local Digital Capital, the four that were the most frequently discussed were:

> Digital skills

> Digital infrastructure

> Digital adoption

> Collaboration and coordination

Participants stressed the need for greater levels of digital skills, from the need to raise the baseline level of digital skills in the wider community, to the need to build up the talent pipeline by embedding digital in all aspects of the school curriculum, to retaining talent within Wales. Other common points included the need to be more specific when talking about digital skills; if a Digital Skills Partnership model should be replicated in Wales; and the need to inspire young people about careers in digital by providing them with role models.

Second, connectivity was another key issue that was discussed, particularly the need to bridge a "digital divide" that is about a lack of access to technology and affordable connectivity infrastructure, especially in a time of COVID-19 with remote learning, remote working, and people moving from the city to the countryside.

Third, participants discussed the need for digital adoption grants to help businesses adopt technology, particularly data and artificial intelligence (AI) - it was acknowledged that financial incentives are a good start, but raising awareness among businesses who have yet to undergo digital transformation journeys is also vital, and many businesses will need to be taught how to best use tech.

Finally, participants stressed the need for greater levels of coordination and collaboration between the public and private sectors, particularly the tech sector with its potential to transform public service delivery across Wales.

"

PEOPLE'S PERCEPTION OF DIGITAL IS KEY – THERE ARE VARYING PERCEPTIONS OUT THERE. TECH FOR GOOD SHOULD BE THE FOCUS, AND FOCUSING ON GOOD SOCIAL OUTCOMES, NOT PROFITS.

Digital Dialogue Participant

Digital skills

The information technology (IT) sector in Wales employs **around 24,000 people and is predicted to add around £1.5 billion to the economy** over the next five years.

The National Survey for Wales confirmed that **19% of the Welsh adult population** do not regularly use the internet.

Skills shortages cost Welsh businesses £350 million in 2018, according to an **Open University report**. As well as the economic cost, many people in Wales are faced with the personal costs of being stuck in **low-skill traps** involving a cycle of low-skill, low-wage, and low-productivity.

Automation is likely to have a significant impact on Wales over the coming years. Looking at those roles with the highest potential for automation, **IPPR finds that 6.5 per cent of jobs** in Wales, or 130,000 roles, have among the highest potential for automation – a rate higher than the UK average (6.2%).

As well as understanding the broad trends across the economy of Wales, it is important to consider employers' experience in relation to skills. The Employer Skills Survey (ESS) is a survey of over 87,000 employers across the UK. The ESS asks employer establishments about recruitment, skills gaps for employees and applicants, underutilisation of employee skills, anticipated needs for the future, and training and investment. The most recent ESS for Wales took place in 2017, with a total of 5,913 respondents. In 2017, out of 36,000 vacancies overall, Wales saw 10,000 skills-shortage vacancies (jobs that are hard to fill due to a skills-related reason). This held steady in terms of the percentage of companies in Wales with a skills-related vacancy (at 6 per cent) but increased as a proportion of all vacancies (27%) and affected all sectors of the Wales economy. Only education and health and social work saw fewer than 20 percent of vacancies categorised as a skills-shortage vacancy, according to the Institute for Public Policy Research **(IPPR)**.

> "
> WE ARE LACKING A PIPELINE OF SKILLS. WE HAVE FOUND A SEVERE LACK OF DIGITAL CULTURE IN SCHOOLS.
>
> **Digital Dialogue Participant**

