LOCAL SKILLS
IMPROVEMENT PLAN
Developing future skills for the local economy

York & North Yorkshire Digital LSIF Research Report
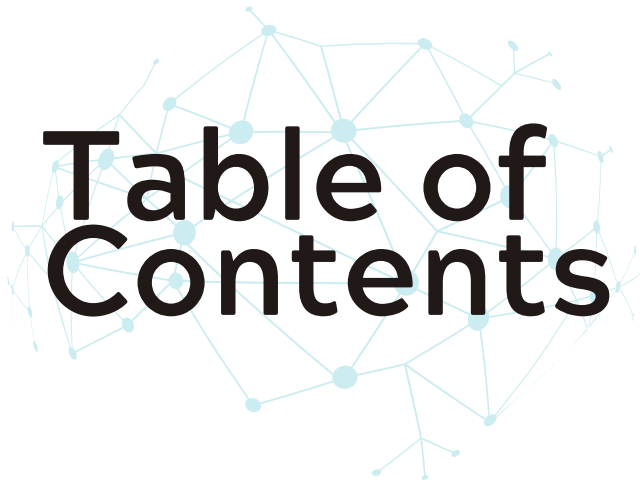
By
Yorkshire Learning Providers

Funded by
UK Government

Table of Contents

Local Skills Improvement Fund

Yorkshire Learning Providers was commissioned to complete research into a range of digital skills needs across York and North Yorkshire to support the findings of the regions LSIP and further develop the digital advancement needs of the region.

The areas of focus within this research include –

- Research digital skills partnerships in other regions to find structures, participants and approaches to support the roll out of a North Yorkshire digital skills partnership (DSP)

- Develop an YNY digital skills structure based on best fit from research

- Host DSP meetings, mixture of face-to-face and online to bring together businesses, education providers and key stakeholders

- Identify digital skills gaps, needs and demand across North Yorkshire

- Findings from forums and research with education providers to support enhanced curriculum development

— Introduction

Digital Skills Partnerships

In 2018/19 The government launched an initiative that funded a range of Local Enterprise Partnerships (LEPs) and Combined Authorities (CAs) to operate Local Digital Skills Partnerships (Local DSPs) across England to tackle local digital skills challenges and build thriving and inclusive regional economies.

There are 8 Local DSPs:
- **Lancashire**
- **Heart of the South West**
- **West Midlands**
- **Cornwall and the Isles of Scilly**
- **Cheshire and Warrington**
- **Catalyst South**
- **West Yorkshire**
- **Hull and East Yorkshire**

The vision of the different DSP's include:

West Yorkshire: Their focus is: Social digital inclusion; Workforce for the future; SME and third sector digital growth; Simplifying the digital offer.

Catalyst South: Their ambition is to unlock the South's economic power to supercharge the UK's recovery and growth. It's aim is to boost enterprise and innovation, reigniting international trade, investment and gateways. Exploiting digital opportunities and delivering clean growth. Support recovery and renew after the pandemic. Support businesses prepare and navigate UK transition.

Digital Skills Partnerships

Lancashire: The Lancashire Digital Skills Partnership brings together public, private and charity sector organisations to address local digital skills needs. Lots of good work is already happening in Lancashire to improve the digital skills landscape and the Partnership provides co-ordination and support for the development of digital skills.

Heart of the South West: The local partnership is responsible for coordinating and delivering a digital strategy that raises digital skills for our community, working to eradicate social and geographical imbalances to ensure everyone has access to digital services. The partnership also focuses on workplace mobility; ensuring the right digital training is available for young people, those outside of the workforce, work returners, employees looking to retrain and supports a workplace where the regions highly skilled digital employees can continue to learn.

Hull & East Yorkshire: The DSP will ensure that we raise the digital skill level in the Humber area by raising the level of ambition of employers, employees, residents and training providers to engage with digital skills.

Cornwall & Isle of Scilly: The DSP works alongside the National Digital Skills Partnership Board to ensure that the Government's UK Digital Strategy is responsive to local needs. In return the local area can make the most of national opportunities, sector analysis to inform delivery, cross-government department collaboration and funding opportunities to overcome digital challenges.

Cheshire & Warrington: Aiming to improve the digital capability of all people living and working in Cheshire and Warrington, the partnership focuses on essential skills that help reduce digital exclusion, skills workers need in an increasingly digital economy and advanced skills required for specialist roles.

West Midlands: The Digital Skills Partnership will take a very local view - developing training provision and new career pathways across the West Midlands. It will make suggestions to improve how to recruit and retain the skilled digital staff needed, and ultimately help double the size of the digital economy.

The Digital Skills Partnerships (DSP) in the UK were a collaborative initiative aimed at addressing the digital skills gap and promoting digital inclusion across the country. It brought together government, industry, and educators to ensure that people and businesses could thrive in the digital age.

Digital Skills Partnerships

The partnership focused on several key areas:

- **Digital Skills Training:** Providing training programs and resources to upskill individuals in digital technologies, ranging from basic digital literacy to advanced technical skills.
- **Workforce Development:** Supporting businesses in training their workforce to meet the demands of the digital economy, thereby boosting productivity and competitiveness.
- **Digital Inclusion:** Ensuring that everyone, regardless of their background or circumstances, has access to the skills and opportunities needed to participate fully in the digital world.
- **Collaboration:** Facilitating collaboration between government, industry, academia, and other stakeholders to develop effective strategies and initiatives for addressing digital skills challenges.

Partners

YNY LSIF
Partnership

Askham Bryan College

City of York Council

Craven College

Darlington College

Harrogate College

North Yorkshire Council

Scarborough TEC

Selby College

West & North Yorkshire Chamber of Commerce

York College & University Centre

Yorkshire Learning Providers

A Digital Skills infrastructure: Highlighting the need for a more digitally focused York & North Yorkshire

The local skills improvement plan stated that, in York and North Yorkshire, there is an inconsistent approach to digital skills provision with some paradoxical issues. The demand for L4 and above in digital skills is strong in the labour market, but colleges report low uptake on the higher-level skills in their provision. There are pockets of progressive and successful provision where businesses are heavily involved in the delivery, but this is not yet wide-spread.

Bootcamps in a range of digital disciplines have had some success in small numbers when a high level of personal support is offered (e.g. cyber security, data analysis, digital marketing for small businesses, intro to game design, coding, software development, Microsoft Office and equivalent software skills for business). Providers report that business engagement (getting a guaranteed interview for example) is the single biggest barrier to success.


The digital sector has been the fastest growing part of the labour market in recent years and all indications are that this will continue. Despite this, census data indicates that the level of employment in York and North Yorkshire in digital occupations is small as a share of the total compared with national figures.

