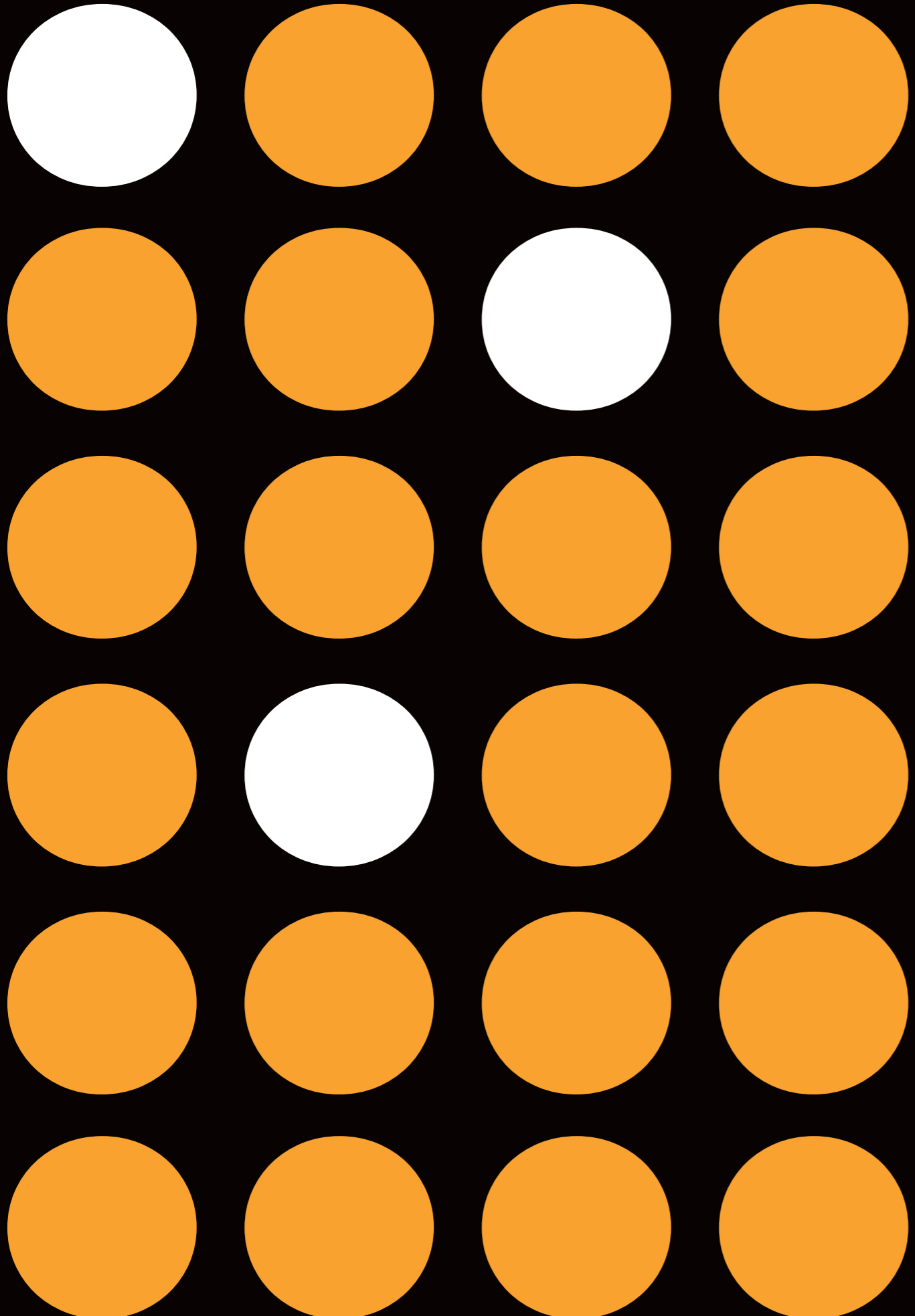


ONE REGION
ONE SECTOR
ONE STATEMENT

2020•21



THE PREVIOUS 12 MONTHS

The reception we received from the first edition of *One Region, One Sector, One Statement* was overwhelming and it is difficult to name one naysayer.

Our intention with this was quite simple; to produce a document that presented a broad, positive picture of the Digital and Tech sector right across the North East. Moving forward, we want this document to be used by everyone promoting the region, to demonstrate the wide range of great companies working in all areas of the sector. We want those in education to show students of any age what amazing opportunities there are in the North East, we want new start-ups and job seekers to realise the breadth of what there is in the North East and what we are really strong at. We want investors from around the UK to see that we have a serious range of opportunities for them and we want the general public, through the media, to realise how much we mean to the economy and the community.

We have seen some real advances and additions to the region that will continue to build on our strengths. We were obviously delighted to see that the BBC have chosen to open their Tech Hub in the North East, to develop the technology that underpins the 'iPlayer' and 'BBC Sounds' services. Both of these services are looking to attract and build stronger, younger audiences for the BBC and we believe this will help to attract more young people from across the North East to want to train in the sector.

Over in Middlesbrough we saw the announcement of Boho Next Generation, which will see the expansion

of its flexible, adaptable accommodation with the addition of Boho 8, 9 and 10, along with the provision of event space and 100 living units, catering to the changing needs of a dynamic, digital and creative industry. All of this tied into the existing Boho buildings, with backing from Middlesbrough Digital, will equate to one of the most exciting and thriving digital campuses in the UK, if not Europe.

The DigitalCity initiative has continued its support throughout the Tees Valley and has helped 60 companies to grow and adopt technology over the past 12 months.

We have also seen the launch of a Sunderland Software City driven initiative, the North East Digital Festival, which we know will go from strength to strength.

On the acquisitions front, it's great to see Bede Gaming, Elastic Path (previously Moltin), Orchard Information Systems and Mkodo with new ownership and investment. Add to this, businesses that have secured investment, including IoT Tech, Biosignatures and Atlas Cloud and we continue to have much to shout about.

WE HAVE SEEN SOME REAL ADVANCES TO THE REGION THAT WILL CONTINUE TO BUILD ON OUR STRENGTHS.

One Region, One Sector, One Statement would not be possible without the partnership consisting of:



THE REGION IN NUMBERS

The North East and Tees Valley area has continued to grow since last year's report and as a whole, is home to a digital tech sector comprising 3,000 Digital Tech Businesses*, which employ some 35,000 people, and generate a Gross Value Add (GVA) of almost £3bn.

In terms of new business growth over the past year, the sector overall has grown by 2.23%. The hotspots for this growth have been Middlesbrough and Gateshead, supported by Newcastle, North Tyneside, South Tyneside and Hartlepool.

Comparing growth of the digital tech sector at 2.23%, with the aggregated growth across all of the North East business sectors at 1.54%, we can see that the digital tech sector continues to grow faster than the 'all sectors regional average'.