> "
> THERE'S A REAL CHALLENGE AROUND DIGITAL CULTURE AND PERCEPTION AROUND DIGITAL SKILLS. THERE IS A VERY CLEAR ECONOMIC IMPERATIVE FOR WHY WE NEED DIGITAL SKILLS, BUT IT IS VERY HARD TO DEVELOP THAT INTO COMPULSORY EDUCATION AND ROUTES AFTER THAT. THERE IS LOTS OF FOCUS ON HAVING DIGITALLY COMPETENT CITIZENRY, BUT IS NOT JUST ABOUT HIGH-VALUE SKILLS, BUT ALSO ABOUT PREPARING PEOPLE FOR LIVING IN A DIGITAL WORLD. DIGITAL IS A LIFE SKILL WE WILL ALL NEED TO NAVIGATE THE NEW WORLD. WE ARE ON THE PATH TO CURRICULUM REFORM IN WALES, BUT WE NEED TO TAKE A LONGER VIEW AND REALLY DELIVER ON THAT.
>
> **Digital Dialogue Participant**

Digital infrastructure

Residential Superfast **broadband coverage in Wales** reached 93% in 2019, with 4G data services at 58% for geographical coverage by all operators. **Voice call coverage is** 87.9%.

The **Access Broadband Cymru scheme** provides grants to fund (or part-fund) the installation costs of new broadband connections for homes and businesses in Wales.

Superfast Cymru **provided almost 733,000 premises across Wales** with access to fast fibre broadband and, as a result of this work, superfast broadband coverage has more than doubled in Wales - around £225m of public funding toward an extended roll-out of "fibre broadband" (FTTC/P) in order to help cover poorly served parts of the country.

The Royal Welsh Showground in Powys, Wales, was **the site of the UK's first deployment of a live Open RAN 4G site**, a new mobile network architecture, where the capabilities of the mobile site are hosted as software in the cloud, with readily-available, low-cost hardware. The site was built by Vodafone.

"

THERE IS AN INFRASTRUCTURE PIECE TO THE DIGITAL DIVIDE – URBAN VERSUS RURAL INFRASTRUCTURE.

Digital Dialogue Participant

I'M CONCERNED ABOUT PEOPLE MOVING OUT OF CITIES AND HOW WE CAN EMBRACE THAT – BETTER RURAL CONNECTIVITY WILL BE THE CRUX OF THAT.

Digital Dialogue Participant

Digital adoption

The COVID-19 pandemic and subsequent lockdown massively accelerated digital adoption, as businesses shifted to remote working, e-commerce, and other digital platforms to maintain continuity.

There is a unique opportunity to build on this momentum and ensure that firms and organisations of all sizes take advantage of the opportunities afforded by digital tech to recover and thrive, driving productivity and economic growth.

Lloyds Bank's **regional analysis from before the COVID-19 pandemic** showed that in Wales, 59% of small businesses had all six essential digital skills, higher than the national average – with 87% having the ability to communicate digitally and keep software updated. However, areas for improvement include raising the awareness of the benefits of digital, with 44% of leaders in Wales not seeing digital as relevant to their business.

"

WE HAVE SEEN LOTS OF PLACES USE GRANTS FOR BUSINESSES TO GET INTO DATA AND AI.

Digital Dialogue Participant

"

FINANCIAL INCENTIVES ARE KEY, WE'VE SEEN THAT AROUND CLOUD AND HOW IT HAS BEEN CATEGORISED FROM A TAX PERSPECTIVE.

Digital Dialogue Participant

BUSINESSES DON'T KNOW WHAT THEY DON'T KNOW – HOW TO USE DATA ANALYTICS OR AI – WE NEED A TWO-PRONGED APPROACH, INCENTIVISING THEM, AND THEN TEACHING THEY HOW THEY CAN USE TECH.

Digital Dialogue Participant

Collaboration and coordination

Collaboration also emerged as a key priority in Wales, with participants citing the benefits of a strong devolved administration, while also wanting deeper collaboration within the digital sector and between the digital sector, local government, universities and colleges, and other economic sectors..

" A CONCERN THAT I SEE IS COLLEAGUES OVER THE BORDER WORKING CLOSELY WITH DIGITAL SKILLS PARTNERSHIPS, THEY SEEM TO BE AN EFFECTIVE WAY TO BRING TOGETHER THE PUBLIC AND PRIVATE SECTOR AND RAISES MANY GOOD QUESTIONS ABOUT THE NECESSITY OF COLLABORATION.