Whilst there is a good range of digital provision across the region, more provision for adults in the workplace, delivered to meet employer and adult need is required to align with the top occupations in demand, including programmers and software developers, IT business analysts, IT user support technicians, data analysts, cloud/data architects, and data engineers. Providers report that when they offer provision in these areas, they struggle to recruit the numbers needed to make them viable, but businesses report that there is inflexible delivery and programmes to meet need. Therefore, a big focus of improvement work is needed to bring the curriculum offer and business need more aligned.

Analysis of Digital Apprenticeship Provision YNY

Standard	Count of Standard
Digital marketer L3	23
Software developer L4	16
Information communications technician L3	16
Data analyst L4	16
Software development technician L3	14
Digital support technician L3	13
Data technician L3	11
Network Engineer L4	10
Business analyst L4	9
Content creator L3	8
IT technical salesperson L3	8
Software tester L4	7
Cyber security technician L3	6
Cyber security technologist (2021) L4	5
IT solutions technician L3	5
Digital and technology solutions professional L6	4
Data scientist (integrated degree) L6	3
DevOps Engineer L4	3
Digital and technology solutions specialist (integrated degree) L7	2
Artificial intelligence (AI) data specialist L7	2
Digital user experience (UX) professional (integrated degree) L7	1
Applications support lead L4	1
Advertising and media executive L3	1
Game programmer L7	1
Creative industries production manager L7	1
Digital community manager L4	1
Assistant recording technician L4	1
Cyber security technical professional (integrated degree) L6	1
Digital accessibility specialist L4	1
Grand Total	**190**
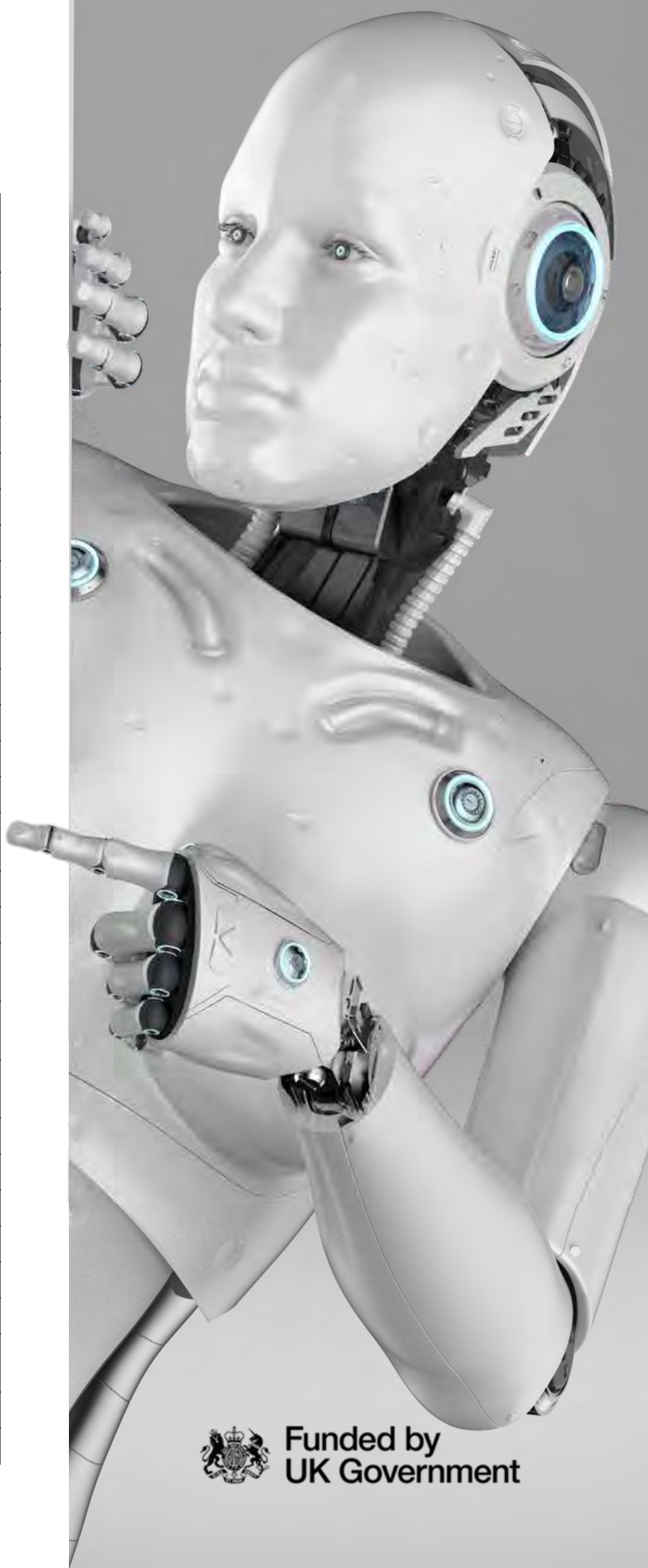
Research

Barriers identified in YNY for Digital Skills

Several barriers to digital skills development exist in North Yorkshire, hindering the adoption and proficiency of digital technologies among residents.

These barriers include:

1. **Digital Infrastructure**: Access to reliable high-speed internet and mobile networks remains a challenge in rural areas of North Yorkshire. Poor connectivity limits residents' ability to participate in online learning, access digital resources, and engage in remote work or telecommuting.

2. **Digital Exclusion:** Certain demographics, such as elderly individuals and those with disabilities, may face barriers to digital skills development due to lack of access to or familiarity with technology. This digital exclusion exacerbates social inequalities and limits opportunities for these groups to participate fully in the digital economy.

3. **Affordability:** The cost of purchasing and maintaining digital devices, such as computers, tablets, and smartphones, can be prohibitive for some residents, particularly those on low incomes. Additionally, the expense of internet service subscriptions may pose a financial barrier to accessing online learning resources and participating in digital skills training programs.

4. **Skills Gaps:** Despite the availability of digital skills training programs, there may be gaps in the relevance or accessibility of these offerings. Courses may not always align with the specific needs or interests of learners, and individuals may face challenges in accessing training due to scheduling conflicts or geographic constraints.

5. **Digital Literacy:** Limited digital literacy skills among certain segments of the population hinder their ability to navigate and utilize digital technologies effectively. This includes skills such as basic computer literacy, internet proficiency, information literacy, and critical thinking in the digital realm.

6. **Awareness and Engagement:** Some residents may lack awareness of available digital skills training opportunities or may be hesitant to engage with technology due to fear of the unknown or concerns about privacy and cybersecurity. Overcoming these barriers requires targeted outreach efforts and initiatives to promote digital literacy and confidence.