If we compare the region by combined authority, we can see that:

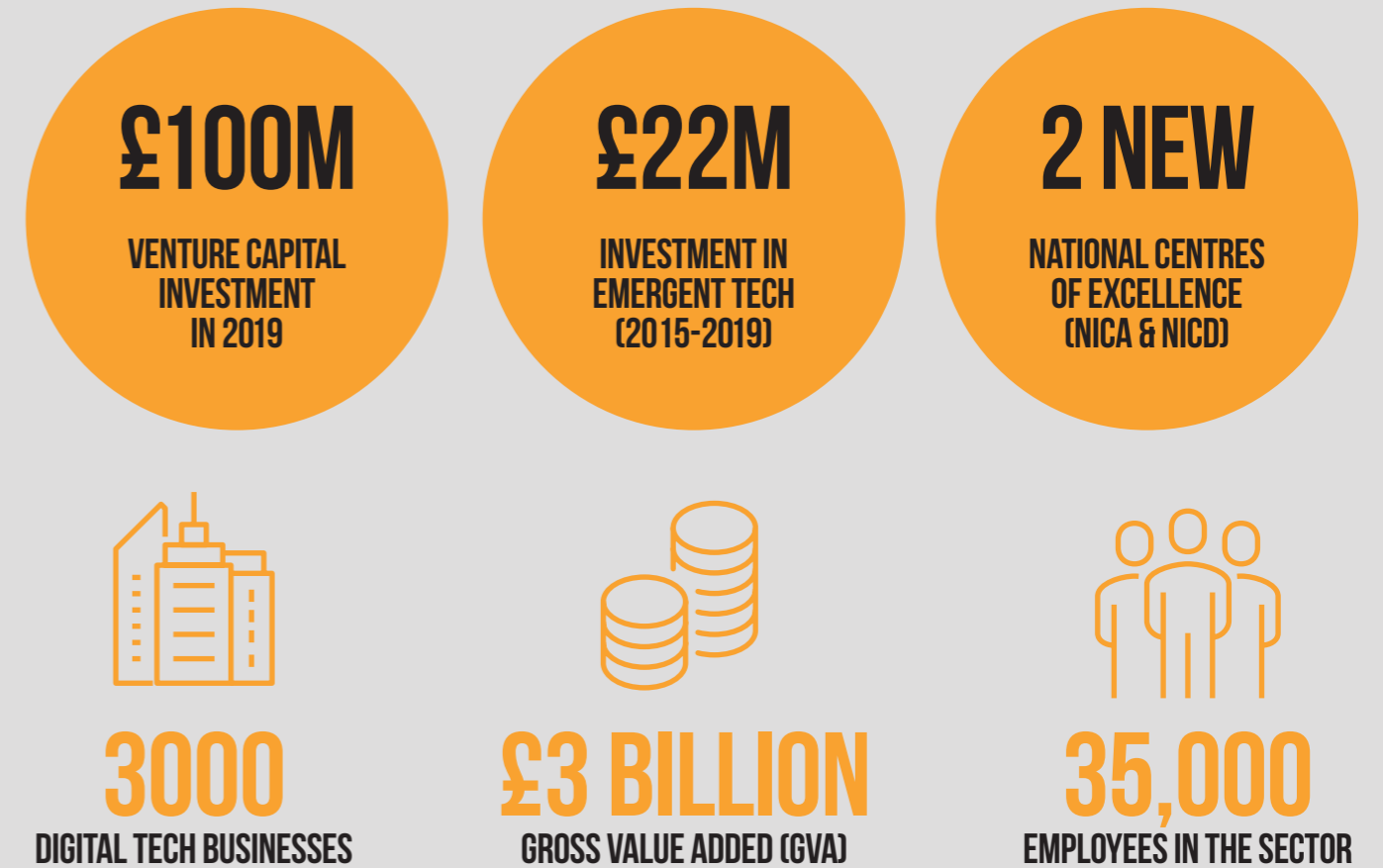
- Tees Valley Combined Authority shows the best regional performance with 30 new businesses (4.8% year on year growth). This shows the digital

tech sector growing at 3.1x the all sectors regional average. This is a result of stronger growth in Middlesbrough at 17%.

- North of Tyne Combined Authority shows steady growth of 2.03% year on year growth, equally split between North Tyneside and Newcastle. North of Tyne Combined Authority digital tech sector is growing slightly ahead of all sectors regional average.
- North East Combined Authority shows 0.94% year on year growth, with contributions of 8% growth from South Tyneside and 6% growth from Gateshead.

WE WANT INVESTORS FROM AROUND THE UK TO SEE THAT WE HAVE A SERIOUS RANGE OF OPPORTUNITIES FOR THEM.

HIGHLIGHTS



69 ACCLAIMED HIGH GROWTH BUSINESSES

Data has been sourced from a combination of the 'Tech Nation Report 2020' and the Office of National Statistics (ONS- Nomis) database, using 'UK Business Counts – enterprises by industry and employment size band', as of 12th March 2020.

The 'Digital Tech Sector Cluster' is comprised of 5 digit Standard Industry Classification (SIC) Codes, mostly in line with Tech Nation published definitions.

Geographic areas as defined by ONS-Nomis are based on the following local authorities, County Durham, Darlington, Gateshead, Hartlepool, Middlesbrough, Newcastle upon Tyne, North Tyneside, Northumberland, Redcar & Cleveland, South Tyneside, Stockton-on-Tees, and Sunderland.

Tees Valley Combined Authority is comprised of Middlesbrough, Hartlepool, Stockton-on Tees, Darlington, Redcar & Cleveland. North of Tyne Combined Authority is comprised of Newcastle, North Tyneside, Northumberland. North East Combined Authority is comprised of Sunderland, South Tyneside, Gateshead and Durham.

All figures are rounded within ONS-Nomis to avoid disclosure. Values may be rounded down to zero and so all zeros are not necessarily true zeros. Totals across tables may differ by minor amounts due to the disclosure methods used. Furthermore, figures may differ by small amounts from those published in ONS outputs due to the application of a different rounding methodology.

ACQUISITIONS

Since *One Region, One Sector, One Statement* was first published, we've been pleased to see that a number of new acquisitions have been completed.

Elastic Path

Elastic Path, a fellow leader in the headless commerce space, has acquired Moltin. Both companies had tracked rapid market growth within the application of commerce technology.

Moltin brings new technology to Elastic Path including multi-tenant SaaS microservices able to intuitively adapt to client needs as well as ready-to-use commerce experiences. Key Moltin employees have integrated into Elastic Path from its offices in Boston, Massachusetts.

Bede Gaming

A major German gaming firm, Gauselmann Group, acquired a "significant majority stake" in Gosforth-based Bede Gaming, who develop and market online gambling game platforms for casinos and sports betting as well as lottery offerings.

Bede's management team will retain a stake in the business but Gauselmann Group, established in Germany in the 1950s, will become the majority stakeholder. It will be business as usual at Bede

following the acquisition, with the firm continuing to operate as before within Gauselmann Group. Offices will remain in Newcastle, as well as internationally in Sofia and Toronto.

Orchard Information Systems

A social housing management software specialist headquartered in Newcastle's Stephenson Quarter has been acquired by US real estate group, MRI Software.

