NELSIP
North East
Local Skills Improvement Plan

delivered by the
NORTH EAST AUTOMOTIVE ALLIANCE

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Contents

This Local Skills Improvement Plan has been approved by the Secretary of State in line with the approval criteria set out in the Skills and Post-16 Education Act 2022, and in accordance with the LSIP statutory guidance.

June 2023

1. Introduction

The North East Local Enterprise Partnership (LEP) Strategic Economic Plan (SEP) seeks to "drive forward a modern, diverse, and entrepreneurial economy" that is "agile in the face of change and that will deliver economic benefits to residents and businesses across every part of the region." It includes an ambition to create "more and better jobs" – targeting an increase of 100,000 jobs in the period from 2014 to 2024, with 70% of those being "better jobs" – defined as managerial, professional, and technical roles. Progress towards this ambition has been underpinned by the growth in "better" jobs, compensating for the loss of other jobs, and requiring a higher qualified workforce, leading to higher income levels that drive a stronger regional economy.

The pace of innovation and adoption of new technologies is accelerating, and creating more opportunities for inward investment, economic growth, and high-value jobs. Digitalisation, electrification, automation, and decarbonisation (Net Zero) are creating highly skilled jobs across the UK and the North East. Future skill requirements need to be anticipated and prioritised to enable local investment opportunities and realise improved productivity and regional growth. An ageing population and developments in Health & Life Science are also driving demand for STEM skills.

The North East Local Skills Partnership (NELSIP) region, encompassing County Durham, Sunderland, Gateshead, and South Tyneside, and a combined workforce of over half a million people, has shifted away from an industrial heritage of coal mining and ship-building, developing a more diverse economy with new strategic capabilities that have significant potential to revitalise the regional economy. Challenges remain though. The region attracts relatively low levels of Research and Development (R&D) spend, lags other regions on "better" jobs and higher levels of qualifications, and has relatively high levels of economic inactivity, social deprivation, and ill-health. Employers are faced with trying to attract and develop new skills and capability to exploit opportunities for productivity and growth afforded by new technologies in an exceptionally competitive post Brexit/Covid-19 labour market, whilst managing the challenges of an ageing workforce, insufficient supply of higher-level technical skills, and a complex skills system.

The NELSIP is grounded in the context of the local economy and the SEP for the region. It focusses on the current and future technical skill requirements of the following five high impact sectors identified in the SEP.

NELSIP focused on 5 high impact sectors

Digital.

A capability that is transforming most sectors. The rate of digitalisation is accelerating, based on the proliferation of electrical devices, electrification and technical progress in computing hardware/software and cloud networking capability. This is enabling various forms of data analytics and science that is supporting artificial intelligence, machine learning and augmented/virtual reality. Digitalisation underpins operational transformation and sustainability in most sectors. Digital skills will be required in future work environments, and the North East will need to accelerate the development of more advanced digital capability, to avoid falling behind the rest of the UK.

Advanced Manufacturing.

An established high value sector operating in automotive, aerospace, semiconductors and pharmaceutical, with significant growth identified and committed in the region. These investments arise from demonstrated global competitiveness, the adoption of emerging technologies, sustainability drivers, and the potential for electrification and industrial digitalisation.

Construction.

Environmental legislation will transform the industrial and domestic built environment, initially through retrofit, but eventually through modern manufacturing techniques. Advanced sustainable construction methods will change working practices and require new skills, other skills will likely be displaced. The construction sector is fragmented and historically slow to adopt new technologies and manufacturing methods. Proactive employer engagement will be needed to anticipate and pace the alignment of workforce capability with future requirements.

Health and Health Science.

An ageing population continues to place new and increasing demands on health provision whilst resources are constrained. Improved prevention measures, diagnosis and monitoring, tailored treatment, and health care are fundamental and are digitally enabled. The adoption of new technologies, progress in medical science, and digital solutions transform the technical skills which support the science backbone of the NHS. They are complemented by regional capability in aseptic pharmacies, pharmaceutical manufacturing, and advanced research capability in life-sciences.

Transport & Logistics.

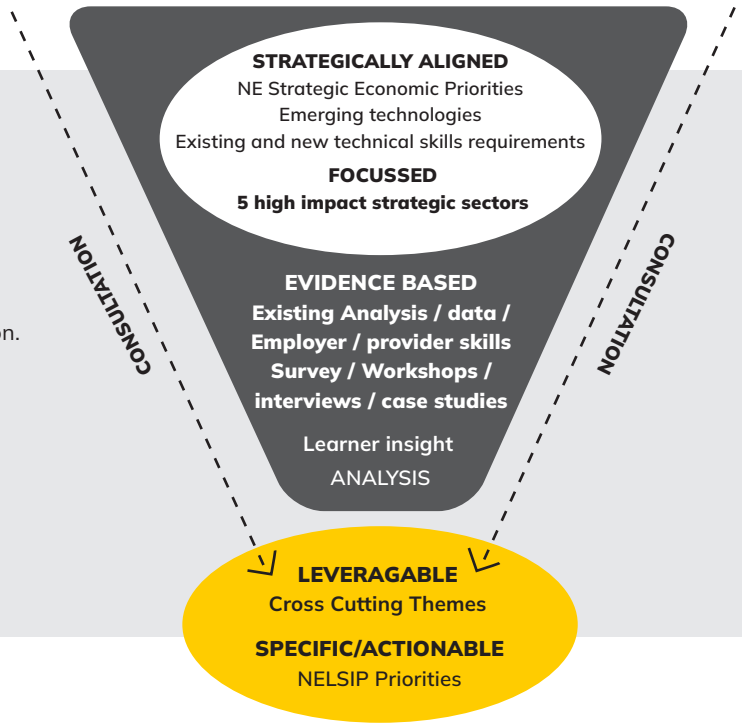
Growth and a complex geography need effective supply chains. This requires end-to-end digital visibility that optimises productivity, whist minimising environmental impact. Developing this capability in region enables further inward investment ensuring global connectivity of supply chains, responsiveness, resilience, and a sustainable operating footprint.