Addressing these barriers requires a multi-faceted approach involving collaboration between government agencies, educational institutions, community organizations, and private sector stakeholders. Strategies may include investments in digital infrastructure, subsidy programs to increase affordability, targeted outreach and education campaigns, tailored training programs for underserved populations, and initiatives to promote digital inclusion and participation.

Research

Through the research stage of this work, views and insights were gathered from a wide range of approaches including –

- Employer one-to-one interviews
- Employer Group Engagements (Yorkshire & Humber Apprenticeship Ambassador Network)
- Digital Skills Partnership Forums
- Desk based research into digital skills needs & the advancements of Tech & Digital
- Interviews with Employer representative bodies
- Interviews with FE & skills providers & campus visits
- York North Yorkshire Combined Authority
- North Yorkshire Council
- West Yorkshire & Hull East Yorkshire Combined Authorities
- VCS Organisations

All parties involved in the digital skills discussions agreed a focus on enhancing digital skills opportunities, provision and alignment to business need is required, and would be very much welcome for York & North Yorkshire. The common features of need across all groups include:

- Improved access to and signposting for skills training at all levels
- Sharing & showcasing the breakdown of apprenticeships available
- Business support for strategy development
- Information, advice & guidance & Training needs Analysis for businesses and individuals
- Focused support on talent pipeline – engaging young people
- Awareness for Adult upskilling opportunities
- Better understanding digital competencies & needs
- More flexible approaches of delivery – inc in the community, online, modular & blended

All parties also agreed that whilst a DSP would be welcome, a much broader, overarching, centralised skills support function that can be remote or face to face that covers a wide range of skills needs as well as business advice, guidance and signposting. Therefore, this will be the primary recommendation identified through this research.

Research
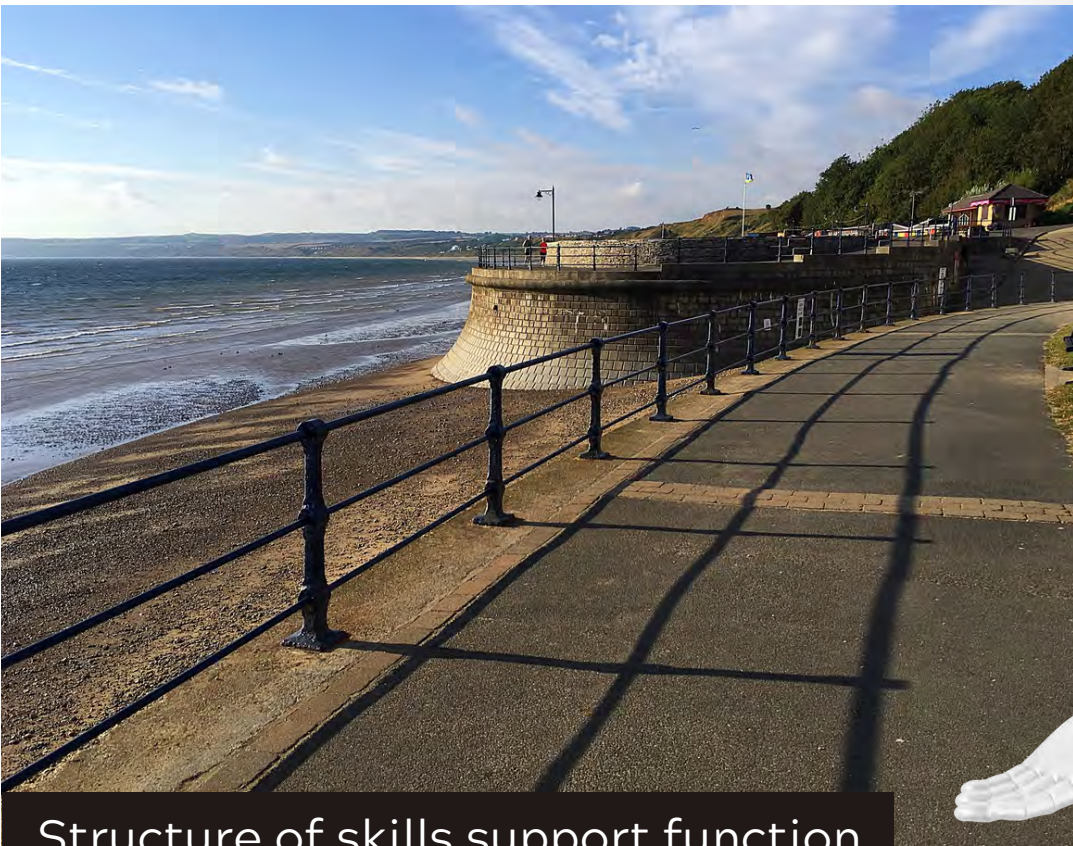
Structure of skills support function

To include - YNY skills board, YNYCA, North Yorkshire Council, York City Council, WNY Chamber of Commerce, FSB, Community First Yorkshire, FE & Skills providers, employers, Governance body for LSIF, awarding organisations and other local stakeholders.

Digital Focus of skills function:

- Ongoing support leading to Digital Skills embedded across the region – individuals, employers & industry

- Provide direction to other elements of digital & tech developments inc digitisation strategy

- Develop a joined up digital skills approach to maximise efficient upskilling of existing workforce

- Improved IAG & talent pipeline development

Digital Skills Forums
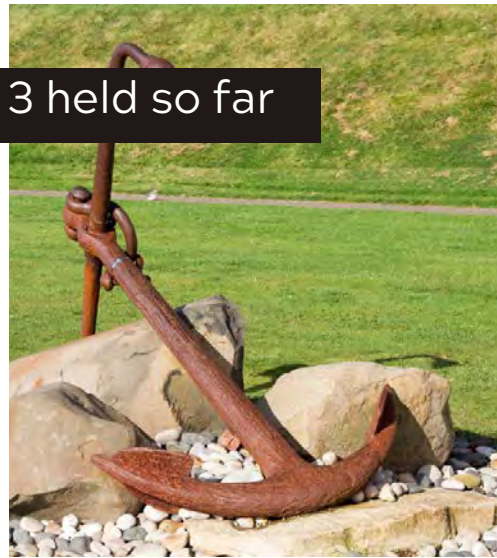
3 held so far

Over 60 delegates
in attendance

Range of audience
inc- employers, ERB,
FE, Public Sector,
VCS

Webpage developed
to share summaries

The Digital Skills Partnership (DSP) YNY

Aims;

No. 01 —

Social digital inclusion. No individual is left behind as all are supported to engage in an increasingly digital society through accessible and inclusive provision of digital skills training.

No. 02 —

Workforce for the Future. The skills shortages and gaps are reduced in roles within the digital sector and in roles that require digital skills.

No. 03 —

SME and Third Sector Growth. SMEs and Third Sector value and invest in digital skills for their workforce to transform their businesses.