Orchard Information Systems, which also has a location in Donegal, Ireland, has a number of UK housing organisations and councils among its clients. As a result of the acquisition, Orchard clients can now benefit from MRI's additional cloud software offerings, resident portal and component accounting capabilities to help manage and grow its portfolios.

Mkodo

Leading lottery partner Mkodo was acquired by Canadian commercial printing firm, Pollard Banknote Limited.

Diversifying its business verticals and focusing on mobile-led innovations and product development for land-based gambling organisations, has seen Mkodo become a leading developer for lottery operators.

SCALING

We have continued to see a number of investments being secured by growing businesses:

IoT Tech had investment from DELL and others totalling c.£7.5m and they are now based in the National Innovation Centre for Data.

Biosignatures raised £3.5m, led by ADV, transforming the lives of millions of people by diagnosing serious medical conditions earlier than ever before.

Atlas Cloud, the award winning IT specialist, secured £2m of investment from the Northern Venture Capital Trust Funds (VCTs) which are managed by Mercia.



FINTECH

The North East is already well recognised as the home of global brand, Sage, but the sector, and it's ecosystem spreads way beyond this global brand. In a geography that currently represents just over 5% of the UK population, we can proudly demonstrate world class expertise in Open Banking, Blockchain, Mortgages, Savings, InsureTech and Fraud Tech. Punching well above its weight in terms of size, the region boasts several enterprise software development companies who have tech teams embedded in top tier investment banks and - in addition to one of the UK's foremost neobanks, Durham-based Atom - there are a number of other regional operators with banking licence applications well underway.

The payments sector can also demonstrate robust growth in the past 12 months; one Newcastle firm was sold to an Australian buyer for an eight-figure sum. The new owner remains committed to retaining the North East HQ after subsequently recognising the wealth of opportunity and talent the region has to offer.

FinTech plays a vital role in what is being termed the 4th Industrial Revolution, the North East region was pivotal in the previous age of progression, we are well placed for the next.

Honcho Markets

This reverse-auction car insurance platform recently closed a second round of funding in excess of well over £1m. In honcho-land, the customer is king with a platform that invites insurers to bid against each other for business. Their founder and CEO, Gavin Sewell, formerly worked for a leading UK investment bank and returned to the North East to establish his business.

Kani Payments

This SaaS based reporting and reconciliation platform streamlines back office operations while keeping costs to a minimum. Founder, Aaron Holmes, launched the business in 2018 after realising the 'pain points' of challenger banks, card issuers and a host of other companies. Since their inception they have gone on to win award after award and are well recognised in the FinTech space.

Newcastle Strategic Solutions

One of the best kept secrets in the area, where technology meets financial services, has to be the team at Newcastle Strategic Solutions. Originally borne out of the Newcastle Building Society, they provide comprehensive white labelled services from their headquarters based in North Tyneside. These services are mainly savings platforms for many household names and they have a steady growth plan for the next decade.

Paid

This Darlington-based FinTech organisation provides a platform that cuts out the middleman for payments between suppliers and clients, forming an overall easier and much more efficient process. Its automated invoice tools have proven to be a huge hit among SMEs, enabling them to get paid in a matter of hours, without having to chase the clients.

Also leading the way in the sector are Atom Bank, Opencast, Scott Logic and Global Processing Services.



AI & DATA

AI and Data is high on the National Agenda and it has become a high priority across the region. For a long time people have talked about data being the new oil and now we are seeing advances in AI that are effectively developing the tools to mine the data.

AI funding in the UK has already surpassed 2018's figures, rising from £830m in 2018 to £847.8m in the first 6 months of 2019. In the North East we have a variety of businesses that are applying AI to work with data to create value in ways we previously did not realise was possible. To add to the positive outlook Teesside university has been awarded funding to boost the number of graduates in AI / data analytics over the next 3 years.

Biosignatures

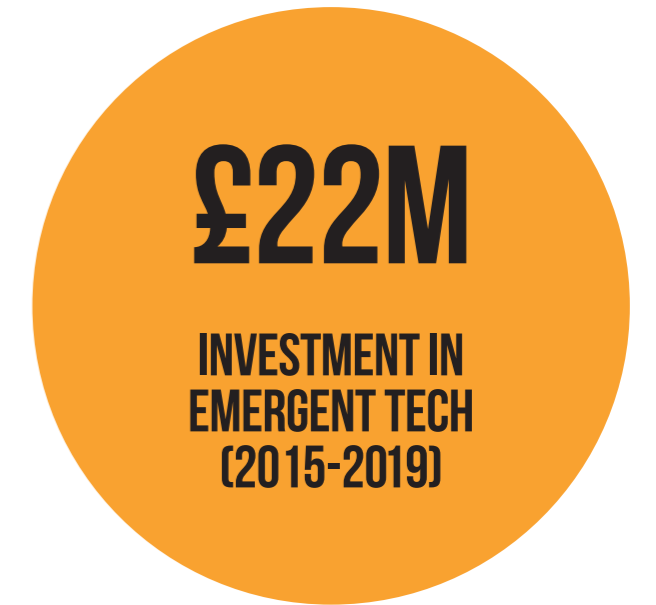
A pioneer in machine learning, big data and artificial intelligence since 2007, long before these terms became fashionable and overused. Biosignatures' technology is transforming lives by diagnosing disease early. Confidence is high in this Newcastle based company, which is demonstrated through their raising of almost £10m in investment.

Wordnerds

Established in 2017 and then securing further investment, Wordnerds has set itself as one to watch. Standing out as one of the only companies that makes words measurable by using language instead of statistics. They apply unique techniques to gain insights and intelligence no one else can, by cutting through online noise. Clients already include significant names in automotive, utilities, education and consumer goods.

Nomis

Created and operated by Durham University, under contract from the Office for National Statistics (ONS), the Nomis data service provides access to the most detailed, up-to-date population and UK labour market statistics. This is then widely used by central and local government, the private sector, training organisations and academia.



Also leading the way in the sector are Caspian, Refract, Geek Talent, Intelligence Fusion, Sense Graph, Gavurin and Carbon.

"We pitched a solution to Nissan and Sunderland Software City that inadvertently taught us how to combine the latest AI and Natural Language Processing techniques with some old-school linguistics to produce a market-leading, deep tech SaaS platform.

We wouldn't have got to where we are now without the help and support of Gateshead Council's PROTO, who worked up contingency plans for deferring rent while we looked for investment, and the team at Northstar Ventures, who provided that injection of cash.

We sometimes think the North East tech scene is small and a long way from the action in London. Our experience suggests that what we lack in size we make up for in cohesion and connectivity. Organisations like the North East LEP, Digital Union and Dynamo have all played their part in the development of Wordnerds."

Pete Daykin, CEO & Co-Founder, Wordnerds

IMMERSIVE TECH

The UK is currently Europe's largest market for VR and AR, tapping into what is predicted to become a £128bn immersive technologies market. It is a significant and growing strength in the North East, and the region has one of the most innovative, creative clusters

outside of London. Businesses working in the field of Immersive Technologies - headquartered in the region and operating on a global scale - include: ZeroLight, Dimension, hedgehog lab and Coatsink.