NELSIP - A Process and a Report

The evidence based LSIP is informed by extensive consultation which includes more than 1,800 touch-points with stakeholders in the region, including employers, employer bodies, education and training providers, students, and other key stakeholders. It is shaped by the strategic economic priorities for the region and a consideration of emerging technologies and sustainability and their systemic implications for future skills requirements. It identifies cross-cutting themes that will require action and can achieve high-impact through leverage across the high-impact sectors, as well as identifying specific actionable priorities, both at a sector and regional level.

NELSIP - A process that...

- Is grounded in the North East strategic priorities.
- Is focussed on high impact outcomes.
- Is employer and evidence based.
- Engages all stakeholders through extensive consultation.
- Highlights transferable cross cutting themes and underlying changes required.
- Identifies specific actionable priorities.
- Defines stakeholder accountability and responsibility and identifies consultation and information rights.
- Provides a robust planning base for successful change.



What is the **NELSIP** seeking to achieve?

The NELSIP seeks to make a material contribution to the SEP through actions which enable sustainable economic growth through a workforce which is Productive, Sustainable, Resilient, and Inclusive.

A Productive Workforce

A North East workforce that is equipped with the technical and soft skills needed to improve productivity, competitiveness, and deliver future growth.

A Future Workforce

A sustainable supply of skilled new employees to support growth and attract new investment, who are work-ready to perform higher value work.

A Resilient Workforce

A workforce with core technical skills and behaviours, enabling the agility and flexibility to routinely embrace the adoption of new technologies and emerging changes in the working environment.

An Inclusive Workforce

Increasing skills availability through the offer of compelling jobs, improving participation of under-represented groups, and removing barriers preventing access to better jobs.

These perspectives should inform how the success of the NELSIP is measured and monitored through implementation and form the basis of how the impact of the LSIP is assessed in the longer term.

Part 1 - LSIP Priorities

2. Local Context

The NELSIP Region.

The geographic scope of the NELSIP, defined by the Department for Education (DfE), is the 4 local authorities immediately South of Tyne – Gateshead, South Tyneside, Sunderland, and County Durham. The region is home to around 1.1 million people, with a workforce of c. 518,000 across a diverse economic region which spans urban, rural, and coastal communities (ONS, 2023). County Durham covers the largest geographic area and accounts for 45% of the workforce in the region. Migration into the region is relatively low. The proportion of the population that is economically active is low relative to the rest of the UK, and economic activity levels have declined in the past decade.

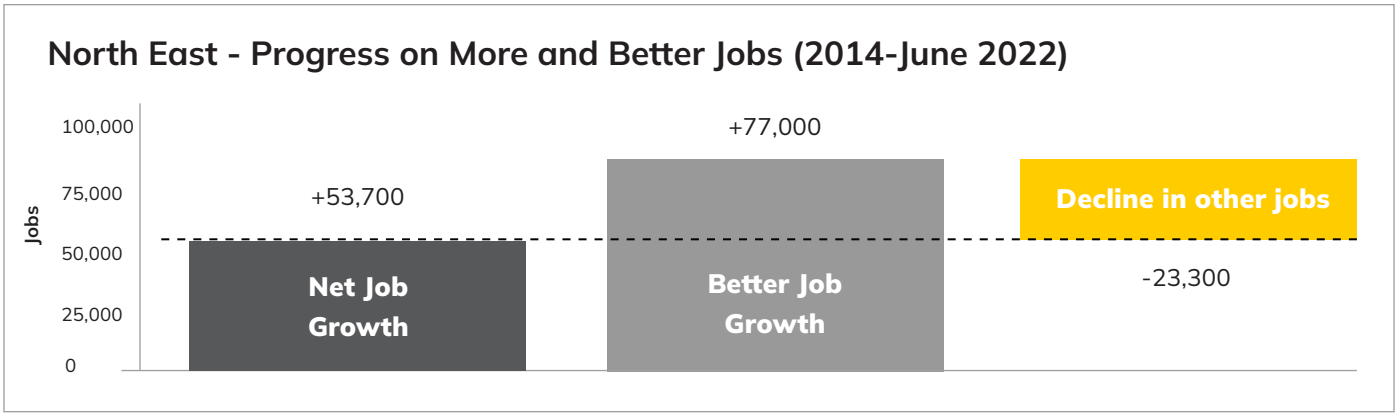
SEP for the region is defined by the NELEP. A new North East Mayoral Combined Authority (NEMCA) will come into effect from May 2024, which will encompass the local authorities within the NELSIP region and those currently served by the North of Tyne Combined Authority. The DfE has confirmed it will seek to align the LSIP specified area to the NEMCA within the first year of the NEMCA assuming devolved authority for the Adult Education Budget (AEB). The region currently borders two other NELSIP regions, the North of Tyne and Tees Valley, and there is significant workforce mobility across the regions and employers stress the opportunity for a more integrated approach to workforce and skills across the broader region.