No. 04 —

Simplifying the Digital Offer. All residents understand how to access digital careers guidance and digital skills training for any stage of life or work.

No. 05 —

Gap Analysis in Apprenticeships. To research business need & adopt to curriculum offer.

Research

Digital Skills Gaps & Needs

This research paper, has focused on gathering a deeper understanding of the needs across the 3 categories identified –
Individuals
Employers
Industry

This will aid the development of curriculum response, make recommendations for future funding opportunities through greater devolution across the region and provide valuable insights to support the roll out of a more digitally focused region by training organisations and the newly formed combined authority, as well as supporting the priorities of the LSIP and LSIF.

Individuals

Digital inclusion - Community First Yorkshire, alongside North Yorkshire Council, UK Shared Prosperity Fund and Humber and North Yorkshire Integrated Care Board, and will offer new funding opportunities and training programmes designed to meet local needs.

Over the coming months, the main aims are to:

- Establish multiple digital hubs across North Yorkshire
- Support the training of digital buddies dedicated to each hub and its users
- Provide funding for digital inclusion projects.

Digital Upskilling - With the increasing digitization of industries, there is a growing demand for individuals with digital skills across various sectors. Training programs and initiatives are needed to help residents acquire the skills needed for digital jobs, such as coding, data analysis, digital marketing, and IT support. Some of the key digital skills that individuals require:

- **Basic Digital Literacy:** Fundamental skills such as using computers, smartphones, and the internet effectively. This includes tasks like sending emails, browsing the web, and using basic software applications.

- **Information Literacy:** The ability to evaluate, analyse, and effectively use digital information from various sources. This includes understanding how to assess the credibility and reliability of online information.

- **Communication Skills:** Proficiency in communicating effectively through digital channels such as email, instant messaging, social media, and video conferencing. This includes understanding appropriate etiquette and tone for different platforms.

- **Cybersecurity Awareness:** Knowledge of how to protect personal information and devices from online threats such as malware, phishing, and identity theft. This includes understanding best practices for creating strong passwords, using secure networks, and recognizing potential security risks.

- **Data Literacy:** The ability to understand and interpret data, including basic concepts of data analysis and visualization. This skill is increasingly important as data-driven decision-making becomes more prevalent across industries.

Individuals

- **Coding and Programming:** Basic understanding of programming languages such as Python, JavaScript, or HTML/CSS can be valuable, even for individuals not pursuing careers in software development. Knowing how to write simple scripts or customize digital tools can enhance productivity and problem-solving abilities.

- **Digital Project Management:** Skills in planning, organizing, and managing digital projects, including tasks such as setting goals, allocating resources, and coordinating team members using digital tools and platforms.

- **Digital Marketing**: Knowledge of digital marketing concepts and tools, including search engine optimization (SEO), social media marketing, email marketing, and content creation. These skills are valuable for individuals in marketing, sales, and business development roles.

- **Adaptability and Lifelong Learning**: Given the rapid pace of technological change, individuals need to be adaptable and willing to continuously update their skills. This includes a mindset of lifelong learning and the ability to quickly acquire new digital skills as needed.

- **Rural Connectivity and Digital Inclusion**: Given the rural nature of North Yorkshire, ensuring access to reliable high-speed internet and digital infrastructure is crucial. Digital inclusion initiatives are needed to bridge the digital divide and ensure that residents in rural areas have equal access to digital opportunities and services.

Employers

Support for SMEs and Digital Transformation: Small and medium-sized enterprises (SMEs) in North Yorkshire can benefit from support in adopting digital technologies to improve their operations, reach new customers, and stay competitive. Initiatives aimed at assisting SMEs with digital transformation, such as providing digital skills training and access to technology resources, can help stimulate economic growth in the region.

Around two-thirds of employers have upskilling needs in the LEP area. Employers are most likely to say that managers need upskilling. The types of skills employers believe need to be developed are a combination of operational skills, including job specific skills and product / service knowledge; complex analytical skills such solving complex problems; and digital skills including digital literacy and advanced IT skills. Functional literacy and numeracy skills are also highlighted.

Businesses tell us that they want all employees to have a solid grasp of digital skills that are needed to work in modern workplaces and secondly, that they have access to people with high level technical skills which will help the businesses flourish in a digital world in a variety of ways. These include keeping businesses safe (e.g., cyber security, secure payment systems, fraud detection, user support), helping businesses to optimise new opportunities or technologies (e.g. digital marketing, data analysis, AI, machine learning) and keeping pace with digital advances (e.g. the metaverse, remote sensing, drone technology).

Employers

Through our discussions with a range of employers across the region, it is clear that digital skills, digital transformation strategy and understanding the advancements of tech in industry are areas that many are not clear on or confident with.

Expressions like;

- "This is something we keep kicking down the road"

- "We have no idea where to start"

- "We know we are data rich, activity poor in relation to analysing"

- "Totally ill-prepared"

- "We are self-teaching along the way – no clear strategy"

- "We are buying in the skills we need now, instead of investing in developing them internally"

- "Construction isn't asking for digital skills training, but as a sector is definitely needs it"

Many organisations shared they would value support on how to implement digital transformation strategies, skills assessment of need and access to services & signposting as a key function that North Yorkshire businesses need now and into the future. A business support hub that encompasses skills, strategy and horizon gazing.

Research

Employers

Example of Hub approach:

Digital Platform
- Business Support
- Digitisation Strategy
- Signposting to L&D
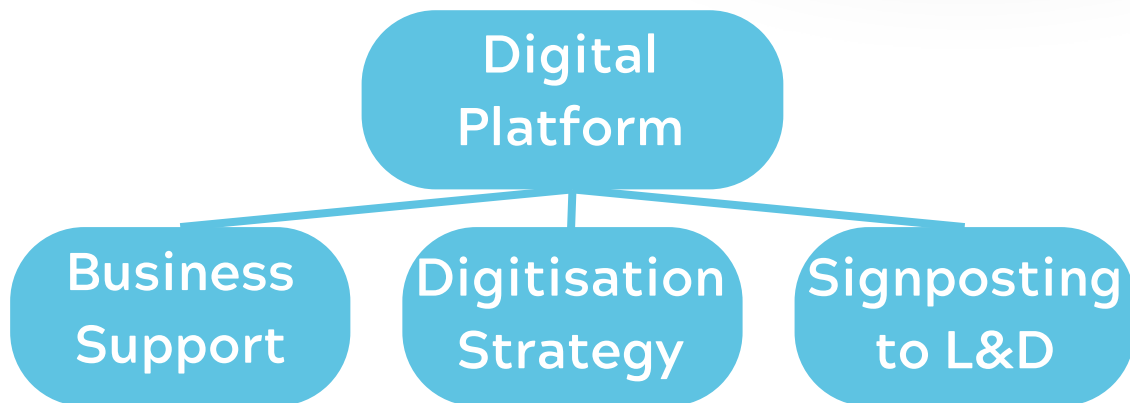
The teaching & learning approach to digital skills (and all skills in general) was also a common feature in the discussions, with many feeling the online route is suitable for some but not for all and with more technical language and approaches that F2F would be the preferred option. The shorter, modular learning is also a preference for many, but the offer is too general at present. Some employers had heard of the bootcamp approach and would welcome this for the upskilling of their staff in specific technical areas.

