techUK
FOR WHAT COMES NEXT

BUILDING THE FUTURE WE NEED

NORTH EAST DIGITAL DIALOGUE AND REGIONAL REPORT 2020

Microsoft   BAE SYSTEMS   sage   CISCO   BT BEYOND LIMITS   CIVICA   Deloitte.

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.

"

WE NEED TO SEIZE THE OPPORTUNITY TO TACKLE THE HARD QUESTIONS NOT BEING DISCUSSED BEFORE THE CRISIS, PARTICULARLY, LOW ADOPTION RATES OF DIGITAL TECHNOLOGIES.

Digital Dialogue Participant

Executive summary

The North East Digital Dialogue brought together local leaders from across the public and private sectors on 22 May 2020 to discuss the impact of COVID-19 on the North East 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 the North East 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 the North East, focusing on the following areas:

> Strengthening local digital capital

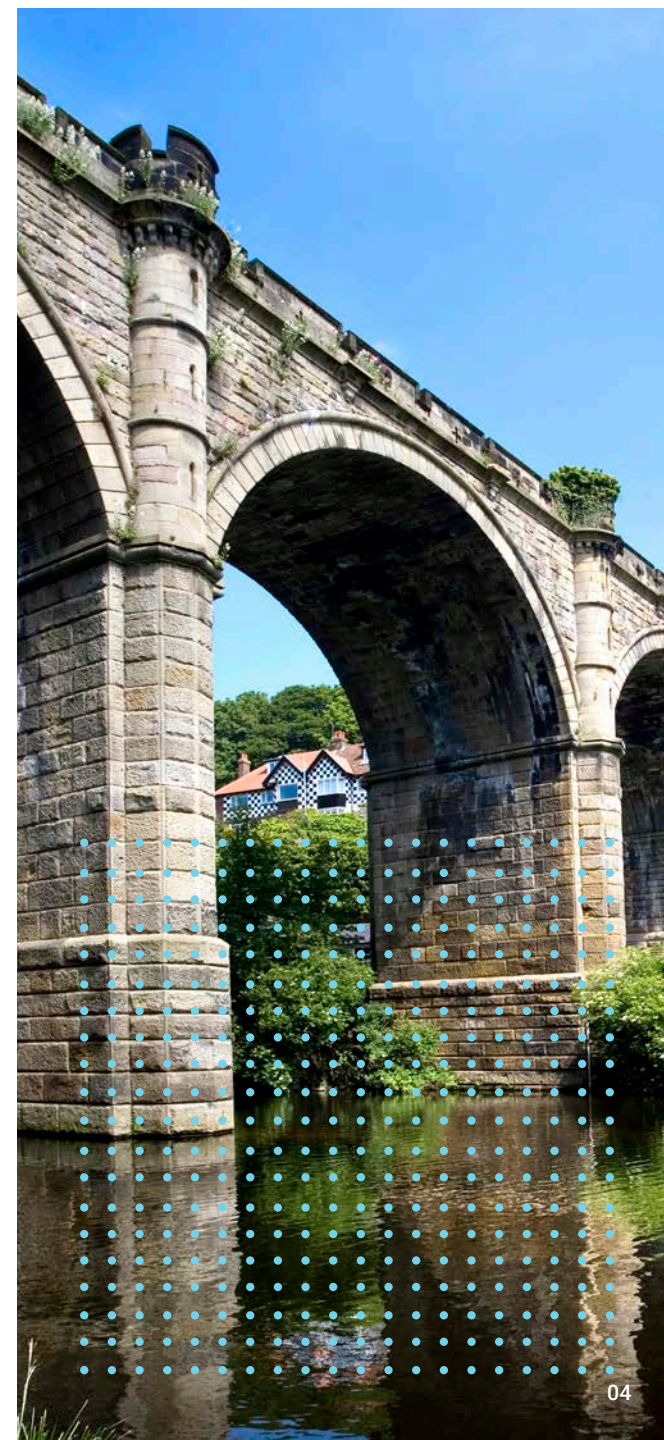> Seizing local growth opportunities

> Innovating to tackle urgent problems

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NORTH EAST
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 the North East

The North East has been badly affected by COVID-19 due to its large manufacturing base and the exacerbation of pre-existing regional inequalities.

The North East Local Enterprise Partnership (LEP) surveyed businesses in the region about the impact of COVID-19. 96% of the businesses surveyed were negatively impacted and reported significant worries about future income and access to domestic customers.

Office for National Statistics (ONS) **data shows that the North East** had the greatest proportion of businesses with a decrease in turnover (67%) and lowest proportion of unaffected businesses (15%) in the UK.

Gross value added (GVA) **growth is predicted to decline** 8.4% in the region.

Work has already begun to address many of the issues raised by COVID-19 in the form of a **North East COVID-19 Response Group**. Additionally, the North of Tyne Combined Authority has recently invested **£5 million in an innovation fund** to help grow the ecosystem of the digital sector and help SMEs adopt digital tech and grow. The investment is part of the **larger £10m North of Tyne Digital Growth and Innovation Programme.**

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IT HAS BEEN A CHALLENGE TO MAINTAIN ESSENTIAL SERVICES. THE COUNCIL HAS BEEN GATHERING A LOT OF INFORMATION AND WE ARE TRYING TO WORK WITH THE LEP AND GOVERNMENT. WE THINK THE TIMEFRAME IS MUCH LONGER THAN EXPECTED, UP TO TWO YEARS.