NELSIP Employment (Source: ONS 2023)

Local Authority	**LSIP Region Employment**	**% Total**	**Proportion of Population Economically active, %**			**UK average 57.2 %**
	518,400		**2021**	2011	Change	2021 VS UK
County Durham	235,700	45.5%	**51.2**	53.8	-2.6	6.0
Gateshead	94,500	18.2%	**54.1**	56	-1.9	3.1
Sunderland	123,700	23.9%	**51.8**	53.6	-1.8	5.4
South Tyneside	64,500	12.4%	**51.5**	53.1	-1.6	5.7

Economic Context.

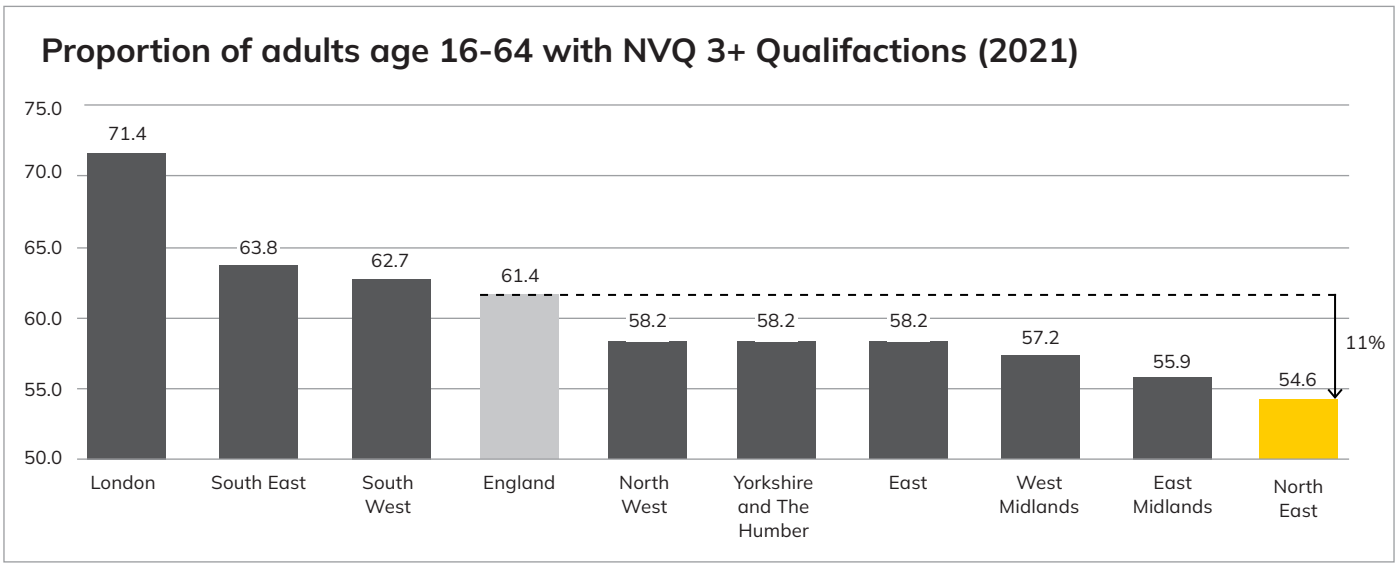
Growth in better jobs is driven by employer requirements for more higher-level technical skills. The NELEP strategy targets the creation of "more and better jobs". The net growth of 53,700 jobs in the region since 2014 reflects progress, an increase of 77,000 "better" jobs off-setting a reduction of 23,300 other jobs. The job market in the region has tightened considerably in the period following the Covid-19 pandemic – the volume of job postings in the North East relative to pre-pandemic levels has consistently been higher than any other part of the country (Indeed, 2023).



Source: NELEP Evidence hub

However, the region continues to lag the rest of the country regarding the proportion of better jobs, with 42.6% of overall jobs in the North East being Managerial, Professional or Technical versus a national average of 51.9%. Low levels of R&D investment is a contributing factor - in terms of R&D spend per head the North East attracts half the national average, (ONS, 2021,). This matters because R&D activity leads to innovation, which enables productivity and creates well-paid jobs. Clusters of R&D create a self-reinforcing employment eco-system, where innovation requires and is re-enforced by a strong supply of technical skills, sustained by long term professional career opportunities in the region. The strategic drivers of Sustainability, Electrification, and Digitalisation and associated inward investment, provide new opportunity to accelerate the changing mix of work and create more high-value jobs in the North East. There is a significant risk that in the absence of a credible approach to skills, R&D activity will migrate to other parts of the UK where business leaders perceive that the ongoing availability of skills is more robust and can support growth commitments.