When asking if the employers knew what their needs were with regards to digital skills for the workplace, many were not able to articulate this. Some had commenced a whole organisation approach to upskilling, but recognised this may take a few years to roll out in its entirety, and many others did not know where to start with addressing the skills assessment. Employers asking if there are digital assessment tools that could support this activity & roll out.

Most employers recognised the value of apprenticeships to support in the digital transformation space, especially in relation to digital marketing and taking a more innovative approach to sales and customer relations. All employers recognised the need for improved use of data and how gaining, storing, analysing and sharing data to inform business improvements is a key skill gap they face and would welcome using apprenticeships in this space also.

Apprenticeships

Recruitment trends in the UK

Monitored by Resume.io

THE JOB POSITIONS THAT TAKE THE LONGEST TO FILL

resume.io

JOB TITLE	NUMBER OF JOBS POSTED FOR LONGER THAN 14 DAYS	TOTAL NUMBER OF JOBS	% OF JOBS TAKING MORE THAN 14 DAYS TO FILL
TEACHER	4,945	6,196	79.80%
PROGRAMMER	1,031	1,310	78.70%
ARCHITECT	3,680	4,877	75.45%
MECHANICAL ENGINEER	1,488	1,981	75.11%
SOCIAL CONSULTANT	4,895	6,550	74.73%
PHARMACIST	1,284	1,734	74.04%
WEB DEVELOPER	3,132	4,230	74.04%
RECRUITER	1,507	2,046	73.65%
SEO SPECIALIST	1,023	1,404	72.86%
ACCOUNTANT	4,344	5,969	72.77%

THE JOB POSITIONS THAT TAKE THE LEAST TIME TO FILL

resume.io

JOB TITLE	NUMBER OF JOBS POSTED FOR LONGER THAN 14 DAYS	TOTAL NUMBER OF JOBS	% OF JOBS TAKING MORE THAN 14 DAYS TO FILL
SOCIAL WORKER	11,651	19,445	59.91%
HR MANAGER	332	571	58.14%
PLUMBER	640	1,122	57.04%
PA	292	520	56.15%
PR EXECUTIVE	234	422	55.45%
OFFICE MANAGER	231	417	55.39%
POLICE OFFICER	523	964	54.25%
SALES ASSISTANT	2,080	4,020	51.74%
DENTIST	562	1,095	51.32%
RECEPTIONIST	1,016	2,371	42.85%

Jobs considered to fall under 'Digital'

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YNYLEP Research 2021 quote

Digital skills demand - LEP View

"We interviewed four businesses/employers, all with digital at the front and centre of their business models, and all home to a highly digitally skilled workforce of varying size. Specialisms included bespoke software development, cloud computing and a business-critical digital function within a major financial sector firm. We also engaged with three ITPs specialising in the digital sector, two of whom have a specific focus on technical digital skills, primarily as part of apprenticeship programmes. Others with a view on this included the Yorkshire and Humber Institute of Technology (YHIoT) and a selection of colleges and business representative organisations. The specialist digital skills noted as being in highest demand centred on cloud architecture, security, governance, operations and platforms (e.g. AWS); cyber security; software development, coding and testing; data analysis and visualisation; and web design and development. Others included:

- *Technical architecture*
- *Digital marketing including user experience and user interface design*
- *Artificial Intelligence and Robotics*
- *Video conferencing*
- *Broadband, 5G and Internet of Things*
- *Product and project management including SCRUM and AGILE"*

"Small businesses like mine don't have a specific business development team – everyone needs to be able to do a bit of everything." [Business]

Research

The desired job roles of Gen Z can vary based on individual interests, skills, and career aspirations. However, some job roles tend to be particularly attractive to Gen Z due to factors such as growth opportunities, work-life balance, and alignment with their values. Here are 10 job roles that are often sought after by Gen Z:

1. **Software Developer/Engineer:** Gen Z is tech-savvy and often interested in careers in software development and engineering. These roles offer opportunities to work on innovative projects, solve complex problems, and contribute to technological advancements.
2. **Data Analyst/Scientist:** With the increasing importance of data-driven decision-making, data analyst and data scientist roles are highly desirable among Gen Z. These roles involve analyzing data, extracting insights, and informing business strategies.
3. **Digital Marketer/Social Media Manager:** Gen Z is highly active on social media and values creativity and authenticity in marketing. Careers in digital marketing and social media management offer opportunities to create engaging content, build online communities, and drive brand awareness.
4. **Healthcare Professional:** Careers in healthcare, such as doctors, nurses, and allied health professionals, are often appealing to Gen Z due to the opportunity to make a positive impact on people's lives and contribute to public health.
5. **Environmental Scientist/Sustainability Specialist:** Gen Z is passionate about environmental sustainability and climate change. Careers in environmental science and sustainability offer opportunities to address pressing global challenges and advocate for positive change.
6. **Entrepreneur/Startup Founder:** Gen Z values entrepreneurship and innovation. Many Gen Z individuals aspire to start their own businesses or work for startups, where they can pursue their passions, take risks, and have a direct impact on the success of their ventures.
7. **UX/UI Designer:** Gen Z values user experience (UX) and user interface (UI) design, particularly in the context of digital products and services. UX/UI designers create intuitive, user-friendly interfaces that enhance the overall user experience.
8. **Content Creator/Influencer:** With the rise of social media and digital content platforms, careers as content creators and influencers are increasingly popular among Gen Z. These roles offer opportunities for creativity, self-expression, and building personal brands.
9. **Educator/Teacher:** Gen Z is passionate about education and values the opportunity to make a difference in the lives of others. Careers as educators and teachers allow individuals to inspire and empower the next generation through teaching and mentorship.
10. **Cybersecurity Analyst/Engineer:** As concerns about cybersecurity continue to grow, careers in cybersecurity are in high demand. Gen Z individuals with strong analytical and problem-solving skills may be drawn to roles as cybersecurity analysts and engineers, where they can protect organisations from cyber threats.

Employers confirmed that the roles exist, the provision for said roles exist, and the emerging workforce are looking to these roles in their career aspirations...

So what are the barriers specifically for young people?