Digital Dialogue Participant

" WE NEED COORDINATION AND SOMEBODY WITH ACCESS TO KEY STAKEHOLDERS IN ALL SECTORS AND INDUSTRIES, GEOGRAPHIC AREAS, AND THEMATIC AREAS. UNTIL EVERYONE IS AWARE OF WHERE THEY FIT INTO THE OVERALL PLAN, IT WILL BE DIFFICULT TO ATTRACT PEOPLE.

Digital Dialogue Participant

SEIZE LOCAL GROWTH OPPORTUNITIES

Seize local growth opportunities

The participants in the Digital Dialogue highlighted several key sectors in Wales where digital innovation can be applied to drive the economic recovery and growth:

› The green economy and how tech can help the economic recovery meet net zero goals, particularly around smart housing and redevelopment.

› A national plan for Wales, centred around the Future Generations Act as a framework to create a comprehensive digitisation plan for the whole nation.

"

WE HAVE THE OPPORTUNITY TO REDEVELOP EXISTING HOUSING – WE CAN EMBODY MAINSTREAM AND UPCOMING TECH INTO THE FABRIC OF BUILDINGS TO SUSTAIN INDEPENDENCE AND MEET CARBON NEUTRAL GOALS.

Digital Dialogue Participant

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Seize local growth opportunities

In addition to what was discussed in the Digital Dialogue, Wales has strengths in several growth sectors:

> Advanced materials and manufacturing

> Energy and environment

> Financial and professional services

> Food and drink

> Life sciences

> Tourism

These key sectors are ripe for innovation and growth driven by digital innovation. The COVID-19 pandemic has increased the need to double down on these key growth sectors to help Wales recover and thrive post-COVID-19.

Opportunities for collaboration and coordination should be deepened by building up strong networks, to join up sectoral ecosystems and harness any potential spill over effects from the tech sector to other sectors.

New business starts should also be encouraged in the key growth sectors in the long-term, in order to better utilise the developing talent pool, encourage entrepreneurship, and raise productivity.

These sectors are the key sectors we believe have the best chance of increasing digital uptake and innovation.

"

WE ARE LOOKING TO INVEST IN HIGH-GROWTH TECH COMPANIES AND BRING THEM INTO WALES, AND THAT WOULD HELP ADDRESS THE ISSUE OF RETAINING GRADUATES. WE NEED TO PUT SOME THOUGHT INTO CREATING CLUSTERS. WE HAVE LOTS OF FINTECH IN CARDIFF, WE NEED TO FORMALISE THAT AND LOOK TO BRING COMPANIES IN. I'M SURE THERE'S LOTS OF OTHER SECTORS WE COULD DO THE SAME WITH.

Digital Dialogue Participant

HAVING TARGETS IS IMPORTANT, AND NOTHING IS MORE IMPORTANT THAN GETTING TO NET ZERO CARBON. HOW CAN DIGITAL TECH ENABLE US, IN AGRITECH, TRANSPORT, ENERGY, HOUSING, MANUFACTURING, AND TOURISM, HOW CAN WE USE DIGITAL TECH TO GET THERE? IT IS ALL ABOUT HAVING A TARGET AND USING TECH TO MEET IT.

Digital Dialogue Participant

Advanced materials and manufacturing

Wales has a **rich history in heavy engineering, engineering, and manufacturing**, with particular sub-sectoral strengths in aerospace, automotive, and low carbon manufacturing. Wales has a skilled workforce and a particular focus on innovation and collaboration between the Welsh Government and Wales' academic institutions, and productivity in the sector exceeds the UK average.