FACILITIES & EVENTS

PROTO is the first digital production facility of its kind in Europe. Created specifically for animators, film makers and games developers, offering 3D scanning, motion capture and sound recording in one unique place. Owned and managed by Gateshead Council, PROTO is part of the Digital Catapult NETV network, providing access to cutting edge hardware and software. PROTO offers an inexpensive alternative to buying into these services by removing one of the biggest barriers to entry: cost. Gateshead Council is aiming to give start-ups access to the tech they need to digitalise their own business or develop innovative new products.

Housed in PROTO's R&D space and part of the Digital Catapult NETV network, the **North East Tees Valley**

Immersive Lab was established to support businesses to explore the real-life applications of immersive technology. The Lab offers access to VR headsets, AR devices, photogrammetry equipment and a mixed-reality green screen.

Immersive Incubation Hub - A £495k dedicated incubation hub, funded by the North East LEP through the Local Growth Fund, is opening in Gateshead in Winter of 2020. It will offer co-working space and an incubation programme for start-up immersive and emerging tech businesses, allowing access to networks such as NOVA: North East Games Collective, and VRTGO Labs, the UK's first industry-led VR and AR centre of excellence.

Luminous Group

Luminous Group is a team of cross-reality experts, working with leading blue-chip clients to leverage the latest 3D imaging and mixed reality technologies. Using real world data, they create user models in the AR/VR space for clients in the industrial sector and have developed numerous new products, including asset mapping tools for industry and mixed reality apps. They've also created VR simulators and training solutions for safety purposes.

The company is trialling a new virtual simulation with Bombardier Recreational Products (BRP), providing the global vehicle manufacturer with an innovative, alternative training method for its workforce. Using Microsoft's augmented reality programme, Dynamics 365, they offer a virtual training guideline for BRP's manufacturing facility in Mexico, providing a more realistic form of training for new starters and existing staff, and in doing so, improving efficiency during integration periods.

Dimension

Award winning immersive media company, Dimension (previously Hammerhead VR), creates extraordinary experiences and immersive cinematic content across three VR studios for Augmented, Mixed and Virtual Reality. The company has created experiences for household names such as Jaguar, Disney, Google, Microsoft and Marvel.

Supporting the release of Sky Atlantic's second series of Britannia, Dimension created an interactive VR experience. The show is an anarchic drama that follows the Roman army as they return to crush the Celtic heart of Britannia. The VR experience uses real voice recordings of the show's actors and offers users the chance to be part of the tribe, immersed in a world of magic and mysticism.

Animmersion

Middlesbrough based Animmersion is a leading supplier of digital visualisation tools. They aim to ensure clients' products, processes and spaces are immediately understood, shown in an impressive and engaging manner, and stay with the viewer indefinitely. This is achieved through a unique combination of 3D artwork, slick multimedia and cutting-edge digital technologies.

The company recently teamed up with the North York Moors National Park to create an immersive, interactive experience as part of a major refurbishment programme at The Moors National

Park Centre. They produced a new tablet-based app alongside a series of holographic 3D animations, showcasing landmarks and sites across the National Park. The animations are helping to catalogue - as well as bring to life - a selection of 3D models produced during the National Park's 'Land of Iron' project. Visitors can browse the animations that depict the many ruins and surviving structures from the iron mining heritage of the North York Moors. They will be accessible through a pair of interactive holographic displays, with additional images being added over time.

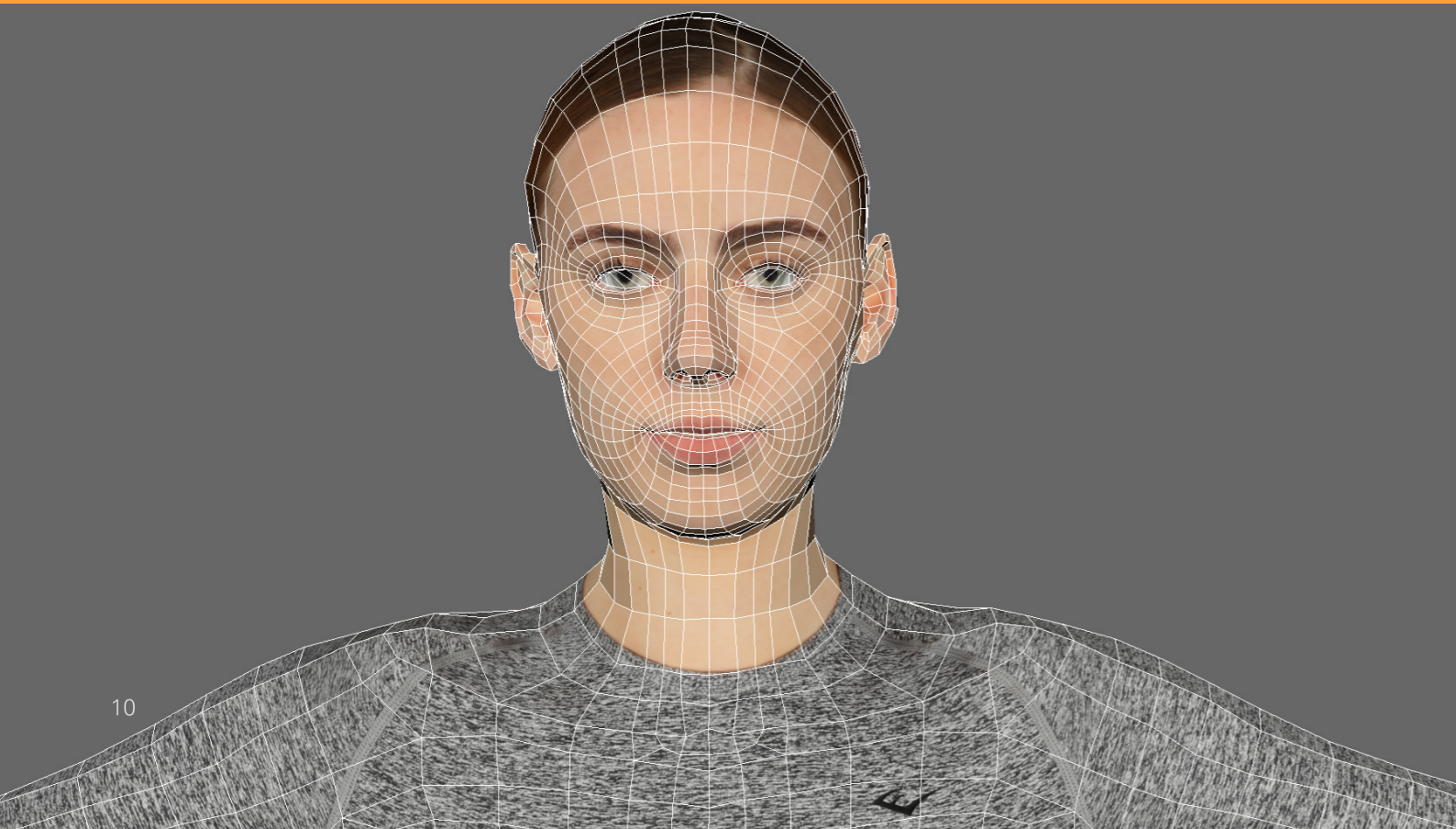


ZeroLight

Based on Newcastle's Quayside, ZeroLight is a world-leading, real-time 3D visualisation specialist. Using cloud-based rendering techniques, it supplies car-configuration and content-production solutions to some of the biggest names in the automotive industry. ZeroLight is the partner of choice for many of the world's leading brands including Porsche, Audi, BMW, Toyota, Lamborghini, Nissan, VW and Pagani.