Rurality

Due to the size and rurality of North Yorkshire, young people may struggle to afford transport to learning & work environments.

IAG/Provider Access

There is variability in digital careers information and guidance for young people with room for improvement to reflect local workforce needs and future job opportunities.

Remote delivery

Many apprenticeships can now be delivered remotely, however, due the the infrastructure of YNY, connectivity could be an issue both digitally and socially.

Awareness

The overall awareness of the digital offer is lacking in the region due to various factors.

# LSIP Priority
Sectors Deep Dives

To support the development of digital skills across York & North Yorkshire and support the roll out of a more digitally focused skills and engagement offer for the region, a series of industry deep dives have been completed to focus on the advancements of Tech & digital within the priority sectors as highlighted in the York and North Yorkshire LSIP.

Supporting these deep dives, is LMI and data analysis of vacancies and roles, completed by Lightcast, to bring the place based, hyper local need more to life.

The industry deep dive areas include -

- Agriculture
- Construction
- Manufacturing & Engineering
- Health & Social Care
- Visitor Economy

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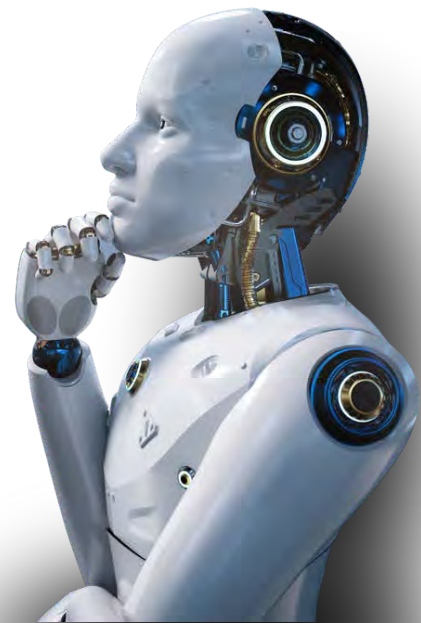
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Digital & Technology

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Digital and tech sector

Digital skill needs in the North Yorkshire and York LSIP area

March 2024
A report produced by Lightcast for West Yorkshire Learning Providers

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Agriculture

"One of the oldest industries must embrace a digital, connectivity-fuelled transformation in order to overcome increasing demand and several disruptive forces" (Agriculture's technology future: How connectivity can yield new growth | McKinsey)

The Agricultural sector needs to embrace and work in a realm where tradition and modern ways can co-exist to ensure they can work more efficiently. With many adults feeling intimated by the concept of digitisation, they should recognise that Artificial intelligence, analytics, connected sensors, and other emerging technologies could further increase their supply and produce.

Agriculture is in the early days of yet another revolution, at the heart of which lie data and connectivity.

"Existing literature exploring the relationship between internet access and rural household entrepreneurship suggests that internet access can enhance social networks, mitigate information asymmetry, and increase access to credit, thereby promoting farmers' entrepreneurship. From the farmers' standpoint, digital skills encompass the ability to use digital devices like computers and cell phones for retrieving, filtering, creating, evaluating, and sharing digital information. These skills are crucial for integrating digital knowledge into both life learning and agricultural production practices." (Journal of Innovation & Knowledge, 2024)

This would require farmers to develop the knowledge and skills to gather and analyse data locally, rather than through third parties and our education providers should take this into account when working with this sector.

Agriculture

Demand for food is growing at the same time the supply side faces constraints in land and farming and by 2030, there will be a shortfall of water supply that meets need. Through education we must ensure better knowledge and understanding of how we can all live more sustainably and environmentally aware and adopt an approach that supports greater creators not consumers on the land.

However, we must recognise the barriers to some in the agriculture sector, such as lack of efficient connectivity & lower sales values against higher costs results in delays to the sector becoming more digitised. As connectivity increasingly takes hold, these tools will enable new capabilities in agriculture:

- **Massive Internet of Things**. Low-power networks and cheaper sensors will set the stage for the IoT to scale up, enabling such use cases as precision irrigation of field crops, monitoring of large herds of livestock, and tracking of the use and performance of remote buildings and large fleets of machinery.
- **Mission-critical services.** Ultralow latency and improved stability of connections will foster confidence to run applications that demand absolute reliability and responsiveness, such as operating autonomous machinery and drones.
- **Near-global coverage.** If LEO satellites attain their potential, they will enable even the most remote rural areas of the world to use extensive digitization, which will enhance global farming productivity.

Agriculture

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Agriculture & agritech sector

Digital skill needs in the North Yorkshire and York LSIP area

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Construction

According to research done this year by a construction focused site, there are 7 key technological advancements in industry that are set to make 'significant strides in 2025'. Those are:

- **Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR)**
- **3D printing**
- **Robotics**
- **Sustainability**
- **Modular & prefabricated design**
- **Exoskeletons**
- **Building Information Modeling**

The key technological advancement that employers are most concerned about is **Sustainability.** This is something raised by Martin Waller during the Construction Skills Village's interview with BBC News in 2021, the Quality & Curriculum Manager said;
"The need to train more tradespeople in green skills and sustainable building technologies is essential, as the government has laid plans for a green revolution in house building where all new homes will be required to be highly energy efficient, with low carbon heating, and be net zero carbon by 2050."

Martin's comments show an increasing need for tradespeople to improve their digital knowledge & skills that they can then incorporate into their daily work. By improving digital skills and capabilities, sustainable practices are much easier to identify and practice.

Construction

This is supported by a recent article, published in the Scarborough News, February 2024, regarding a recent construction scheme set to improve and sustain local housing in the area. The company undertaking this work is well-known in the North West for ***delivering quality private housing, social housing, and sheltered housing to create sustainable communities across Lancashire, Cumbria, Cheshire, Greater Manchester and Merseyside.*** They also write that the company is ***passionate about giving young people a better start in life and supports a range of pioneering training and employment initiatives, including giving young people from disadvantaged backgrounds opportunities to build a career in the construction industry.***

So far, their training and employment initiatives have been focused in the North West.

Construction

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Construction sector

Digital skill needs in the North Yorkshire and York LSIP area

March 2024
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Manufacturing

Today's executives are acutely aware that the future of manufacturing is digital, where digital manufacturing has become essential to solving complex production problems and improving business for machine shops.

Digital manufacturing creates continuity between innovative product designs and best-in-class performance. Companies that embrace digital manufacturing are seeing:

- Greater speed-to-market
- Reduced risk
- Increased margins
- Enhanced market position

Siemens, 2023

Manufacturing

Research by colleagues at the McKinsey Global Institute (MGI) suggests that total UK working hours spend on manual labour will decrease by 12 percent over the next 15 years, while hours requiring specific technological skills and social/emotion skills will increase to fill this gap. (2018)

'Nowhere is going to experience that change more acutely than the manufacturing shop floor. The number of jobs in the manufacturing environment that can be considered low-skill is likely to shrink dramatically. Some roles, such as warehouse picking, may disappear altogether. In other areas, such as basic machine maintenance, workers will be expected to use technological aids to work faster and more accurately.'