The Advanced Manufacturing Research Centre, established at the University of Sheffield in 2001, in 2019 opened a base in Wales, the **Advanced Manufacturing Research Institute** in Broughton. The new Research Institute is focusing on improving productivity, commercialisation, innovation, and skills in the aerospace and automotive industries, working closely with Airbus who have a nearby facility.

Wales is also home to a significant amount of research and commercialisation of graphene, with **Haydale spinning out of Swansea University** and functionalising graphene using a plasma reactor. Graphene has huge potential applications in the high-tech, aerospace, and automotive sectors and beyond.
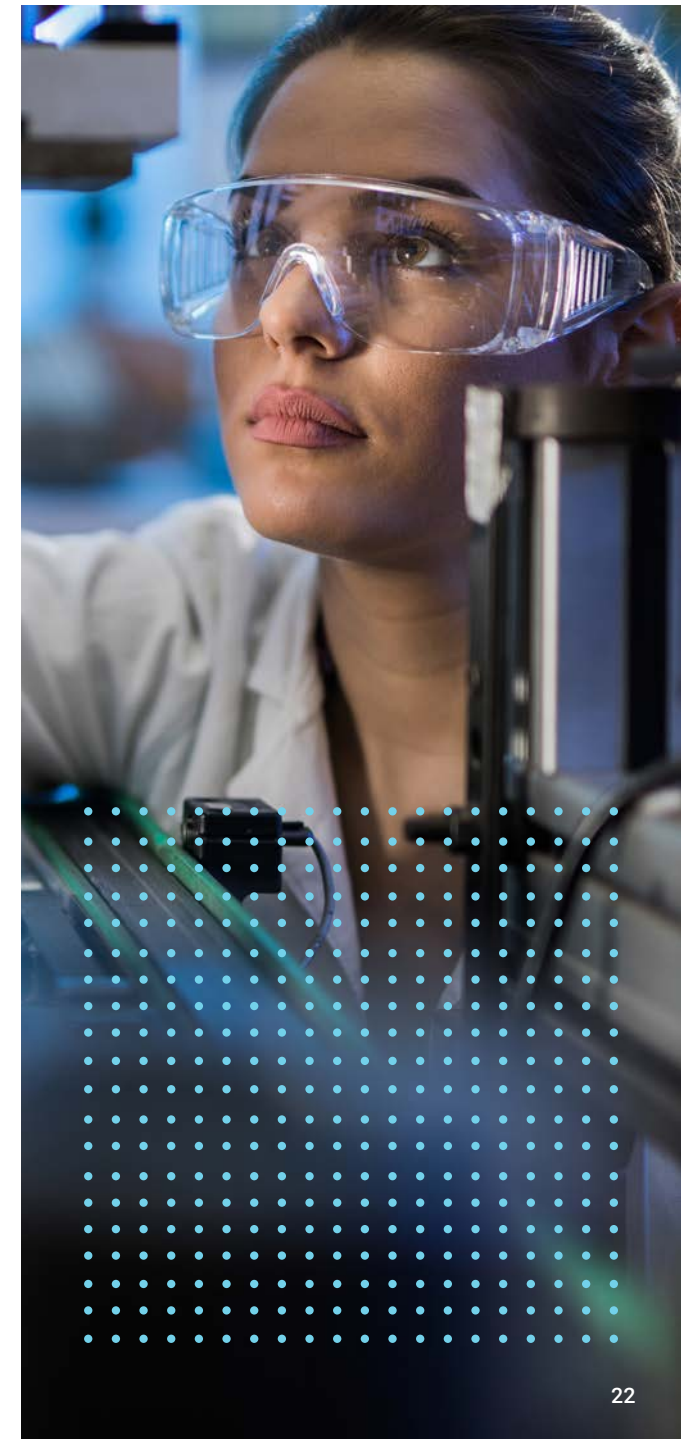
Energy and environment

Wales is one of the first countries in the world to write sustainability into its statutes and has **key strengths in environmental industry and marine, nuclear, and renewable energy**. This sector is seeing rapid innovation in marine energy and low carbon projects, sustainable energy sourcing and deep sea port renovation to support the sector.