After doubling its number of clients in 2019, ZeroLight has expanded rapidly by enhancing its recruitment and workplace-wellbeing efforts, gaining recognition from both regional and national awards. The company is a leading hub for Newcastle's thriving tech scene, hosting several college, university, and local tech events at its studio.

Also leading the way in the sector are Pocket Money Games, Neutron VR and Amazing Interactives.



CREATIVE DIGITAL

The region boasts an exciting and diverse Creative Digital industry, with rich opportunities existing across all fields from entertainment, gaming and design to e-commerce.

The BBC's announcement to open a major tech centre in Newcastle comes with praise for the city's digital and creative potential from Lord Tony Hall, Director-General of the BBC. Quoted to be "a city looking for fresh ideas, collaboration and innovation," recognising the region as a digital cluster growing faster than any area outside London.



FACILITIES & EVENTS

Digital Catapult NETV aims to educate the creative community about the potential of emerging technologies such as VR, AR, AI and 5G through a series of residentials, in partnership with Sunderland Culture. The events will benefit creative, cultural and heritage venues, artists and creative practitioners which they hope will result in innovative projects and collaborations. Using these technologies may help them to overcome the challenge of accessibility and engaging a wider audience.

Animex has established itself as one of the premier games and animation events across the globe. Providing the opportunity to meet industry experts, discuss state-of-the-art games and animation, see behind the scenes of the biggest hits and to have a great time. Held in Teesside, this annual event brings together industry, students and others.

Middlesbrough's **Boho Zone** is the digital, creative and business hub of the Tees Valley. Seven buildings accommodating everything from start-ups, to the multimillion-pound turnover stalwarts of the Tees Valley digital scene. In a central location, the self-contained hub crucially accesses ultra-fast broadband, another factor in its resounding success. Not only are the companies here the stars of the national digital industry but they are also the font of digital solutions for a multitude of other market sectors.



THE REGION BOASTS AN EXCITING AND DIVERSE CREATIVE DIGITAL INDUSTRY, WITH RICH OPPORTUNITIES EXISTING ACROSS ALL FIELDS FROM ENTERTAINMENT, GAMING AND DESIGN TO E-COMMERCE.

Double Eleven

An indie-friendly developer and publisher of video games, boasting clients such as Sony Interactive and Traveller's Tales, Double Eleven primarily adapt PC games for use on consoles including the Xbox One and PlayStation 4. More than 10 million people have played their portfolio of games since it started in 2009, which includes the 'PixelJunk' series, 'Goat Simulator' and an edition of the Bafta-award winning 'Prison Architect.'

The company, which has around 100 people working at its headquarters in Middlesbrough, recently announced its plans to expand into Malaysia to help access Asian markets.

Blue Kangaroo

A North East design agency which specialises in packaging, point of sale, exhibition stands and brand development for the toy, entertainment and licencing industry. Blue Kangaroo has a growing team who work with some of the biggest global names in the business, including Universal Studios, Paramount Pictures, Hasbro and The Walt Disney Company.

In 2018 they were singled out as the region's most inspirational exporter, being named as the recipient of the North East's first prestigious Board of Trade Award in the Government's first 'BOFTAs.'

New World Designs

New World Designs are world leaders in Bullet Time filming techniques and work globally using bespoke, custom made hardware and software, designed and built in the North East. Their impressive client list shows how in demand they are from the world's biggest companies.

Over the last several years they have created production quality content for Sky, ITV, Nokia, GSK, Amazon Prime, Pepsi and Toyota while also using their tech and know how to produce experiential events and activations to clients including Dyson, Marvel, Nike, YouTube and Unilever.

SockMonkey Studios

SockMonkey is an award-winning studio based in Teesside's Boho 5, with a heritage of working on some top-notch titles on all major platforms.

Their work ranges from full scale development, to assisting other teams in certain areas of development for VR, mobile and console games and ports for clients. They're also developing their own IP, including children's football game SockaMonkeys.

SockMonkey has worked on a number of projects for industry heavyweights including Manchester-based Team17's 'Escapist' series and with Wired Productions and KeoKeN to bring the PC smash hit 'Deliver Us The Moon' to Xbox One, PlayStation 4 and Nintendo Switch. The studio also carries out commercial projects for clients such as Unilever, the Rugby Six Nations and the NHS.

Having more than doubled their headcount over the past year or so, SockMonkey plan to employ 50 people by 2021, building on its success by growing internationally.

Also leading the way in the sector are Atomhawk, ZeroLight, Visualsoft and Tombola.



BUILT ENVIRONMENT & DIGITAL CONSTRUCTION

The digital revolution in the construction sector continues to gather pace as the positive impact of Building Information Modelling (BIM) drives the next wave of innovation by increasing the demand for adoption across the industry.

The North East is at the forefront of this changing industry; through research, strategy and digital innovation it continues to be recognised at a national level as a pioneering region in the sector.

There is a large and engaged community - demonstrated by Dynamo Build, created under Dynamo North East - giving a unified voice for digital construction in the region, bringing together companies across the spectrum of technology, client and education.



FACILITIES & EVENTS

Northumbria University has received government funding to develop a business case for the **International Centre for Connected Construction (IC3)** to be based on the region. It is an exciting initiative that aims to make a major contribution to the transformation of the built environment and the construction sector world-wide. IC3 will be a hub for the global construction sector, driving productivity and performance through digital technologies and smarter working processes and applying them to the entire building and infrastructure lifecycle. Along with Ryder Architecture, the University also continues to develop the **BIM Academy**, a centre of excellence for BIM, bringing together a wide range of industry expertise and offering consultancy, research and education services. The combination of research-based expertise and practical experience has seen the company become a global authority on digital construction; securing work with the UK Government's BIM Task Group to advance the industry as well as

for Middle East government agencies. They were also selected to produce a bespoke Building Information Model to support essential facilities management of the iconic Sydney Opera House.

BIM Show Live will once again be hosted in the region in 2020. A 2-day national conference, developed and run by Rob Charlton of Space Architects, it provides a unique opportunity for built environment professionals to exchange knowledge on the emerging ideas and technological advancements in digital construction and beyond.

Space Architects also continue to develop their own BIM Store, BIM Crunch website and BIM Campus purpose-made training.

NBS

NBS has been setting standards for the construction industry from its Newcastle HQ for nearly 50 years. Today it is a global, leading technology platform that combines the best content and connectivity for anyone involved in the design, supply and construction of the built environment. The NBS mission is to use the power of connected data to add value and enable a safe, efficient, high quality construction industry. The company has grown significantly in recent years, opening new offices in both Canada and Australia, supported by a £31.8m Private Equity Investment from LDC.