Digital Dialogue Participant

Concerns from the Digital Dialogue

Expectation of major global recession: broad concern about a continuing recession due to the ongoing COVID-19 pandemic.

Risk of disjointed and ineffective policy responses: concerns about a stop-start and uncoordinated approach to the recovery, a lack of capacity to cope with challenges, a lack of vision for the future, and a return to austerity.

Concern that regional disparities will grow: concern that disparities will increase with other regions and within the region itself. One aspect of particular concern was that businesses lacking digital agility may be more vulnerable to future economic disruptions caused by COVID-19.

Concern about the cumulative impact of COVID-19 and Brexit: concern that businesses impacted by COVID-19 are also likely to be significantly impacted by Brexit.

Concern that businesses 'hunker down': risk that businesses simply focus on surviving rather than adapting and growing.

> THE NORTH EAST ALWAYS SEEMS TO BE HARDER HIT BY CRISES THAN THE REST OF THE COUNTRY.

Digital Dialogue Participant

> I'M WORRIED THAT THERE WILL BE ANOTHER BIG SPIKE OF UNEMPLOYMENT IN THE NORTH EAST, AND THE SKILLS IN THE REGION WON'T MATCH THE NEW JOB OPPORTUNITIES. WE NEED TO UPSKILL AND CREATE JOBS THAT FIT THE SKILLS IN THE REGION.

Digital Dialogue Participant

COVID-19 as a catalyst for change in the North East

The pandemic has spurred digital adoption at a rapid pace and on a large scale. Alongside digital transformation will come tangible benefits, including greater agility and efficiency of firms, and increased ability to compete internationally.

Opportunity to address educational attainment and use tech to rethink education delivery: the lockdown has demonstrated the value of digital skills and highlighted how education and training can be personalised and delivered remotely.

Levelling up has become more important: the political imperative to level-up has been increased by the pandemic.

New era will open up new opportunities: the attractiveness of large urban metro areas has declined, and many businesses have undergone a fundamental shift in working practices. The North East has the benefit of space and a high quality of life, and leveraging those in coordination with the "new normal" of remote working is a significant opportunity to attract and retain talent.

"

WHAT MIGHT COME OUT OF THIS IS A RECOGNITION THAT ALL PARTS OF THE COUNTRY NEED TO COME OUT OF THIS AND PROSPER.

Digital Dialogue Participant

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WE WERE ABLE TO ACHIEVE IN ONE WEEK, REGARDING HOME WORKING, WHAT WE HAD BEEN TRYING TO DO IN TWO YEARS.

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

Use digital to accelerate local growth opportunities
The North East has several sectors that are primed for success, including energy and green tech, the digital sector, and the transport and logistics sector. 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 the region. The North East 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.
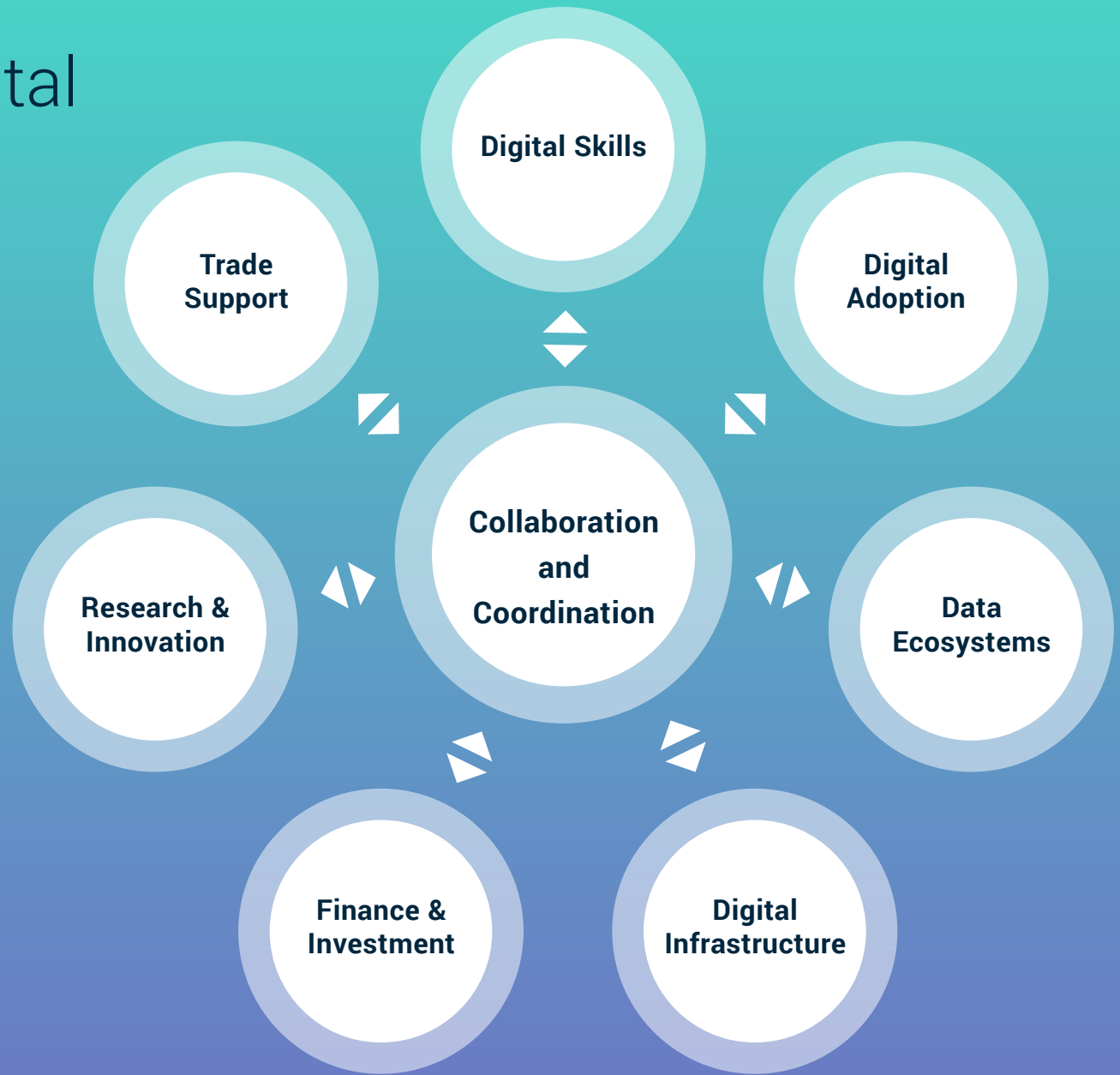
STRENGTHEN LOCAL DIGITAL CAPITAL