An example of innovation in the sector is the **Thermal Compaction Group**, who have developed a machine that turns plastic waste into sellable assets for hospitals, and the device is now being rolled out by the NHS across the UK.

Fre-energy has created an **innovative new way to reuse farm and food waste** into useable power, using technology developed in Wales, that can help the Welsh agricultural sector significantly reduce its impact on the environment.

Financial and professional services

Wales is home to many **financial and professional services firms**, with a strong fintech sub-sector and a focus on helping new businesses in Wales flourish.

Target, who are **experts in helping businesses undergo digital transformation and make operational efficiency gains**, cite collaboration with Welsh universities like Swansea University and the University of South Wales and their technology facilities and academic innovation, as key to its ability to continuously meet the constantly-changing needs of the sector.

One of Wales' Digital Dozen, a group of companies making bold moves and enhancing Wales' reputation as a leader in digital innovation, **Wealthify is using digital tech** to enable people to more easily invest their money while also doing away with large fees and technical jargon.

Food and drink

Wales has a wealth of natural resources and is also on the frontline of **developing new innovative technologies for food production**, with expertise across primary production, manufacturing, retail, hospitality, and wholesale.

In 1999 when Penderyn was founded, it was the **first whiskey distillery in Wales** for more than a hundred years, using a specially commissioned column still to make unique whiskey, and it has been able to be innovative and creative when developing new products.

Castle Dairies is a Welsh butter maker, who has been **using tech to do effective product development**, including by investing in a high-tech cold-mix spreadable plant, one of just a few in the UK. The firm also values local expertise, running partnerships and knowledge transfer programmes with Cardiff Metropolitan University to educate staff and recruit highly-skilled engineers, product development, and technical staff.

Life sciences

Wales is home to a significant medtech cluster, with **strong collaborative links between universities and the medical sector and an agile approach to business**. Wales is home to significant academic expertise and a **Life Sciences Hub** and has strengths in Regenerative Medicine and Cell Therapy.

Biocatalysts is a **cutting-edge biotech firm** making custom tailored speciality enzymes and off-the-shelf products for clients in sectors such as food, fragrance, pharma, and life sciences.

Another innovative firm in the medtech sector is TrakCel, which has its roots in Swansea University and **helps companies monitor and record key events in clinical programmes for regenerative medicine**, a field where Wales has particular expertise and is pioneering new developments.

Tourism

Prior to the COVID-19 pandemic, **tourism was a growing sector for Wales**, home to a unique culture and heritage, two living languages, three UNESCO World Heritage Sites, three National Parks, five Areas of Outstanding Natural Beauty, and more castles per square kilometre than anywhere else in Europe.

Adventure Parc Snowdonia is **pioneering the redevelopment of post-industrial landscapes into the UK's only inland wave lagoon**, allowing people to try surfing by using advanced artificial wave technology and working to utilise tech to open new activities including zip lines and nature-inspired experiences.