This means, in order for so-called 'low skilled' workers to keep up to modern manufacturing need, they must up-skill in digital. not only to hold their positions within the sector, but to allow space for career growth.

Manufacturing

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Engineering & advanced manufacturing sector (incl. rail)

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Visitor Economy

The Visitor Economy is a big sector of focus & interest across York & North Yorkshire. More so, than its neighbouring regions, so its response to innovative and creative approaches to keep visitors and tourists engaged must evolve as the advancements in Tech & digital evolves.

Through the development of greater skills investment & training, the visitor economy can adapt to the moving times by transforming how businesses operate and how visitors experience destinations.

Skills development in this area should therefore focus on the following -

- **Online Booking Systems** - Digital technology has revolutionized the way people search, research and book, meaning they can access and engage from anywhere making it easier to plan trips

- **Personalisation** - Digital advancements have enabled businesses in the visitor economy to personalise their offerings. Through data analytics and artificial intelligence, businesses can tailor their marketing messages, recommendations, and experiences to match the interests and preferences of their target audience.

- **Mobile Technology** - Smartphones have transformed how travellers navigate and experience destinations. Mobile apps provide travellers with real-time information, maps, and recommendations, allowing them to explore destinations more efficiently and conveniently.

- **Digital marketing & social Media -** Social media platforms have become essential tools for marketing destinations and attracting visitors. Businesses in the visitor economy can reach a global audience through targeted advertising and engaging content on platforms like Instagram, Facebook, and Twitter.

- **Data Analysis** - Digital technology has enabled businesses to collect and analyse vast amounts of data about visitor behaviour, preferences, and trends. This data can inform decision-making processes, helping businesses optimize marketing strategies to better meet the needs of visitors.

- **Sustainability** - Digital solutions can contribute to sustainability efforts within the visitor economy by reducing paper usage, optimizing transportation routes, and minimizing energy consumption. For example, digital ticketing systems and mobile check-ins can help reduce the environmental impact of tourism activities.

Technology has allowed for the development of immersive and interactive experiences for visitors. Augmented reality (AR) and virtual reality (VR) technologies, for example, can provide visitors with virtual tours of destinations or historical sites, enhancing their overall experience.

Funded by
UK Government

Visitor Economy

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Visitor economy sector

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Health & Social Care

The advancement of digital technology is transforming the health and social care sector, leading to improvements in efficiency, accessibility, and quality of care. However, it is essential to carefully navigate the complexities and ensure that these technologies are effectively implemented to maximize their potential benefits while minimizing risks. Part of this implementation must include the development of skills within existing and new curriculums that support new entrants and the upskilling of existing staff to keep up with the digital developments.

Within the Governments 'The future of Healthcare vision' states that "a new generation of technology is changing our lives, from the everyday use of satnavs and smartphones through to the profound <u>ability of genomics to help us develop personalised medicines for individuals</u>.
Yet the state of online services, basic IT and clinical tools in health and care is far behind where it needs to be. Despite much good practice and some pockets of excellence, for many people – patients, service users, carers and staff – we still need to sort the basics.

Therefore areas of focus within skills programmes can include the embedding & contextualisation of a range of themes, including -

- Electronic Health Records
- Remote patient monitoring
- Health Apps & wearable tech
- Data Analytics & AI
- Patient Engagement
- Privacy & Security

GOV.UK

Policy paper
The future of healthcare: our vision for digital, data and technology in health and care
Published 17 October 2018

Health & Social Care

Across York & North Yorkshire the sector needs people with the right skills working within the NHS, social care and across the whole support system.

Within the NHS vision this includes a strong focus on the data analytics skills to support enhanced care services that are modern and can cope with scale and size. Our FE & skills sector, must start developing these skills into existing programmes to ensure talent pipeline and adult upskilling is addressed. The NHS vision articulates the Health Care data skills as -

- **Highly skilled and well-resourced data science and analytics workforce to make the best use of all the data**

- **Health and care organisations should ensure board-level understanding of how data and technology drives their services and strategies, and take charge of the digital maturity of their organisations – in the same way that they manage their finances and the quality of their services.**

- **Explore how to prepare the healthcare workforce, through education and training, to deliver the digital future**

Health & Social

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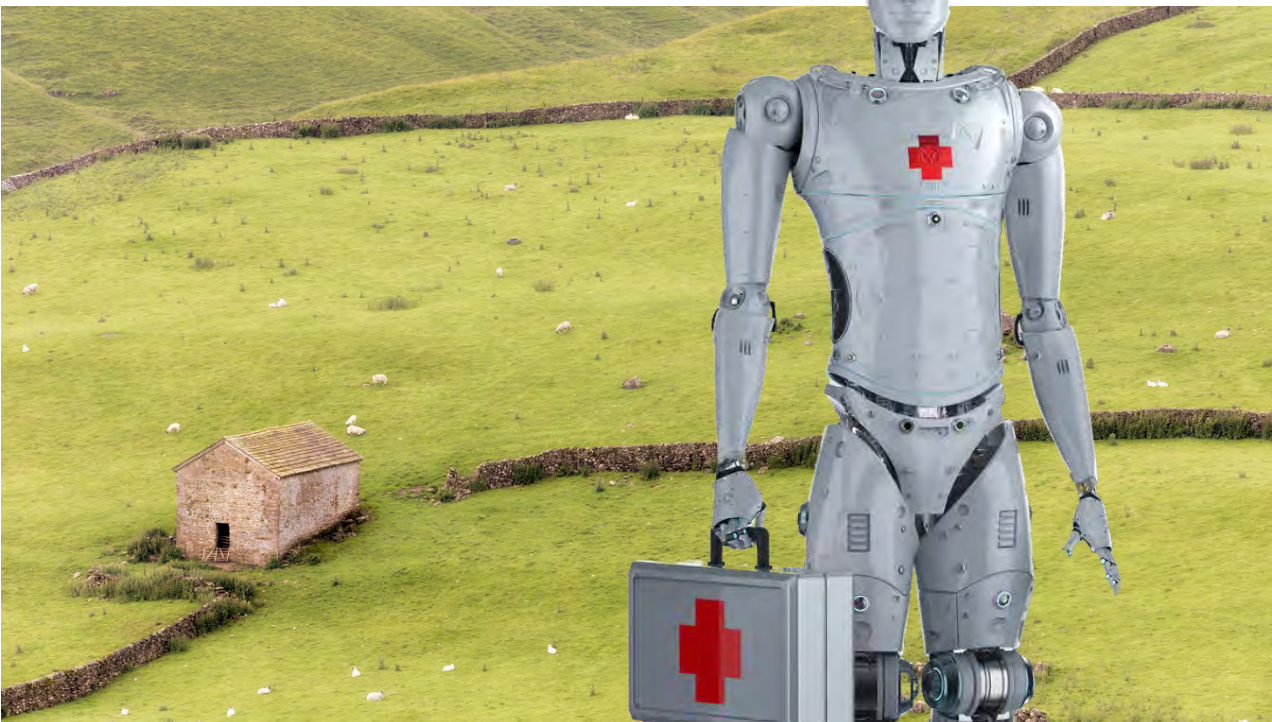
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The LSIF partnership response to Digital