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 adoption

> Finance and investment

> Collaboration and coordination

Participants stressed the need for digital skills in the region, and the opportunity to rethink how training and upskilling are delivered, in parallel with the greater levels of recognition of the importance of digital skills for the future.

Second, participants also discussed their concerns for businesses and organisations that have not yet been able to adopt digital technologies, with worries that those businesses, particularly SMEs, will be vulnerable to the ongoing economic crisis due to the COVID-19 pandemic.

Third, the participants highlighted a significant barrier for the region's ability to capitalise on its strengths in the digital sector – the limited funding and finance available to businesses in the area, both in terms of government programmes and business support as well as venture capital (VC) and private investment.

Finally, participants stressed the need for greater levels of coordination and collaboration between the public and private sectors, within the tech sector, and across the North East.

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LOCAL AUTHORITIES NEED TO PUT POLITICS ASIDE AND COME UP WITH A REGIONAL PLAN. WE HAVE A DISJOINTED EFFORT BETWEEN THE NORTH OF THE TYNE AND SOUTH OF THE TYNE. WE NEED TO HAVE A REGIONAL APPROACH, OR WE WILL FACE ISOLATION.

Digital Dialogue Participant

Digital skills

In the North East, **23% of adults lack digital skills, a total of 12.6 million adults.** Additionally, 1.2 million small businesses, including more than half of charities lack the requisite digital skills for the coming digital future.

Regional digital capability improved 7%, compared to 1% nationwide, so things are moving in the right direction.

Some of the specific challenges raised in the area of digital skills include:

> The need for more flexible upskilling and skills training.

> Skills shortages within the tech sector, especially the challenge of both retaining and attracting talent to the region.

> A significant digital skills gap within non-digital businesses, especially at the more senior level. If decision-makers lack digital skills and knowledge, they are less likely to consider digital as an option.

"

APPRENTICESHIPS NUMBERS HAVE BEEN SUSTAINED, AND MORE THAN 70% OF THEM ARE FOR THE TECH SECTOR. YOU DON'T NEED FIVE YEARS TO TRAIN SOMEONE TO WORK IN TECH. MANY APPRENTICESHIPS ARE FACILITATED THROUGH THE LEP STEERING GROUPS, DYNAMO, DIGITAL UNION, AND MORE.

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 throughout the region.

Lloyds Bank's **regional analysis** from before the COVID-19 pandemic showed that the North East had the greatest need to focus on digital leadership and strategy. Its survey reported that 49% of leaders in the region did not believe that digital was relevant to their business, and only 37% of firms were able to sell online.

"

COVID-19 FORCED US TO PIVOT TO BEING A DIGITAL-ONLY ORGANISATION IN ONLY A WEEK. THE PRIMARY ENABLER OF THIS WAS THE FACT THAT WE WERE ALREADY A CLOUD-BASED ORGANISATION.