Higher value jobs generally require higher qualifications, typically at Levels 4-6, with Level 3 qualifications providing a key gateway to higher technical qualifications and better jobs. However, levels of advanced and higher educational attainment in the North East are relatively low. The region has the lowest level of graduate employment, equivalent to 143,000 fewer graduate jobs than the UK average, worth circa £1/3bn of lost regional income a year (IFS, 2020). The proportion of Level 3 qualified adults is the lowest in the country, and the rate of progression from Level 2 to Level 3 by age 19 is 10% below the national average (DfE, 2021). GCSE Maths & English attainment is in line with national levels at age 16, but 30% of each annual cohort are still without a Level 2 qualification in Maths & English by age 19. Higher qualifications command a significant pay premium. In Engineering and Manufacturing, those with Level 4/5 qualifications by the age of 25-30 secure a median pay premium of 30% versus those with Level 3 qualifications and 60%+ over those with Level 2 qualifications at the same age (Unit for Future Skills, 2023). Roles requiring digital/IT skills attract a similar premium.



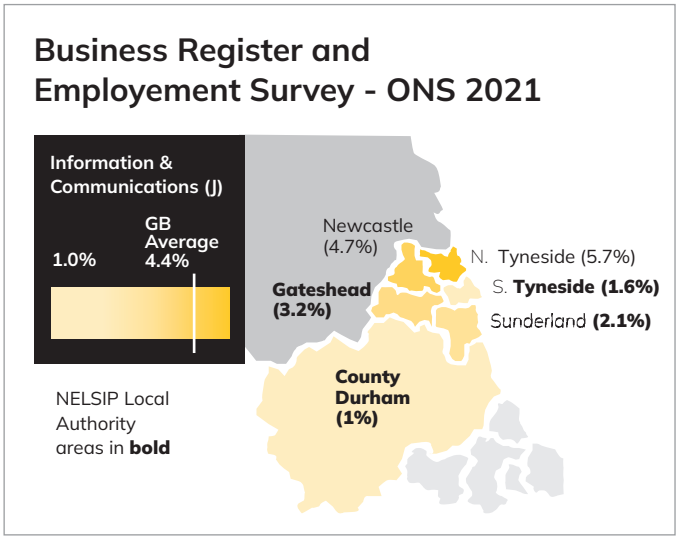
Source: ONS 2023 – Annual Population Survey

Digitalisation.

Digital skills are increasingly required for better jobs and improve regional economic resilience; jobs requiring higher digital skills reduce the risk of job elimination due to automation by 59%. The digital-sector workforce in the NELSIP region is low, representing 1.5% of the total workforce, compared to 4.4%. nationally (ONS 2023).

The North East digital sector is concentrated around Newcastle. In the LSIP area c 70% of the specialist digital workforce is in Gateshead (3.2%) and Sunderland (2.1%).

All jobs will require basic digital skills, and higher skilled jobs will also require occupational specific advanced digital skills. One-third of the population in the region currently has low levels of digital engagement (IPPR, 2021).



Social context.

The region has some very significant social challenges. It has the highest proportion of households in the country which are deprived on at least one dimension (54.6% - ONS), life expectancy is below the UK average for men and women, high levels of economic inactivity, a high proportion of children eligible for Free School Meals (28.5% versus national average of 22.5%), and the highest rate of child poverty in the country (38%) (North East Child Poverty Commission, 2023).

These issues reflect longstanding economic and social challenges which are beyond the scope of the LSIP, but it is important that the LSIP recognises this context and prioritises social inclusion. Enabling wider access to vocational qualifications will benefit employers and the economy by increasing the pool of qualified workers, and it will also provide wider access to good jobs and careers that can help people contribute more to the local economy and enable improved opportunities for future generations.

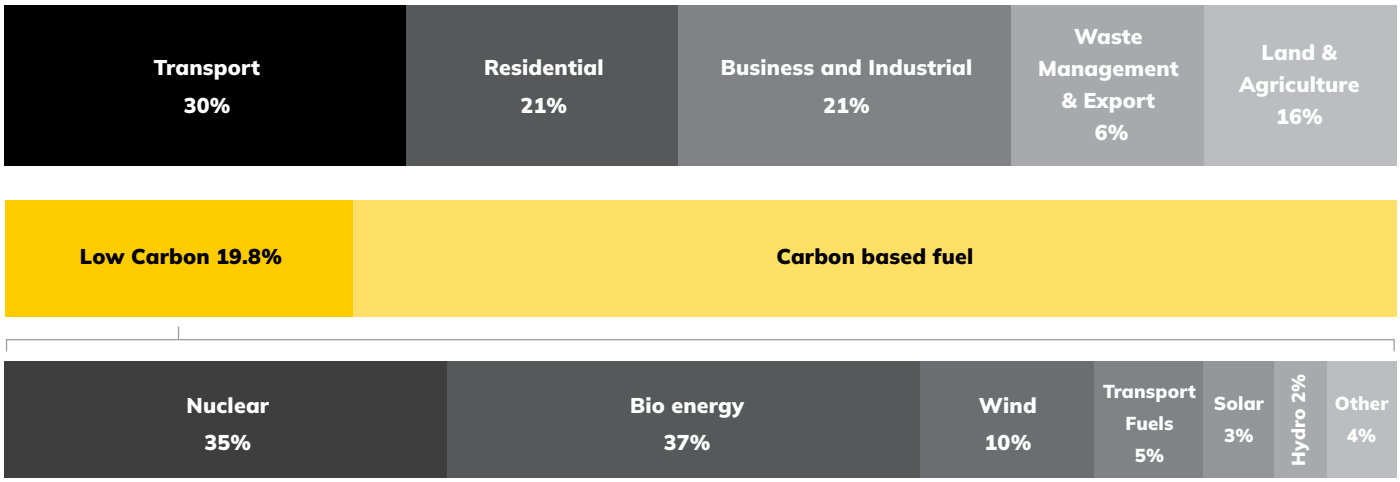
3. Strategic Drivers

Sustainability.