Askham Bryan College

Darlington College

Askham Bryan College

As a land-based college, Askham Bryan have been creative with their digital skills embedding and vary in comparison to the other partners. The college uses VR technology to assist hands-on learning in Animal Care, Horticulture & Agriculture. Digital is embedded into land-based curriculum with the use of FarmBots, drones & IoTs.

AngloAmerican

AngloAmerican are an employer provider based in Scarborough, North Yorkshire. They specialise in engineering & cybersecurity. Since 2018, they have taken on 42 apprentices. They have created a Cyber Security Apprentice Centre of Excellence, based at the office in Scarborough.
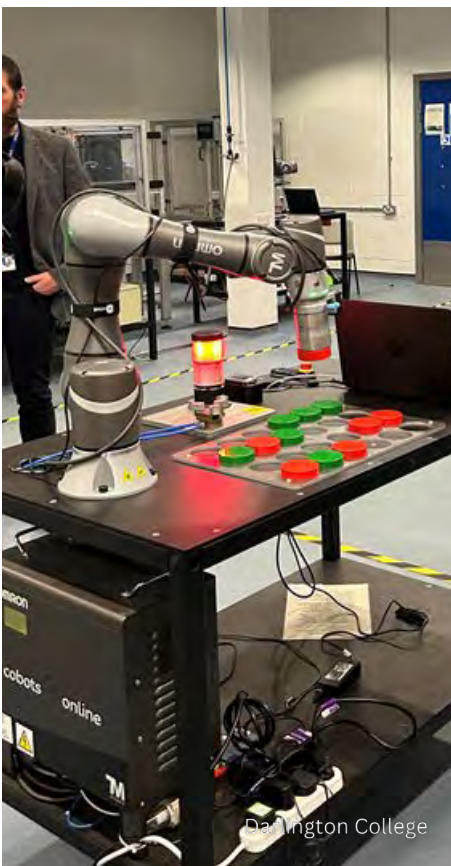
City of York Council

York Learning's digital offer is designed to help people move into work or upskill. Working with those furthest away from the job market to help them gain transferrable digital skills & accredited qualifications. They also work with digitally disenfranchised individuals to deliver sessions to help them gain digital confidence & access the online world safely & productively.

Craven College

As part of the Yorkshire and Humber Institute of Technology, Craven College students have the privilege of enjoying some of the £10m for investment in industry-standard equipment in the region.

Darlington College

Darlington College has embraced technology across multiple curriculums, including an immersive virtual reality suite, VR headsets, robotic technologies, hologram technology , & EV engineering.

The LSIF partnership response to Digital

Scarborough TEC

York St John University

Harrogate College

Harrogate College offer a range of Digital Courses for 16-19s & adults, this includes E-sports, Creative Media & Essential Digital Skills. As part of their LSIF priorities the college has invested in Virtual Reality headsets & are designing learning programmes that can virtually simulate real work place scenarios.

North Yorkshire Council

North Yorkshire Council offer an abundance of digital, computing & Getting Online Adult Education. The full breadth of the offer can be found on their website. Their offer focuses on enabling the local community to thrive in a digital world.

Scarborough TEC

From their LSIF digital priorities, the college hosted roundtables with local employers. They have found that softer skills are the biggest concern, such as communication and general employability. They are aiming to develop study programmes that focus on this employer feedback.

York College

York College deliver multiple digital courses across 16+ & 19+ provision. Under LSIF, they are investing in the development of an innovative 360-degree immersive classroom. This initiative aims to elevate the standards of teaching and learning while simultaneously broadening avenues for employers to engage in training their staff within dynamic and immersive contexts.

York St. John University

Introducing a new apprenticeship standard (Level 6 Creative Digital Design Professional) for 2025, to accommodate local employer demand. There is also the Data Scientist L6 apprenticeship currently offered. The university also created the WREL (Work Related Experiential Learning) to encourage further employer involvement in their Bachelors & Masters programmes.

Recommendations & Conclusion

From the research it is clear there is a need for York & North Yorkshire to adopt a more digitally focused approach to business, industry, and community development. Whilst the offer may be strong in some skills provision areas, there offer is not as well published and promoted. Employers require collaboration and guidance that supports their strategic focus, which FE & skills providers are ideally placed to respond to, to enable greater take up of skills.

A dedicated resource that is industry, employer and educationally focused will aid this, supported by the newly formed combined authority, LSIP, LSIF and ERB reps ensuring all voices are at the table.

The education institutions we visited and part of the partnership, as are committed to ensuring digital transformation is at the heart of their curriculum, but this will take time to implement and adopt. It is also important to recognise that upskilling of the FE & Skills sector cannot be forgotten about when discussing skills needs of any industry, with many colleagues across FE & Skills not confident in their own digital capability. Therefore, dedicated support for training trainers should be recognised for the region. Digital skills should be a core skill offer, not just at basic level but through to mastery so the region becomes more digitally native and able to respond to community, industry, and employer need.

Ongoing review of the advancements of tech and digital transformation through collaborative arrangement, will support the continuation of this conversation and response, and it's been great to see the commitment to this agenda from employers, partners and education providers during the few short months of the research project.

We hope you find this report, its findings and recommendations useful and we look forward to seeing how York & North Yorkshire responds.

Recommendations

- Develop a Business & Skills support platform – support, signposting, strategy & skills.
- Increase range & take up of digital focused bootcamps
- Create platforms for greater employer & education collaboration
- Share links between UKSPF & FE & Skills digitally focused programmes and opportunities to align
- Better IAG & Youth Engagement on the range digital roles and opportunities across YNY
- Identify digital skills assessment tools to support business and education upskilling
- Utilise the findings from this report to help shape curriculum and skills offer
- Ensure skills programme are adult and workplace focused as well as on campus training

To discuss any element of this report or for further guidance and embedding digital transformation approaches please contact – alex.miles@wylp.org.uk