Digital Dialogue Participant
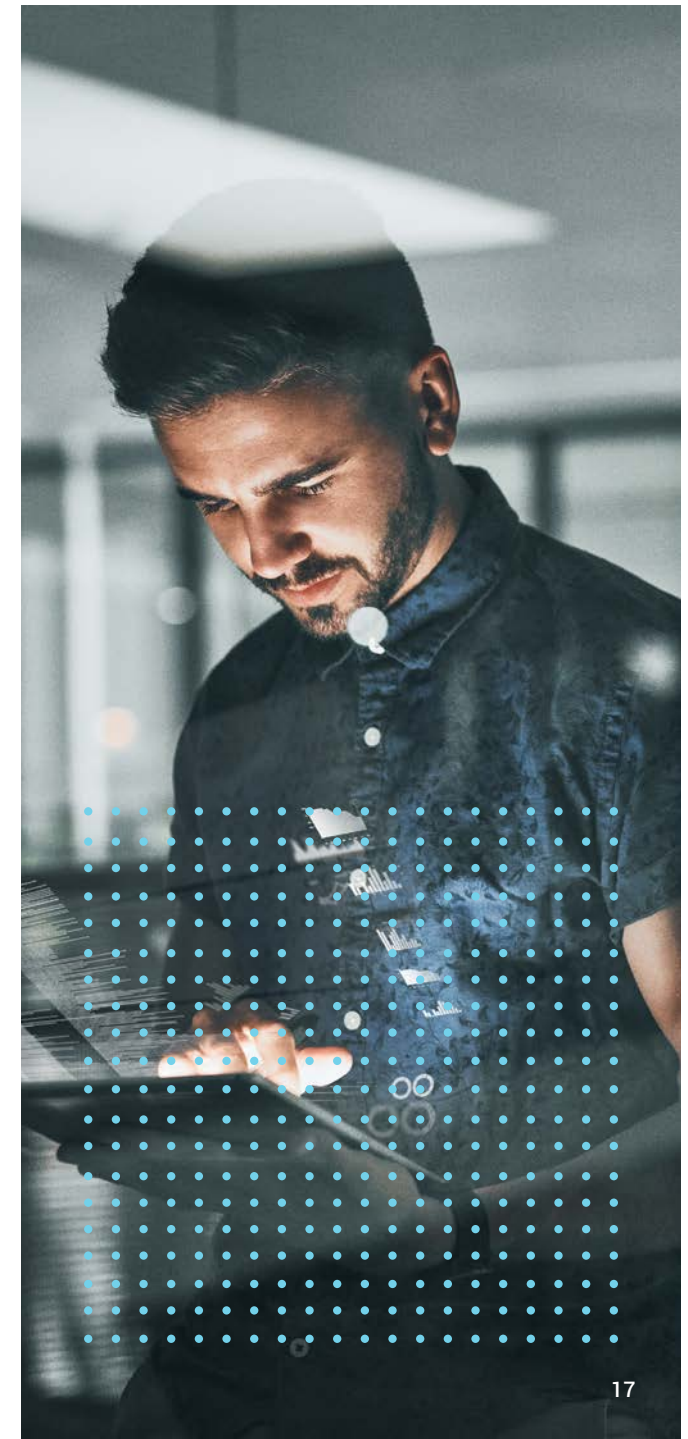
Finance and investment

There is a need for investment from both from central government and VC firms. While there are VCs that seek to invest in start-ups outside of London and the South East, more investment and a greater presence in the North East is needed to help SMEs scale-up and grow.

In 2019, the **North East received £100 million in total VC investment**, with £22 million invested in emerging tech from 2015-2019. By comparison, London received £6.8 billion in total VC investment, with £5 billion invested in emerging tech.

" THE BIGGEST CHALLENGE WE'VE GOT IS LIMITED BUDGETS AND FUNDING.

Digital Dialogue Participant

Collaboration and coordination

Collaboration also emerged as a key priority in the region, with participants citing it as the biggest priority action going forward, to really have the whole region come together and foster greater levels of cooperation and collaboration within the digital sector, and between the region's digital sector, many combined authorities, local enterprise partnerships, and other key stakeholders.

As we have seen in the formation of the COVID-19 Response Group, valuable coordination between government bodies, industry, and academia is possible and further opportunities to collaborate should be explored moving forward.

Existing local networks including Digital Union, Dynamo, and Sunderland Software City should be supported with additional resources to help them play a more extensive role in building connections and strengthening the digital ecosystem across the region.

"

AS WE MOVE FORWARD, WE NEED TO RETHINK HOW WE CAN COLLABORATE WITHIN AND ACROSS ORGANISATIONS AND BETWEEN THE PUBLIC AND PRIVATE SECTOR.

Digital Dialogue Participant

techUK member programmes

Many techUK members are already working in the region to address skills gaps.

Cisco has a national programme aimed at digital education and skills, the Cisco Networking Academy. The programme, which delivers free courses both on campuses and online, is designed to provide students at all education levels with knowledge, hands-on experience, and prepare them for both industry-recognised certifications and jobs in cybersecurity, the Internet of Things (IoT), and other computing related areas. In the North East, the programme has 11 networking academies, including five colleges, three universities, and one school.

BT also has a digital skills programme, Skills for Tomorrow. It provides free courses and training in digital skills to thousands of people across the UK. In particular, it has helped older and more vulnerable people stay healthy and in contact with friends and family, supported small businesses transition to doing business online, helped families and children learn from home, and supported people working from home or remotely for the first time.

SEIZE LOCAL GROWTH OPPORTUNITIES

Seize local growth opportunities

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

> Energy and green tech: fully utilising the region's strengths in the energy sector and green tech to ensure that the economic recovery is green and in line with the goal of net zero carbon emissions by 2050.

> Digital and creative: participants spoke of their optimism that digital technology can help lead the economic recovery efforts, and that the adoption of digital technology can help businesses weather the economic crisis by improving productivity and innovation.

> Transport and logistics: participants spoke of the need to build more localised supply chains and regional capacity to reduce dependence on globalisation, and how tech can help do so by increasing efficiency and sustainability.

Seize local growth opportunities

In addition to what the participants in the Digital Dialogue discussed, the LEPs in the North East have identified the following sectors, among others, as key sectors for future economic growth. Many of these are aligned with the key growth areas discussed in the Digital Dialogue, reinforcing their importance.