Reduced carbon usage is essential to achieving net zero emissions targets. Transport, residential, and business and industrial users account for over three-quarters of the UK 454.8 million tonnes of end user emissions each year. Sustainability is now a business imperative driven by commitments to a 50% reduction in Co2 by 2030 (Intergovernmental Panel on Climate Change), and minimising environmental impact arising from product design, manufacture, product/service usage and disposal are recognised as central to high performance. Regulation and corporate Environmental, Social & Governance (ESG) commitments are driving requirements to reduce emissions. Many businesses are responding to investor and customer calls by accelerating decarbonisation of their products and processes.

The electrification of electrification of transport and infrastructure/facilities helps avoid direct carbon emissions, however for the benefits to be realised there must be a supply of clean electrical power. Presently only 20% of UK power generation is generated through low carbon fuels.

76% of end users emissions Total UK - 454.8 Million tonnes of carbon dioxide emissions equivalent



The numbers do not add to 100% due to rounding

Source: UK ENERGY IN BRIEF 2020 - BEIS

Green Jobs.

The UK Governments Green Jobs Task Force (2020) define a 'green job' as a broad term used to define a job that either directly contributes to, or indirectly contributes to, achieving net zero emissions and other environmental goals. Four of the five high impact NELSIP sectors are explicitly included as key sectors by the Green Jobs Task force. The Task Force specifically identify Automotive and HVAC as sectors experiencing growth, driven by climate targets and legislation. The construction energy-efficient retrofit sector is also identified as expecting to grow in the short to medium term.

Electrification.

Transport, business and industrial processes, and residential account for 3/4 of UK carbon emissions.

Although the impact of electrification is very much cross-sector, the UK Government assumes that, in the near term, most value will be derived from the electrification of automotive, due to market dynamics and high volume. The IEA Global EV outlook 2020 estimates 140M electric/hybrid vehicles by 2030 and a global market of £233Bn in electrification technologies. The value of power electronics, machines and drives (PEMD) is approximately £9Bn, and the North East has 20% of Power Electronics spend in the UK, accounting for £72M pa. The North East Automotive Alliance (NEAA) suggests there is a potential for £3.7bn incremental economic activity for the North East based on current known innovation and growth opportunities, providing circa 12,000 skilled jobs, including 5,000 technicians.

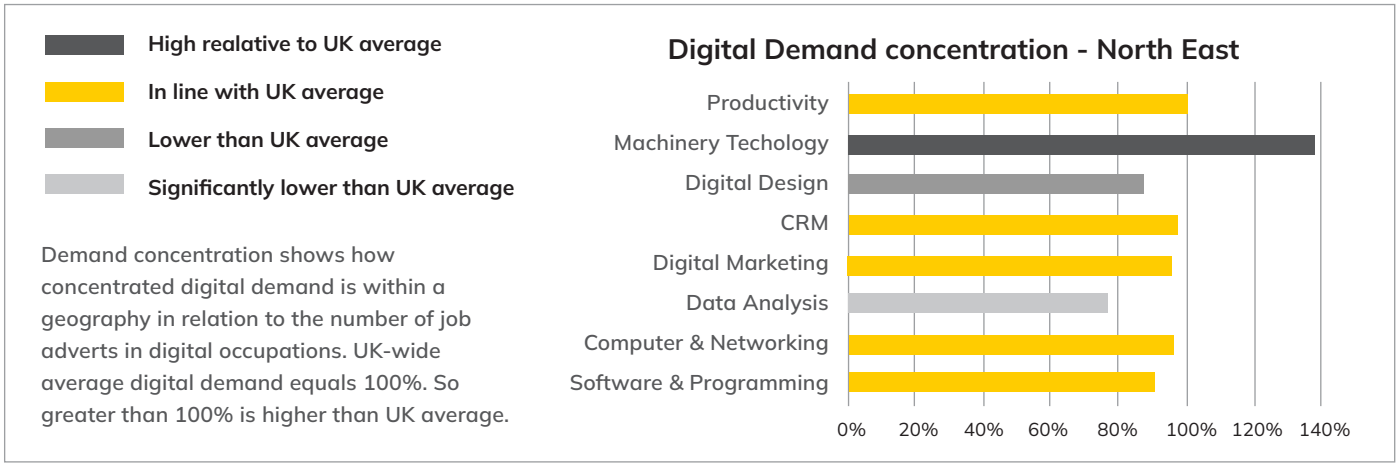
The Driving the Electric Revolution industrialisation centre (DER-IC) in Sunderland is focused on supporting the growth of supply chains for these technologies. The growth in innovation, product development, test validation, prototyping and scale-up provides the region with an opportunity to move up the value stream and build on an established Drive capability that accounts for circa 60% of the value chain. The NEAA estimates that 18 of 22 of the regions automotive R&D centres are involved in electrification, contrasting more generally with the low levels of R&D investment in the region. Significantly, the North East attracts only half the UK average level of investment in R&D.

Digitalisation.