Rib Ride uses **high-tech rigid inflatable boats** (RIBs) to take people on trips around North Wales, and has utilised digital tech and collaboration to join forces with other likeminded North Wales adventure companies to create AdventureMap, a joint online marketing initiative to promote North Wales adventure tourism, each other's businesses, and the region as a whole.
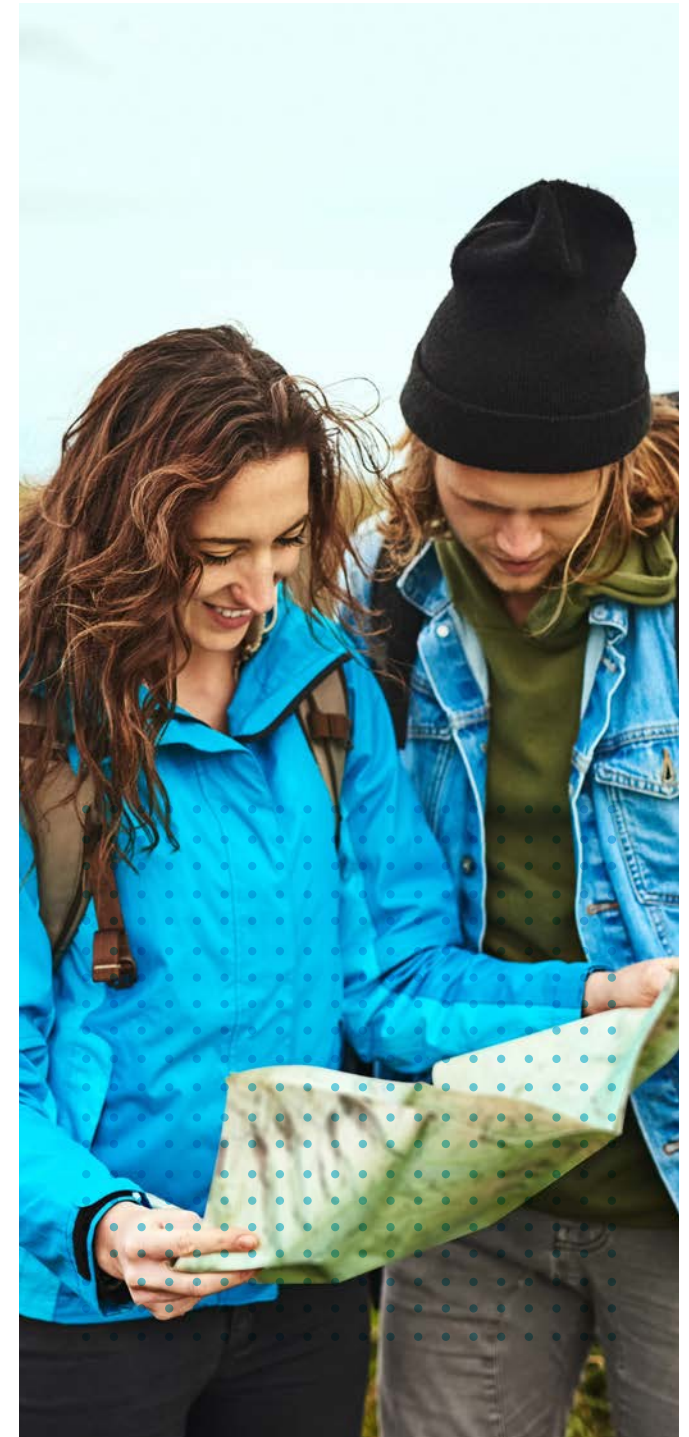
Digitising key growth sectors

The best way to enable the digitisation of Wales' key growth sectors is to do two things:

› Ensure that the strategic economic planning for key growth sectors has a strong digital underpinning.

› Foster greater collaboration, crossover, and links between local tech firms and firms in the key growth sectors, to best utilise digital technology to supercharge growth sectors. This could take the form of events to generate collaboration or the creation or expansion of cross-sectoral groups and organisations.

"

WE NEED THE SUPPLY AND THE YOUNG PEOPLE, AND WE NEED TO EMBED DIGITAL INTO HOW WE DO THINGS. WE NEED TO ENSURE PEOPLE HAVE THE SKILLS NEEDED TO USE THE TECH AS IT ROLLS OUT – EMBEDDING DIGITAL INTO COURSES WILL BE CRITICAL TO ACHIEVING THIS.

Digital Dialogue Participant

LAUNCH LOCAL INNOVATION CHALLENGES

Launch local innovation challenges

Digital technology is not a panacea to deep-rooted issues but can help support new approaches and solutions.

The Welsh Government should set out "local innovation challenges" in the model of "The Grand Challenges" in order to spur new local innovation, with a commitment to scale successful ideas.