The North East has strengths in several growth sectors:

> Digital construction and building information modelling (BIM)

> Advanced manufacturing

> Life sciences

> Energy

> Digital and creative

> Transport and logistics

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 the North East 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.

"

THE NORTH EAST IS STRONG IN MANY OF THE SECTORS LEADING THE RECOVERY EFFORT. THERE ARE LOTS OF BUSINESSES DIVERSIFYING AND EXPANDING, IN LINE WITH THE STRATEGIC SECTORS OF THE NORTH EAST.

Digital Dialogue Participant

Digital construction

Dynamo North East, an organisation fostering collaboration and growth for the North East's tech sector has a significant cluster group working in this sector, Dynamo Build. It works to foster collaboration, promote the region as a leader in the digital construction sector, and build skills and retain talent in the region for the sector.

Northumbria University recently received government funding to develop a business case for an International Centre for Connected Construction, which would serve as a hub for digital construction around the world and serve as a centre of excellence.

Digital construction is a growing field, with more than 80% of UK construction firms prioritising digital transformation and actively engaging in digital transformation projects. BIM is an area identified by the North East LEP's Strategic Economic Plan as ripe for development, investment, and future growth.

The construction sector will be vital moving forward with the need to meet net zero targets and ensure green growth. This presents a massive opportunity for the region.

"

CLIENTS ARE NOW LOOKING TO REDUCE COSTS AND BE MORE EFFICIENT, ESPECIALLY IN REGARDS TO ENERGY USE AND BUILDINGS. WITH THE NEW FOCUS ON COSTS, I HOPE THAT MORE TECH IS UTILISED TO HELP DRIVE ENERGY EFFICIENCY.

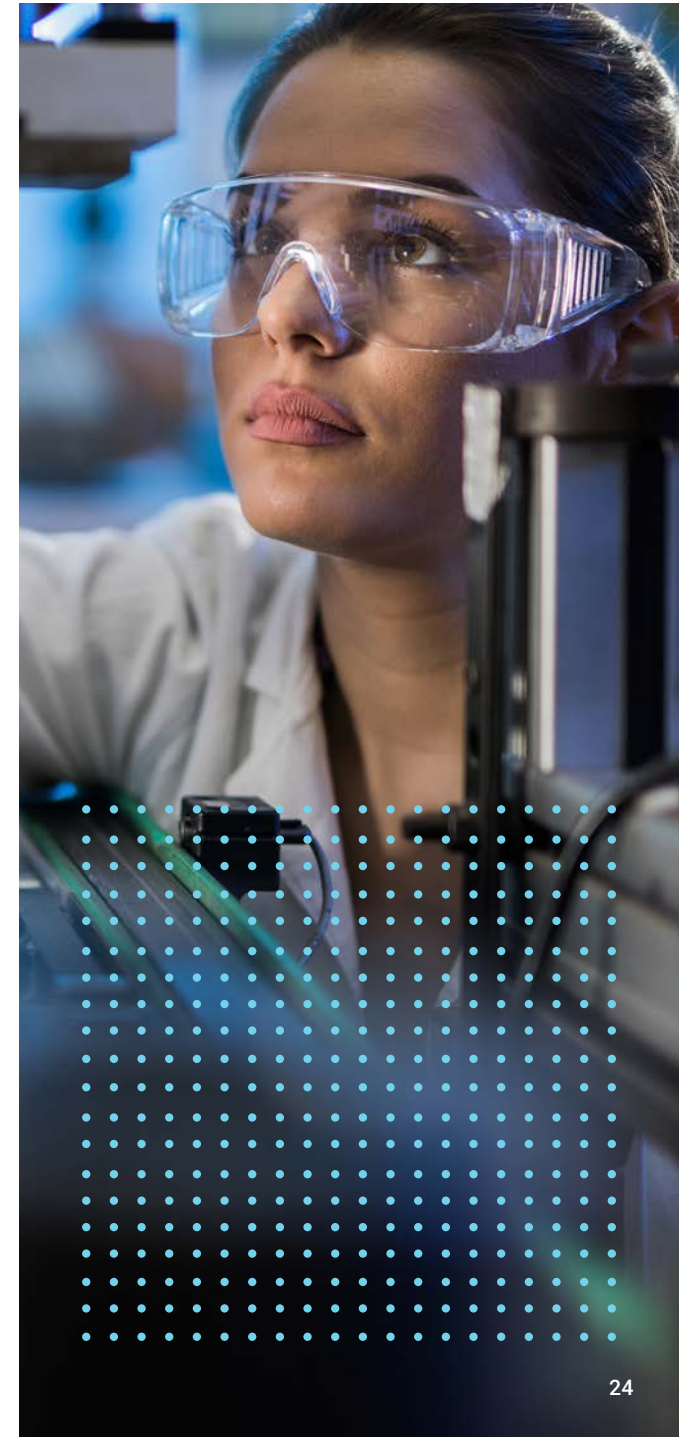**Digital Dialogue Participant**

Advanced manufacturing

The North East also has a history of excellence in advanced manufacturing, with significant clusters in both automotive and medical manufacturing.

Sunderland Software City manages Digital Catapult North East and Tees Valley, which has a significant programme for digital manufacturing, which provides support to local small engineering firms to experience, explore, and adopt emerging technologies, such as augmented reality (AR), virtual reality (VR), artificial intelligence (AI), and IoT.