Digitalisation is transforming all sectors, and redefining many. Commercial models are evolving into cloud-based services that offer professional consulting, shared services, online retail, and other streamed content, as well as other leisure activities, such as gambling and gaming. They rely on data on product usage patterns leading to marketing and upselling. Products are merging with services, and subscription replacing ownership. New product introduction, upgrades and augmented services can be enabled remotely through software configurations applied to installed hardware for relatively little marginal cost.

Digitalisation is central to the NELSIP since it is a key enabler to better jobs. However, demand for advanced digital skills in the NE is trailing the rest of the UK, with the exception of skills relating to Machinery Technology, reflecting the relative density of advanced manufacturing in the region. This requirement should be reflected in skills development, but it should also be recognised that there is a link to a shift in higher value product development that typically requires advanced digital skills capability in areas such as Software & Programming, Digital Design, and Data Analysis.

Digital intensity of advertised vacancies in advanced digital skills



Source: No Longer Optional: Employer Demand for Digital Skills, June 2019. Burning Glass Technologies for UK Government - Department for Digital, Culture, Media, and Sport (DCMS).

Advanced digital skills:

- Improve regional economic resilience; jobs with a higher digital skill requirement reduce the risk of job elimination due to automation by 59%.
- Are required for career progression into higher level jobs, enabling a greater proportion of the workforce to be employed in better jobs,
- Improve regional income levels – digital skills attract a significant wage premium over jobs that do not require advanced digital skills, increasing with the skill level of job, ranging from +12.7% at lower entry level/level 1-2, +22% for level 3-5 technician roles and +33% for professional and graduate occupations.

Workforce Implications.

Sustainability, electrification, and digitalisation are driving changes in the work that is done and how it is done, with implications for skills that are required, illustrated for the five LSIP sectors below. An ageing workforce and high levels of economic inactivity are restricting the available labour force, driving increasing wage pressure and automation across all sectors. Sustainability drivers for Health & Health Science are complex and the NELSIP scope is limited to consideration of technical skills in Health provision & pharmaceutical manufacturing. It is recognised climate change and health are inextricably linked, and the NHS has an objective to be the world's first net-zero Health service.

	Digital	Advanced Manufacturing	Health & Health Science	Construction	Transport & Logistics
Strategic Drivers	5G Connectivity. Cloud data storage Data analytics/ science SMART optimisation Visualization Augmented decision making Virtual/augmented realities Machine learning/AI	Industrial Digitalisation Digital twins/ machine optimisation Increasing automation & clean room activity Rapid new product introduction/ smart Pharmaceutical Zero lifecycle carbon imprint Electrification of products and subscription services.	Ageing population with complex needs vs cost – shift to integrated care Digital Transformation Electronic Patient Records. Medical devices. monitoring. remote digital consultations. Digital wards. Analytics & data science Technical advances in Medical Science - earlier diagnosis and more affordable treatment.	Retrofit Environmental assessments EV and PV infrastructure. digital devices to improve productivity at all job levels. SMART Building services/HVAC	Fleet optimisation/ decarbonisation Net Zero impact Reduced supply chain miles Automation/ Smart Warehousing Supply Chain visibility /resilience
	Base digital skills required by all work				
Skills Implication	Increase in specialist digital skills. Rate of digital adoption drives skill demand. Ongoing refreshing of skills as software and platforms change. Digital are Better & well-paid Jobs - 20-30% premium	Automation driving increasing base skill requirements. Significant upskilling and reskilling required. Increase in higher digital technical skills, - analytical and data science. New product technical skills Complex facilities require higher skilled technicians	Rate of technological adoption drives higher digital specialist skills. Shift to integrated care requires cross disciplinary skills. Workforce resourcing plan-needs to support transformation. New technical career paths needed for healthcare to build local skills & improve organisation capability.	Traditional skills need replacing – ageing population. Upskilling and reskilling for retrofit new technologies. Uncertainty regarding pace of adoption of modern construction methods	Technicians to support SMART facilities. Skills to support digital logistics and operational real time end to end tracking. Emerging skills to support environmental and data analytics.

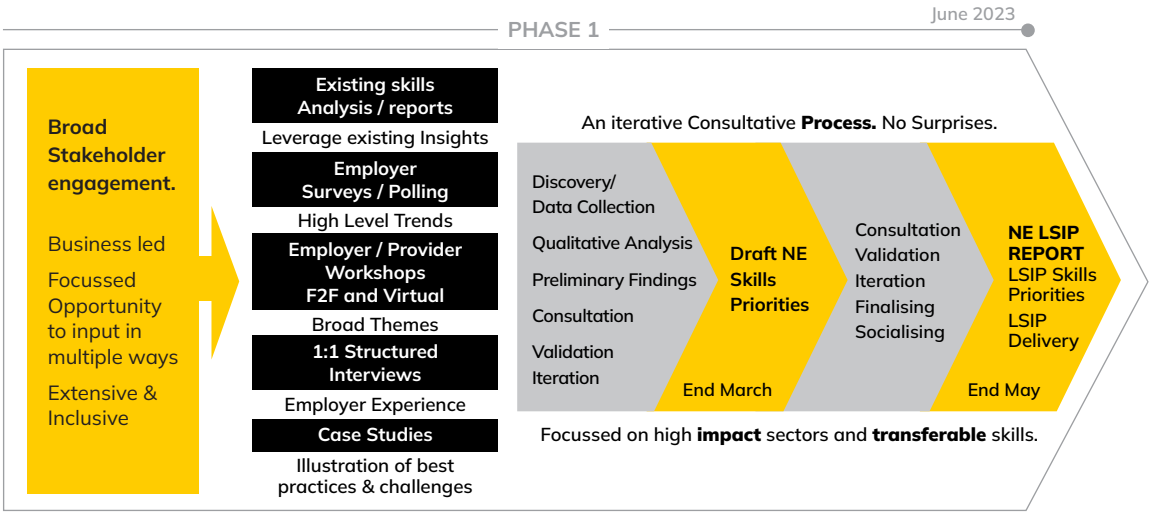
These strategic drivers are converging to drive investment opportunities in the North East, which are creating high-value jobs requiring a strong supply of technical skills. Cross-sector investment in areas such as Life-sciences, Off-Shore Renewables, SMART Warehousing, Electric vehicle and battery manufacture, and energy efficient Retrofit are all increasing demand for a workforce with technical and digital skills, and require a regional cross-sector response.