Participants spoke about how to create skills hubs on high streets - and how to potentially revitalise the high street by using mobile data, sensors, and data sharing, as well as working with private organisations to upskill the workforce and help them open new start-ups and small businesses that utilise digital tech to help rebuild the high street.

This is just an example of many local innovation challenges where digital solutions should be considered.

"

WE SHOULD CREATE SKILLS HUBS ON HIGH STREETS – IF WE HAVE MANY PRIVATE ORGANISATIONS, BRING THEM TOGETHER TO UPSKILL THE WORKFORCE – WE HAVE THE POTENTIAL TO REVITALISE THE HIGH STREET BY UPSKILLING PEOPLE. A BIG BARRIER TO THIS IS COLLABORATION AND WE NEED MUCH MORE OF THAT.

Digital Dialogue Participant

Conclusions

The continuing COVID-19 crisis remains a huge constraint on recovery efforts.

However, every effort should be made to incorporate digital into Wales' recovery strategy and future economic planning. There is evidence this is happening, but this will need to be maintained and built upon.

This report sets out some initial thinking on how that could be done, building upon existing strengths and assets.

Further work is required to develop these ideas, and the Digital Dialogue made it clear that collaboration both within Wales and across the UK will be essential for success.

Survey of participants

techUK recently surveyed the participants of the Wales Digital Dialogue, asking them how optimistic they were about the potential for digital innovation to drive the economic recovery in the region, and where they felt digital transformation efforts could make the biggest difference.

One-third of the respondents felt somewhat optimistic, one-third felt very optimistic, and one-third felt somewhat pessimistic since taking part in the Digital Dialogue.

Respondents felt digital technology could make the biggest difference in the following areas:

> Public and third sector, particularly in health and the NHS.

> Transformation of public service delivery – enabling access of specialist services in chosen language.

> Regeneration of towns and communities by remote working and reduced need for commuting, and better work-life balance.
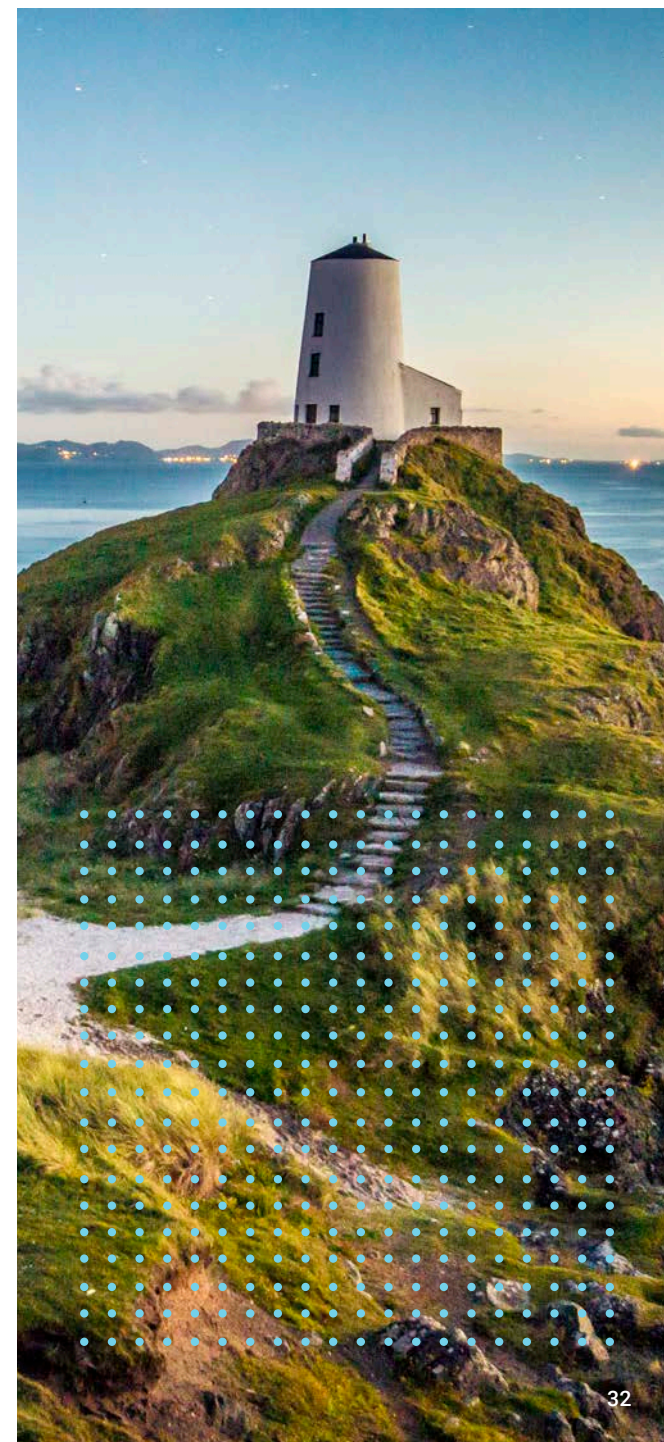
Participants