Tharsus, an engineering firm based in Blyth, Northumberland, a town best known in the past for heavy industries, manufactures robots for firms like DHL, Rolls Royce, and Ocado. Tharsus recently received a multi-million pound investment from Ocado, allowing it to expand production capacity for Ocado's robots and create over 100 high-quality jobs in the region.

As COVID-19 and the international trade climate reshape supply chains, there has been a tendency towards re-shoring. Opportunities in advanced manufacturing are greater than ever post-COVID-19.

Life sciences

The North East excels in clinical research, particularly with pharmaceuticals, and in responding to an aging population.

COVID-19 presents a huge challenge for clinical research and pharmaceuticals, but also a vital opportunity. The need for social distancing has reshaped service delivery, with huge implications for the provision of care for an aging population or in rural areas.
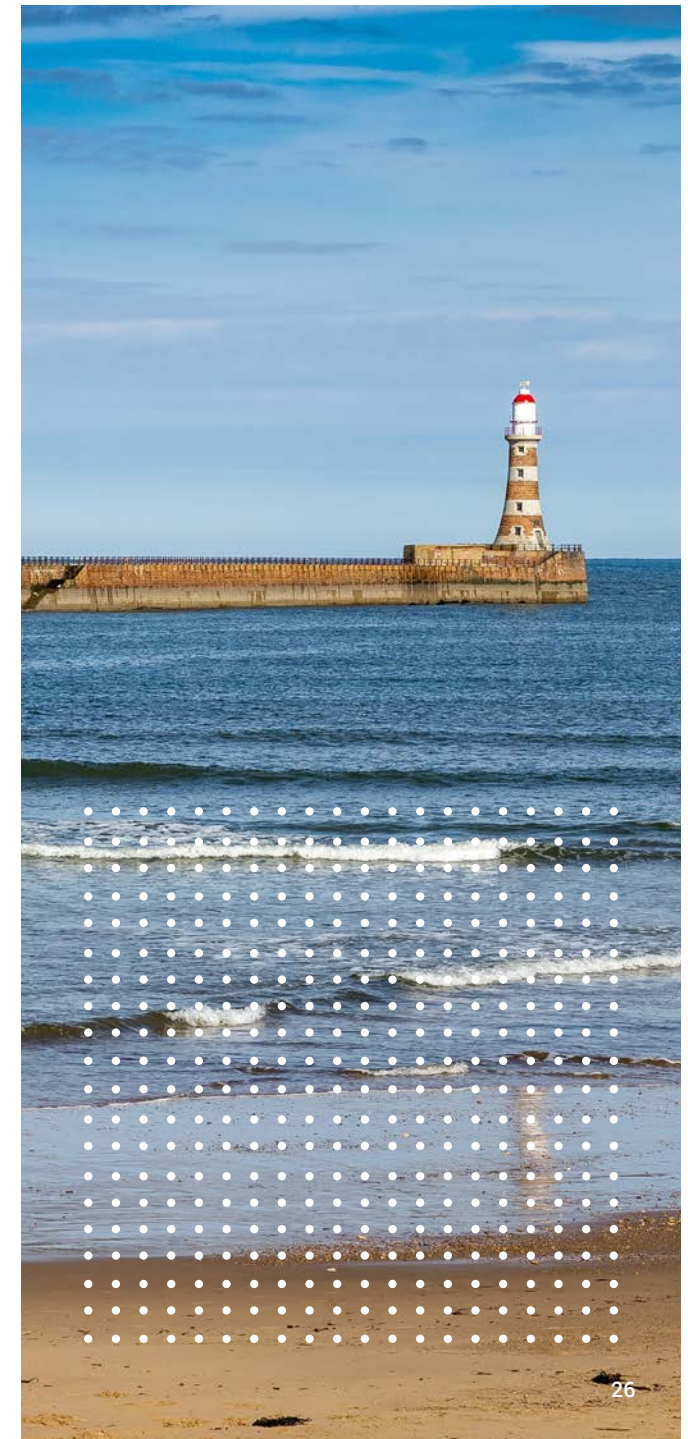
Personalised medicine is an area where the North East has expertise, with a Genomic Medical Centre based in Newcastle, and has a huge potential for growth. Personalised medicine could be easily combined with another of the North East's medical specialisms, ageing and age-related diseases, to create personalised treatments for ageing populations, treating diseases like cancer much more effectively.

Digital and creative

The region has expertise in software, cloud computing, communications, gaming, and emerging specialisms in data analytics, immersive tech, and cyber security.