4. **NELSIP** – An evidence based approach

The NELSIP approach is evidence based and focuses on the skills requirements of employers in five high impact sectors that align to the regions strategic economic priorities. Collectively, the sectors employ over a third of the regional workforce.

The NELSIP analysis is underpinned by extensive stakeholder engagement involving over 1,800 occasions where individuals have been directly engaged in the development of the NELSIP across different forums. Employers participated in over 749 instances of direct engagement regarding their skills needs, and this input supplemented existing analysis and secondary data, and previous surveys and workshops. National/regional employer bodies were engaged to ensure alignment with any national strategic priorities for each sector.

The NELSIP involved the extensive engagement of employers, providers, and learners. The skills priorities were identified through an iterative process that provided opportunities for consultation across a broad group of stakeholders throughout.



Multiple methods of data collection were used and combined to maximise access to employer input for each of the five sectors.

Type of Engagement	Numbers involved	Description
Employer structured Interviews	66	Structured interview lasting an hour
Surveys/Polling	394	NELSIP Survey
Workshops	92	Dedicated Workshops enabled by ERBs
Other	197	Skills discussion at established employer forum
Total	**749**	

Five areas of enquiry were used to provide a consistent approach to data collection across the engagement.

Focus	Areas covered
Employer Context	No. of employees, nature of business, location, business drivers
Current Skills Needs & Gaps	Understanding of difference between hard to fill vacancies and technical skills gaps arising from a shortage of skills, specific examples/ experience
Anticipating Future Technical Skills Requirements	Level of maturity of workforce planning, link to business strategic priorities and anticipation of future capability and implication for technical skills and level of forward planning and creating pipelines
Building Skills	Extent of commitment to growing and developing own staff through education and training including apprenticeships
Acquiring Skills	Level of reliance of acquiring skills through hiring or use or reliance on third party contractor/agency or foreign nationals

The approach provided.

- a contextual understanding of the employers' skills needs, now and in the future.
- an understanding of the extent of employer workforce planning activity.
- understanding the organisation's experiences in addressing their skill needs.
- an opportunity for a dialogue to understand underlying systemic issues.

Over 300 employers responded to the initial NELSIP employer survey, including a mix of sectors and size of organisation. Nearly 50% of those employers responding employed fewer than ten people. Half the employers report skills shortages are impacting operating costs and 40% report its affecting competitiveness and leading to outsourcing. 75% of employers say existing employees are required to do more and skill shortages are impacting customer quality, order fulfilment and impacting the introduction of new products and services. Only a third of employers say they have a robust skills plan which identifies their requirements and informs actions they take to train, hire, and develop their staff.

The definition of technical skills in the NELSIP includes those practical occupational skills required to do a job, but also includes the digital skills that are increasingly essential in all jobs. Transferable behavioral skills are also considered. They may not be technical skills in themselves, but according to most employers these skills are key in determining how quickly and effectively new employees deploy their technical occupational skills, and adapt to ongoing change in working practices. Nearly two thirds of employers (64%) regard digital skills as important or critical to their business, and over 1 in 5 report a shortage in data analytics skills. 7 out of 10 employers cite behavioral skills as critical or important. Leadership, critical thinking and problem solving are identified as key by a third of employers. Work values and ethics, and how employees present themselves in a work environment are all highly valued by employers.

Engagement with Providers, Learners, and other key local Stakeholders

This broader engagement provided valuable insights and supported the identification of cross-cutting themes relating to different sectors, and enabled the identification of cross-sector and sector-specific NELSIP priorities and actions.

Provider Forums/ workshops	254	17 facilitated sessions, including open subject forums & provider leadership sessions
Provider 1:1 Interviews	67	Specific sessions with Principals and leadership teams
Apprentice/ school events	18	Polling at open evenings
Student Poll	683	Polling facilitated by local FE colleges with 16-18 Students studying relevant subjects
Other Stakeholders - interviews	19	Local Authorities, HE, NELEP, DWP/JCP etc.
NELSIP Programme Board	46	NELSIP Board members

Six high level LSIP priorities have been identified as part of the **NELSIP** development process.