SpecifiedBy

An industry leading search engine which has been created specifically for building products and materials and is used by architects from across the UK. It allows the customer to find, compare and price building products without wasting time on visiting, registering and navigating multiple manufacturer websites. The company is continuing to grow their customer base and the number of staff at their Newcastle office.

Asset55

Based in Sunderland, providing flange management software, construction solutions software and completions enablement software to the global energy market. They have recently won £4m of contracts with global oil and gas operators.

xBIM

xBIM have been working at the cutting edge of BIM technologies for over 20 years. In collaboration with Northumbria University, standards bodies and digital construction companies, they have developed a toolkit that allows developers to work with digital building data using open BIM standards. The technology is already employed by over 1000 organisations globally including NBS, Trimble Viewpoint, BIMTrack and Bentley systems, and their new cloud-based platform is set to launch in 2020.

Also leading the way in the sector are Ctrl Hub, Clixifix, TwinView, North East Limited, ViewPoint 4 Projects, Space Group, Atlas Cloud and KyKloud.

SPACE

The global space sector is undergoing significant growth and advancement; with companies setting their sights on commercial space travel, the lunar gateway, returning to the moon and venturing beyond to the red planet by 2030, it is no wonder that the UK's space industry is booming.

The space sector in the North East is continuing to expand and improve, with the region playing an important role in the industry's success. Previous figures show that the region contributes £75m to the total UK space sector income. Companies such as the Satellite Applications Catapult, which has a regional base at the North East Centre of Excellence, aids in the development and growth in the region by enabling and supporting local companies to exploit the use of satellite data, technology and applications to gain a competitive advantage in the global market.



Rylore Ai uses space technology to aid decision making and create solutions for the financial industry. Visual datasets collected from satellites, drones, and the internet are analysed with deep learning algorithms, enabling financial institutions to make successful investment decisions. Conditions such as oil storage volumes in any global region can be determined, helping to provide investment transparency. Additionally, it can aid in the identification of real estate, agricultural and farming opportunities, supporting better decision making from local governments, agencies and investors.

Marine asset protection company **UltraMAP's** web platform 'AssetMonitor' tracks and monitors subsea and surface assets live, 24 hours a day.

AssetMonitor aids mutual existence between vessels and sector assets, as shipping activity can damage surface infrastructure such as rigs and turbines. It watches and monitors client's assets, utilising an automatic identification system (AIS) to continuously track and store vessel movements. The AIS data signal is collected via satellite receivers and picked up by AssetMonitor, which analyses, records, and stores the data. This distinguishes trends in vessel movement and

aids in identifying threats in particular areas, resulting in an improvement in both vessel and asset protection and safety.

aXenic is a leader in the design, development and production of cutting-edge optical modulators used for communicating and sensing within satellite and aerospace communications. Initially funded and supported by the North East Space Incubation Programme, the company has gained funding from Innovate UK to aid in the development of specialist new chips for use in space communication technology. They have been recognised internationally for their work and were recently shortlisted as finalists in the European Tech Start-up Awards, demonstrating that the region is developing great innovative products for the space industry.

INFRASTRUCTURE & CONNECTIVITY

Best-in-class digital infrastructure and connectivity is critical to ensure the region can fully support the changing nature of how modern businesses work as well as how future digital services are delivered and consumed. Key to capitalising on these trends is the ability to support highly effective digital delivery, with a flexible workforce, working on business premises or remotely.

Significant investment in infrastructure and connectivity is taking place across the region to connect an ever-increasing number of commercial and residential users to high-speed broadband. This comprises connectivity for rural locations as well as town and city communities, advancing the potential to connect more people (and businesses) directly to the opportunities within the region and to local, national and international markets.

The North of Tyne Combined Authority is currently benefitting from significant investment in its digital infrastructure, including:

- Northumberland's successful £24m bid for a Local Full Fibre Network.
- City Fibre's £50m investment in their 'Fibre to the Premises' programme for Newcastle.
- Stellium Datacenters, providing advanced large-scale hosting infrastructure and the North Atlantic Loop programme, which provides a direct fibre connection between the North East and Europe.

Sunderland City Council is laying plans to be the first local authority in the country to become a 'neutral host' for 5G and fibre connectivity. Working with a strategic delivery partner, it is aiming to enable telecoms operators to buy space from its infrastructure to offer their own 5G services.

Working with BT Openreach, Digital Durham have implemented a £38m project, to increase the coverage of superfast broadband to around 96% (110,000) of local premises and is looking to implement a subsequent phase to further extend coverage starting in 2020.

Tees Valley Combined Authority has announced an investment of £3.5m, again with BT Openreach, under

the existing Digital Durham project, which will see the UK operator extend their high speed broadband to cover another 3,000+ homes and businesses across Stockton-on-Tees, Darlington, Hartlepool, Middlesbrough & Redcar and Cleveland by late June 2021.

Gateshead Council, in partnership with Durham County Council have secured funding from Building Digital UK (BDUK), part of the Department for Digital, Culture, Media and Sport (DCMS), to ensure that as many premises as possible will be able to obtain a high speed broadband service. In the long term, Gateshead Council are aiming to roll out fibre-based broadband to 100% of premises.

Gateshead is also the headquarters of infrastructure service providers Aspire Technology Solutions Ltd and ITPS, who provide a range of infrastructure and data centres across the North East.

In more general terms, many parts of the region are serviced by Virgin Media broadband. These regions are set to further benefit through Virgin's 'Project Lightning'; a £3bn investment to extend coverage of their high-speed broadband network to another four million homes and businesses throughout the UK.

THE NORTH EAST IS HOME TO A CREATIVE DIGITAL AND TECH SECTOR WHICH IS TRULY THRIVING. ONE OF THE MOST PRODUCTIVE AND FASTEST-DEVELOPING IN THE UK.

CLEAN ENERGY TECH

The North East is home to a diverse range of energy innovation and demonstration capabilities. Local organisations are responsible for an array of assets of regional, national and international importance including the public sector, universities, institutions and government bodies, all sitting within a wider, innovation eco-system across our key sectors. The region is also home to exciting 'real-world' delivery opportunities for new energy technologies and solutions.

Our universities have invested significantly in laboratory test and demonstration facilities. Newcastle and Durham Universities have invested in 'Smart Grid Laboratories,' hosting battery storage testing capabilities, a low-voltage network and an array of low carbon technologies. Northumbria University has a legacy of photovoltaics (PV) research and development stretching back twenty years. They have developed a 'Smart Materials and Surfaces' laboratory for the design and fabrication of PV devices and materials analysis.

The Tyne Subsea is a collaborative site working with Newcastle University to learn more about their specialist multi-million pound hyperbaric test facility, designed for various industries including subsea, defence and nuclear. They currently house nine high-pressure test chambers, including one of the largest commercially available in Europe, with the ability to test up to depths of 15,000m and -20°C.