Professor Stuart Allen, Head of School, School of Computer Science & Informatics, Cardiff University

Ashley Bale, Member of Future Generations Leadership Academy, Office of the Future Generations Commissioner

Kellie Beirne, Director, City Deal, Cardiff Capital Region City Deal

Paul Bradbury, Executive Director for Business Development, Civica

Professor Tom Crick, Professor of Digital Education & Policy, Swansea University and National Infrastructure Commission for Wales

Shaun Curtis, Director, Tax, Deloitte

Julian David, CEO, techUK

Stephen Dukes, COO, Confused.com

Joanne Evans, Digital Project Development Officer, Cardiff Capital Region City Deal

Matthew Evans, Director – Markets, techUK

Jonathan Griffin, Head of Wales Practice, Methods

Carl Griffiths, Fund Manager, Wales Development Bank

Gemma Hallett, Chief Mobiliser & CEO, miFuture

Louise Harris, Co-Founder & CEO, Tramshed

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Dr Wendy Ivins, School of Computer Science and Informatics, Cardiff University

Mark John, COO, Tramshed

Calvin Jones, Deputy Dean and Professor of Economics, Cardiff Business School, Cardiff University

David Jones, Non-Executive Director for Wales, Ofcom

Glyn Jones, Chief Digital Officer, Welsh Government

Liz Jones, Partner, Consulting, Deloitte

Sarah Kruger, Techworks Lead, Deloitte

Lee McSparron, Head of IT, Pembrokeshire County Council & LGA

Faron Moller, Professor of Computer Science, Director of Technocamps, Director of Foundation Degree, Swansea University

Julian Morris, Director, CX, Cisco

Councillor Neil Prior, Cabinet Member Transformation IT & HR, Pembrokeshire County Council & LGA

Ashley Rogers, Commercial Director, North Wales Mersey Dee Business Council

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Margaret Sambell, Head of Strategy, Tech Partnership Degrees

Nick Speed, Wales Director, BT Group

Samantha Toombs, Director of Health and Local Government, Wales, BT Enterprise

Matthew Turner, Industry and External Engagement Manager, School of Computer Science and Informatics, Cardiff University

David Veryard, Wales Manager, Microsoft

Simon Vittle, Director, Barclays Corporate Banking, TMT, Barclays

Antony Walker, Deputy CEO, techUK

Lee Waters MS, Deputy Minister for Economy and Transport, Welsh Government

Stuart Whitfield, Digital Programme Manager, North Wales Economic Ambition Board

Alwen Williams, Programme Director, North Wales Economic Ambition Board

Jon Wood, Strategy Lead – Clusters, Cardiff Capital Region City Deal