Digital is the future, so the North East should double down on its existing strength in this sector and maintain the progress catalysed by the COVID-19 pandemic to increase the rates of digital skills acquisition and the uptake of digital tech.
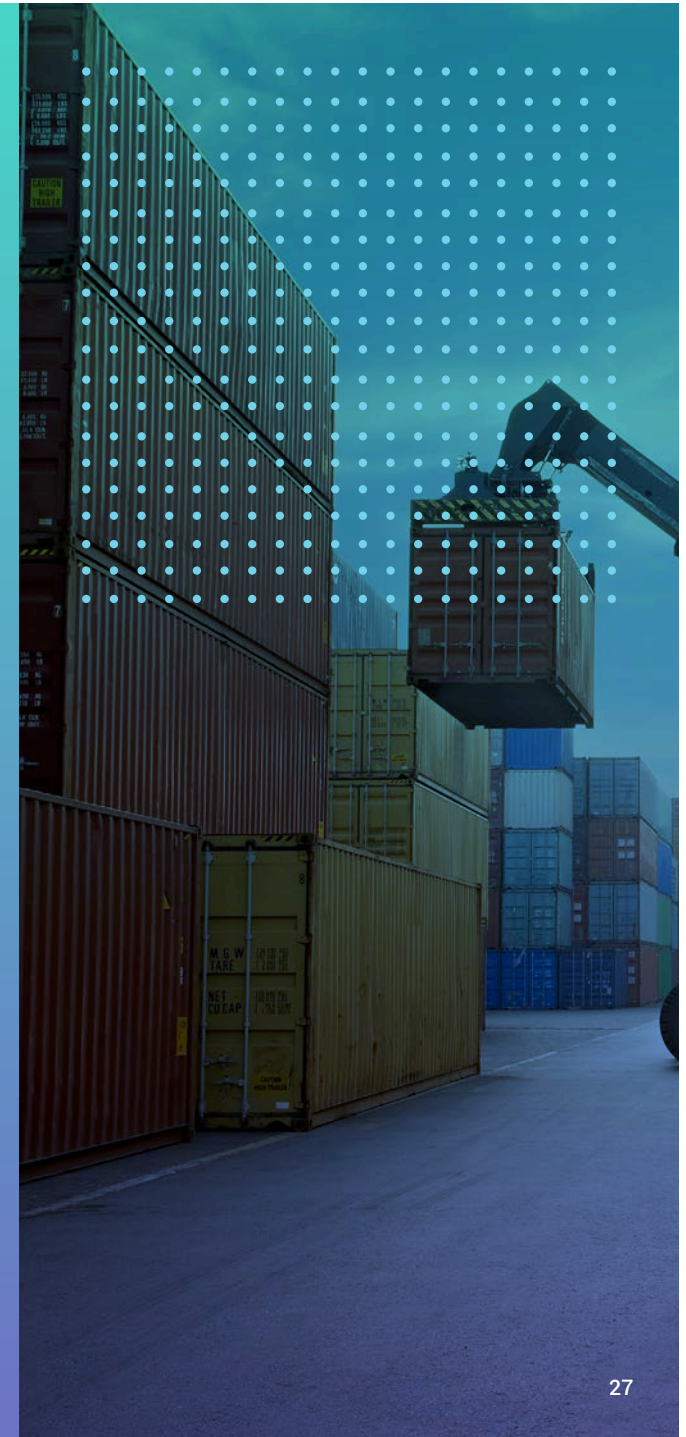
Transport and logistics

The North East has significant transport and logistics, as it is a trading region that exports the majority of its goods.

The North East's ports handled more than 5.3 million tonnes in 2017, and technologies like 5G and IoT could provide huge opportunities, increasing productivity, efficiency, and safety, as well as allowing for predictive maintenance, real-time monitoring, communications and data analytics.

The North East should seize the opportunity to utilise its existing transport and logistics infrastructure, particularly its ports, to showcase how technology can unlock the ports of the future.

Energy and net zero

The North East has significant expertise in offshore energy and subsea technology, particularly with renewables. The North East also has a great research and demonstration base in energy, with the National Centre for Energy Systems Integration led by Newcastle University.

The transition to low-carbon and smart energy systems is key. The North East is home to significant developments in the low-carbon energy world, with Sunderland, County Durham, and Northumberland in the top six local authorities nationwide by number of solar photovoltaic sites.

The North East has the UK's largest smart grid project, a test bed on the Newcastle Helix site which allows for the simulation of full distribution networks in real time, helping improve the understanding of how smart grids can meet future energy challenges.

The North East can combine its expertise in both digital and the energy sector to become a pioneer and a leader in the nationwide push to renewable energy, demonstrating how smart grids can help the region grow and the UK meet its net zero goals.

"

WE HAVE THE OPPORTUNITY TO ACCELERATE OUR LOW-CARBON, SUSTAINABILITY EFFORTS. WE NEED TO FIGURE OUT HOW TO BE MORE SUSTAINABLE, AS A CITY AND AS A REGION, AND HOW TO BEST PROMOTE THOSE EFFORTS.

Digital Dialogue Participant

Digitising key growth sectors

The best way to enable the digitisation of the North East's 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.

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.

Regional authorities and LEPs 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 discussed how digital technology can be used to reshape schools and education, beyond simply remote learning. Participants spoke about the opportunity for personalised learning styles, and how to rethink the delivery of skills training and upskilling, by using more short courses and apprenticeships.

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

"

WE HAVE THE OPPORTUNITY TO USE TECH TO ALLOW KIDS TO LEARN IN DIFFERENT WAYS AND PURSUE THE SAME OUTCOMES AND CURRICULUM.

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 the region's recovery strategy and future economic planning. There is evidence this is happening, but this will need to be maintained and built upon. Since we held the Digital Dialogue, the **North of Tyne Combined Authority has published their programme of action**, which picks up on many of the issues in this report. We would like to see similar activity across the whole of the region.