There is ever increasing demand to build renewable energy assets - in particular offshore wind - and Tees

Valley has been awarded UK Government Core status as a Centre for Offshore Renewable Engineering. The region benefits from good access to supply chains and from 16.5GWE of wind farm development within easy reach of port sites. Its main advantage over rival locations is its proximity to the northern North Sea, which experiences higher average wind speeds than anywhere else in Europe.

The Offshore Renewable Catapult in Blyth offers a growing suite of test and demonstration facilities for onshore, offshore, subsea and network-based businesses. The Catapult recently welcomed the 'Haliade-X blade' for testing; currently the largest wind turbine blade in the world, measuring an epic 107 meters.

Industrial Carbon Capture and Storage (ICCS) is a ground-breaking initiative in clean industrial development. It is hoped that Tees Valley will become Europe's first ICCS-equipped industrial zone, establishing it as a go-to location for future clean development. ICCS is a proven technology that can capture, transport and permanently store up to 90% of the CO₂ emissions produced by industrial facilities, preventing them from entering the atmosphere. The Teesside Collective has a viable end-to-end plan that encompasses the capture of CO₂ from a cluster of energy-intensive anchor companies, as well as the transportation and permanent storage of it under the North Sea. This will become one of only a few global locations where companies can access infrastructure to significantly reduce their carbon emissions.

HEALTH, MEDICAL & AGEING

The North East continues to provide a leading environment for innovation in health and life sciences and medicines manufacturing. This is on a global stage where health services and markets are changing rapidly, shaped by new technologies.

Companies such as Biosignatures, QuantuMDx and Total Lab are taking advantage of the region's strength in the digital health sector by championing technological advances in next generation molecular diagnostics tests; using software to research genomics and biochemistry.

Founded in Newcastle in 2008, **QuantuMDx** has grown to become a prominent global life sciences diagnostics company with offices in the USA, Singapore, and a team of more than 100 people in Newcastle.

Having raised millions of pounds from investors with support from the Bill and Melinda Gates Foundation, QuantuMDx are currently at the forefront of the fight against COVID-19 and have recently launched a new diagnostic test which delivers results in approximately 70 minutes.

As a statement of commitment within the region for lighting the way, we also have the **National Innovation Centre for Ageing (NICA)**. Leveraging the experience and expertise of older adults while harnessing big data, NICA is uniquely positioned to optimise the opportunities provided by the demographic revolution. Bringing with it the ability to personalise

user experiences and generate insights into customer requirements, the centre takes advantage of new opportunities. Insights are provided to brands and enterprises by involving cross-competence professionals and researchers, clinicians, scientists, innovators and technologists, who then work together to produce results for real end-users. NICA's Ageing Intelligence™ approach is allowing business to capitalise on the longevity economies.

WE HAVE SEEN SOME REAL ADVANCES AND ADDITIONS TO THE REGION THAT WILL CONTINUE TO BUILD ON OUR STRENGTHS.



ONES TO WATCH

The North East has a fantastic track record of producing globally successful digital companies. The digital ecosystem in the North East is strong and diverse with companies in FinTech, health-tech and AI all playing a major role in making North East England a global platform for digital excellence. There is a collaborative network of cluster groups from both

the private and public sectors, who help nurture and support digital companies. As a result, the region is seeing many exciting company start ups and scale ups being born.

Three innovative companies which are pioneering in their own niche footprint are:

Hive HR

Hive HR is a cloud-based employee feedback platform and People Science consultancy, providing organisations with a modern and measurable approach to employee surveying and employee engagement. Founded in 2016, the North East scale-up has a city-centre Newcastle HQ, and now partners with over 100 organisations nationwide, including River Island, Travelodge, Sheffield Hallam University, BrewDog, Yotel and Northumbria Police.

"At Hive, we've been able to attract folk from all over the country, including London and even as far afield as Hong Kong; showing the North East is a real hub for digital business that's capable of attracting talent from around the world."

John Ryder, Founder and CEO

SamplePod

Innovated within the North East, SamplePod strips inefficiency and unpredictability out of the pathology workflow, from primary care through to laboratory. The patented sample tray itself delivers a world first in shipping methods, underpinned by flexible Radio Frequency ID tagging to samples, which provides real-time, end to end traceability. The solution is set to strip £300m out of NHS operating costs, whilst removing hundreds of tons of single use waste.

"We drew on the best our region has to offer to launch SamplePod. We couldn't have done this anywhere else."

David Frame, Co-Founder

SUB 10

SUB 10 design and create concise, functionally discrete digital learning units. Each unit is 10 minutes or less and builds to form a larger curriculum. This methodology underpins their SaaS cloud-based platform, KnowledgeSphere™ development. KnowledgeSphere™ is on the frontier of redefining what Learning Management Solutions can do for business; developing a powerful, next generation modern learning management platform that will dramatically increase the effectiveness of employee training, embedding culture and assuring compliance. It is hoped this will maximise performance and growth of large, medium and small businesses.

"We have had an amazing 1st year, using our methodology to design and implement a global Code of Conduct Compliance program for Sage PLC, that will be viewed by 13,000 colleagues in seven languages."

Peter Stephenson, Co-Founder and Production Director



TECH 4 GOOD

It is clear technology is continuing to change the way we live, sometimes causing ongoing tensions with humanity. Innovation works to cover a need, yet as soon as it leaves the factory, others have found an alternative use for it. Initiatives such as the 'Tech Pledge' and 'Tech4Good' are working to ensure that technology improves how society operates. These are supported

across the region with initiatives such as the Institute of Coding's development of digital ethics (a national partnership including Newcastle, Northumbria and Sunderland Universities), the work of VONNE in the use of social tech to support the voluntary sector and research into the ethics of AI at Northumbria University.

Reality Zero One's mission is to design and create a world class end-to-end reality capture and digital reality delivery platform. Participating in Digital Catapult's Augmentor programme, RZO has done just this, enabling Northumbria National Park (NNP) to create 3D captures of its artefacts.

As part of its aim to engage with people across all demographics, NNP explored how technology can be used to reach wider audiences at its education and visitor centre, The Sill, by producing innovative digital elements for its 'Digital Landscape' exhibition.

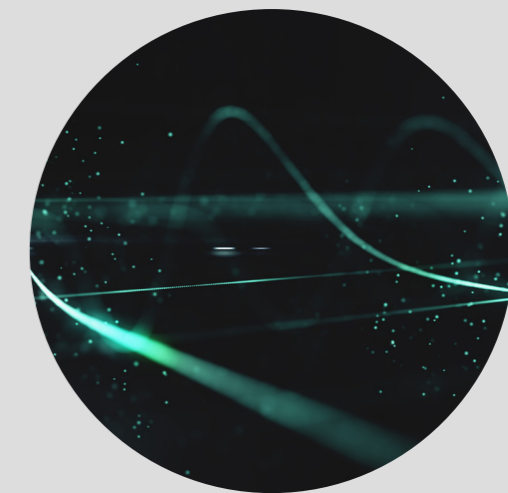
Urban Foresight is a strategy and innovation consultancy, focused on the smart and sustainable transformation of cities, communities, businesses and industry. Working globally from their base in Sunderland, they help public and private sector organisations with research, strategy and projects to shape a brighter future. Much of their work combines innovation and sustainable development.

Working alongside Digital Catapult NETV and technology consultants RaisedBy, they piloted a project for national NHS Digital and Local Government Association (LGA). The campaign developed the use of digital technology in adult social care to support independence, combat social isolation and improve mental health. It is expected that 28,000 Sunderland residents will be unable to do at least one domestic task by 2030. The 'core' platform brings data together which allows health professionals and carers to easily understand someone's pattern of behaviour and creates alerts if anything is unusual.

Globalbridge is a leading, 1st generation EdTech platform that allows young people the opportunity to showcase their talents and connect with opportunities in education, training and industry. They aim to increase success for students, schools, higher education establishments and businesses - including economic growth - by developing the UK workforce of the future.

Code Operative is a North East software development, non-profit service co-operative, where members own equal shares in the venture. As coders, artists, creatives and technical people with a social awareness, they believe there is a better way than the traditional culture of using third parties.

They support and train members as well as undertake a number of client projects, including small charitable projects, such as the Newcastle Foodbank. They are committed to creating a transparent, direct relationship between technical freelance professionals and customers, built on trust.



THE FUTURE

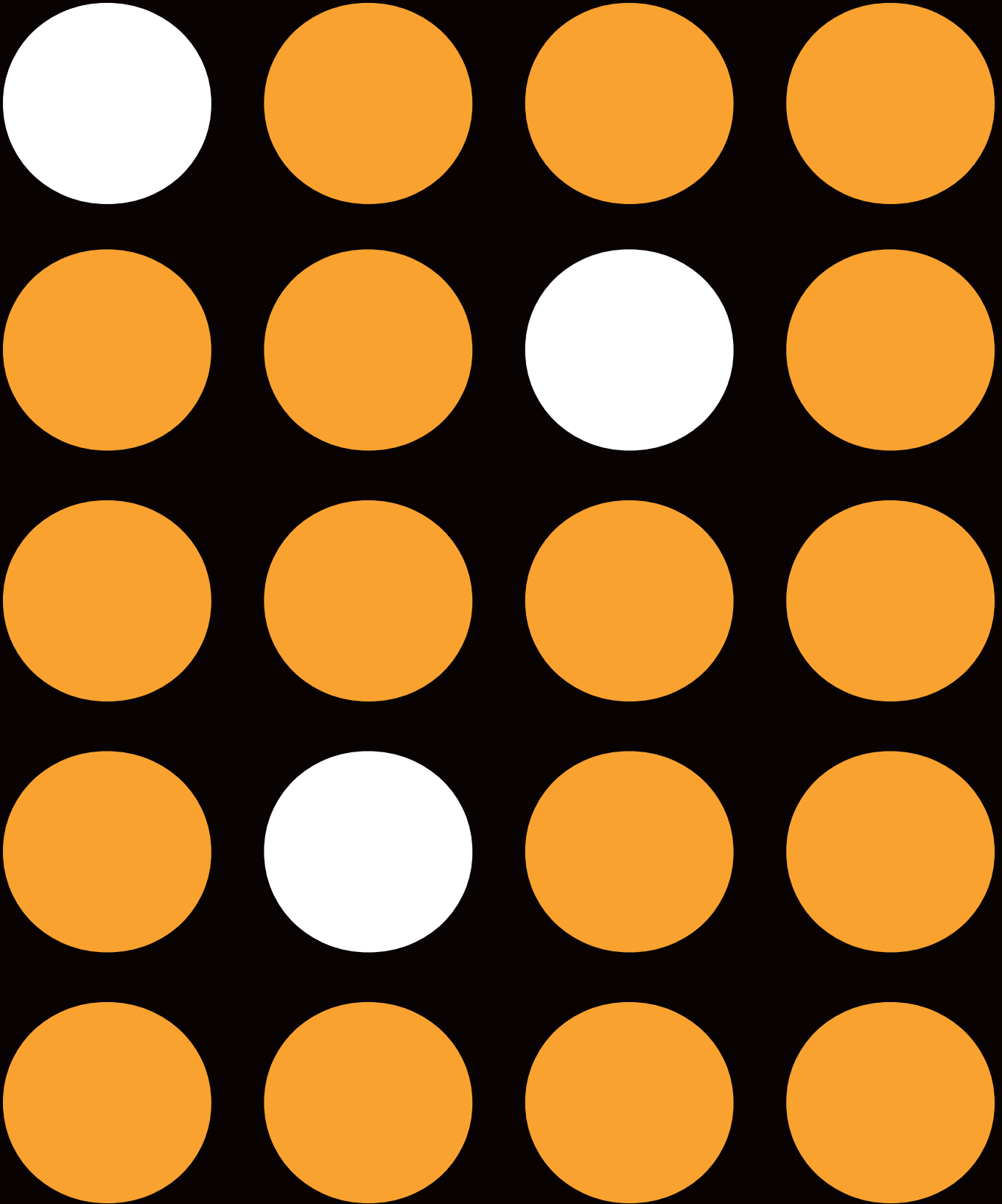
AS WE PUBLISH DIGITALLY (MAY 2020) WE COULD END BY STATING THAT WE NOW KNOW VERY LITTLE ABOUT WHAT THE FUTURE HOLDS FOR OUR SECTOR! HOWEVER, THAT'S NOT THE WAY WE ARE OR THE WAY WE THINK. OUR SECTOR AND THE REGION IS BUILT ON A 'CAN DO' MINDSET. INNOVATION IS AT THE HEART OF EVERYTHING WE DO. ADD TO THAT THE RESILIENCE THAT IS NOW BEING DEVELOPED WITHIN OUR SOCIETY AND WE WILL BE IN A GOOD PLACE. YES, THINGS WILL NEVER BE THE SAME AGAIN, JUST DIFFERENT.

OUR MESSAGE IS SIMPLE. YOU HAVE READ WITHIN THIS PUBLICATION THAT THE SECTOR HAS CONTINUED TO GROW AND OUR FIRM BELIEF IS THAT IT WILL CONTINUE TO GROW AGAIN AND AGAIN. OUR MEMBERSHIP BODIES AND AGENCIES ARE EQUALLY DETERMINED TO WORK TOGETHER FOR A COMMON GOOD AND, WITH HELP FROM CENTRAL GOVERNMENT, WE WILL BE KEEPING THE DREAM VERY MUCH ALIVE.

TO THE GREAT COMPANIES WORKING IN ALL AREAS OF THE SECTOR, TO THOSE IN EDUCATION SEEKING FUTURE OPPORTUNITIES, TO LOCAL AUTHORITIES, TO POTENTIAL INVESTORS, AND TO THE GENERAL PUBLIC, LET'S CONTINUE TO MAKE IT HAPPEN.

Disclaimer

All information contained within this document is true and correct at time of printing and is subject to change. In some cases, information is taken direct from company representations and we do not claim this is our original work. In some instances, no contact with the company was initiated and facts were taken from press releases and media coverage.



This collaborative statement has been produced with the close involvement of the following people across our vibrant sector in the North East of England.

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