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 the region and across the UK will be essential for success.
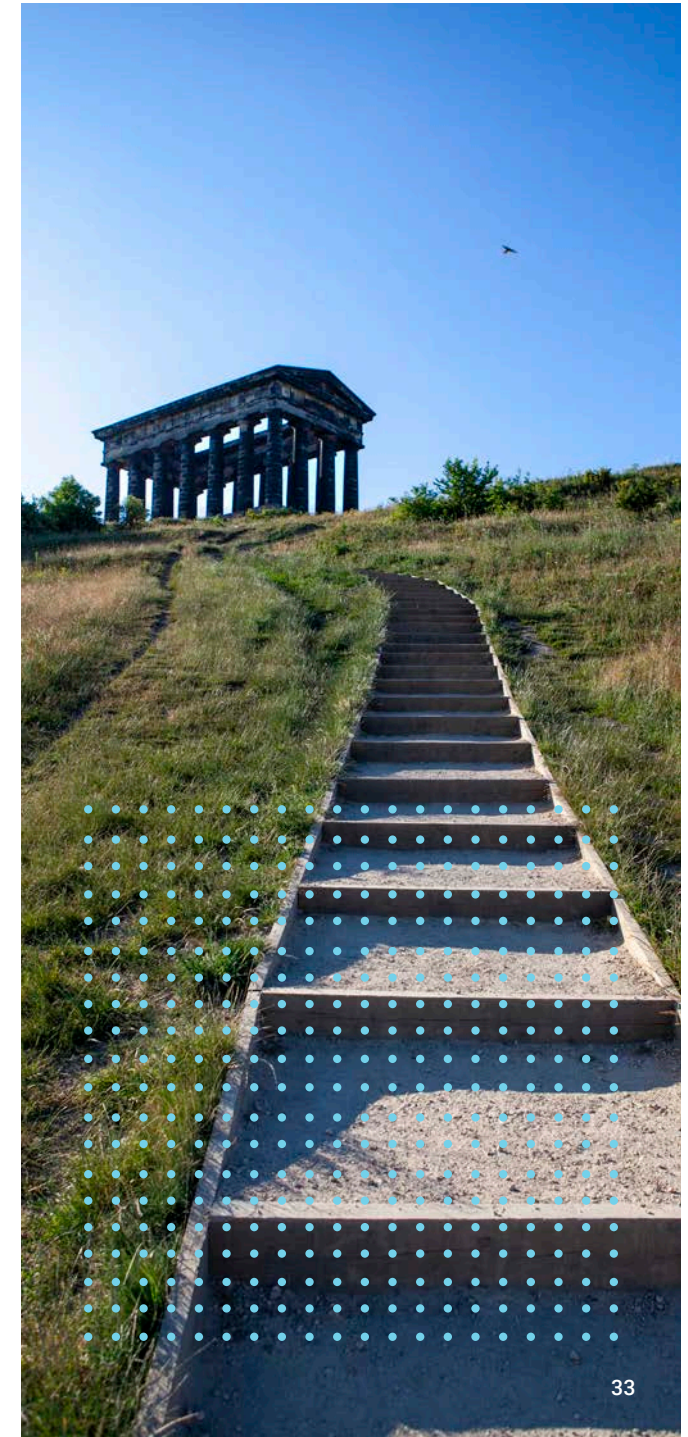
Survey of participants

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

Of the respondents, 60% were somewhat optimistic, 20% were very optimistic, and 20% were about the same level of optimism since taking part in the Digital Dialogue.

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

› Supporting the levelling up agenda.

› Government and public services, especially the use of big data to support health, public transit, and social services.

› Specific cluster areas: connected construction, service delivery centres, finance and fintech, cyber security; then advanced manufacturing and the subsea sector; and finally, rural areas and emerging entertainment.

› Business resiliency and efficiency and help grow the region's workforce due to flexible and remote working.

Participants

Paul Callaghan CBE, Chairman, The Leighton Group

Steve Caughey, Director, National Innovation Centre for Data

Deni Chambers, Assistant Principal, Gateshead College

David Charles, Professor, Newcastle Business School, Northumbria University

Rob Charlton, CEO, Space Group

John Cridland, Chairman, Transport for the North

Julian David, CEO, techUK

Dr David Dunn, CEO, Sunderland Software City

Sabby Gill, UK&I Managing Director, Sage

Sarah Green, Interim Chief Executive, Newcastle Gateshead Initiative

Stephen Hall, Partner, Deloitte

Rob Hamilton, Economic Development Director, Newcastle City Council

Jennifer Hartley, Director, Invest Newcastle

Charlie Hoult, Chair, Dynamo

Rachid Hourizi, Director, Institute of Coding

Alistair Irons, Academic Dean for Faculty of Technology, Sunderland University

Stuart Lynn, Founder, Tech North East

Jamie Martin, Senior Partner, Ward Hadaway LLP

Rory McKeand, COO, TSG

Hugh Milward, Senior Director of Corporate, External, and Legal Affairs, Microsoft

Aad van Moorsel, Professor of Distributed Systems, Newcastle University

Sam Mudd, Managing Director, Phoenix Software

Jenny Nelson, Digital Newcastle Programme Manager, Newcastle City Council

Nick O'Reilly, CTO, NHS Business Services Authority

Arlen Pettitt, Knowledge Development Manager, North East England Chamber of Commerce

Janet Ross, Business Development – Digital Government at BT Business and Public Sector, BT

Mark Stamper, Economic Director, North of Tyne Combined Authority

James Thwaites, Associate Director, North East, Whitecap Consulting

Garry Ward, Director, Highbridge Properties PLC