1. **Provide essential digital skills required by all learners at the appropriate level, including upskilling & reskilling support for employers and adult learners and ensuring a work-ready supply of specialist digital skills.**

2. **Align 16+ technical education and training provision to ensure the key technical skills required by the five LSIP sectors are prioritised.**

3. **Increase the supply of level 3+ technical skills to meet current and future regional requirements.**

4. **Collaborate to deliver key technical skills for regional growth.**

5. **Employer focussed - enable all employers, including SMEs, to identify their technical skill requirements, and access high quality technical skills development for their current and future workforce.**

6. **Prioritise Social Inclusion – aligned approach to enable those from under-represented and disadvantaged groups to develop the skills needed and provide the support required to remove barriers to access good jobs and careers.**

5. Summary Evidence from five Strategic Sectors in the North East

This section provides a high-level summary for each of the five high impact sectors considered in the NELSIP, outlining what is currently happening in the sector with regards to technical skills, what should be retained, what changes will be needed, and the potential impact of those changes.

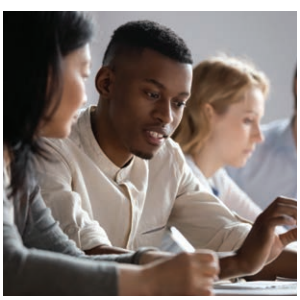
There are several common requirements that cut across these sectors and are not necessarily detailed for each sector within the sector summary. **These include:**

Digital skills are critical to the region and are no longer an option in the workplace. Basic digital skills are now an essential requirement for most jobs, as electronic devices are now integral to processing information and work in all sectors. More advanced digital skills are required to leverage technical skills in higher level roles, enabling productivity and innovation.

Foundation numeracy and literacy skills are becoming increasingly important in more digital workplaces and are required to enable progression and qualification for higher-level jobs.

Transferable behavioural skills (or soft/employability skills) are key to helping people interact with others in the workplace and enabling the effective deployment of technical skills. Employers want new entrants to be work-ready and have values and behaviours that enable them to adapt and continue to be effective as the workplace changes over time.

Emerging technologies and sustainability are increasing the importance of higher-level technical skills, which enable innovation, the adoption of new technologies, and productivity. In a tight employment market employers are alert to the importance of "growing their own" talent, but the supply of Level 3+ technical skills is insufficient to support growth.



Creating a compelling proposition that attracts people to jobs and careers in the sector. Long-standing traditional perceptions of some sectors can present a barrier to attraction, and greater emphasis on positive career opportunities associated with sustainability and digitalisation, plus well-informed aspirational vocational career guidance will be important.

Digital.

Sector Profile

Around 8,000 employed in specialist digital sector in the region, distributed unevenly across the region with 70% located in Gateshead and Sunderland. Employment is still relatively low - 1.5% of workforce versus national average of 4.4%, but adjacent to areas of higher density (Newcastle & North Tyneside). Employers in both public and private sector and working in shared services, consultancy, and gaming and gambling software. An increasing number of specialist SMEs are providing digital services, and many are growing rapidly. Software development roles represent one-third of sector job demand, associated with applications, cloud migration, and increasingly cyber-security and infrastructure. Additional demand for higher-level digital skills exists within other sectors – 59% of Level 3-5 jobs require higher digital skills. Data analysis/engineering is an emerging requirement in most sectors. Regional demand is relatively high for skills in machinery technologies, but demand for other advanced skills is still low relative to other regions. Focussed support on sector growth is provided through Sunderland Software City and the Digital Catapult. Digital jobs, are typically better jobs and command a wage premium of 20-30%, but workforce diversity is limited with only a quarter of Digital roles held by females and the pipeline in training is even less representative.

What is currently happening?

- Education levels for entry-level roles in the digital sector are typically Level 3+. Relatively few sector entrants progress through vocational apprenticeships (8%), and supply is more likely to be from graduate recruitment (20%), self-taught (21%), or transfer from another sector (18%). (Sunderland Software City, 2022)
- A lack of relevant professional experience is a key barrier to entry for those seeking access to jobs in the digital sector, which often specify 3-5 years of experience as a prerequisite. The prevalent client billing model limits scope to train or absorb those who are not directly contributing.
- Hybrid-working is common and a key sector attribute, however it reduces work experience opportunities and enables employers to recruit those with experience from outside the region,and drives local wage inflation as a result of London and other regions competing for North East digital talent.
- Provision of advanced digital skills has increased in recent years – now annually around 800 16-18 learners on Level 3 programmes in the region, and 1,200 apprentices on Level 3-5 programmes. (Vector, 2023)
- The scarcity of higher-level skills and wage premium, compounded by the pace of technological change in the sector makes it hard to recruit and retain high quality FE teaching staff.
- Digital Skills Boot Camps provided a significant number of learners with access to short flexible modular Level 3-5 equivalent programmes in priority areas identified by employers. High take-up includes data skills/engineering, digital marketing, interactive real-time 3D, and cyber-security. Around 40% progress to new roles within the sector – prior experience often cited as a barrier to those who don't. Flexibility required for Boot Camp delivery can present challenges to some FE Colleges.
- Some larger employers are investing in degree apprenticeships in Digital, often seeking to extend access by limiting emphasis on prior experience. Delivery models for higher apprenticeships that recognise the work/learning commitments of the participant are important.
- Made Smarter is driving advanced digital technologies, enabling the manufacturing businesses and their supply chain to innovate, create new opportunities, technologies, and skills to boost productivity and create the high-value, highly paid jobs of the future.

What needs to be retained?

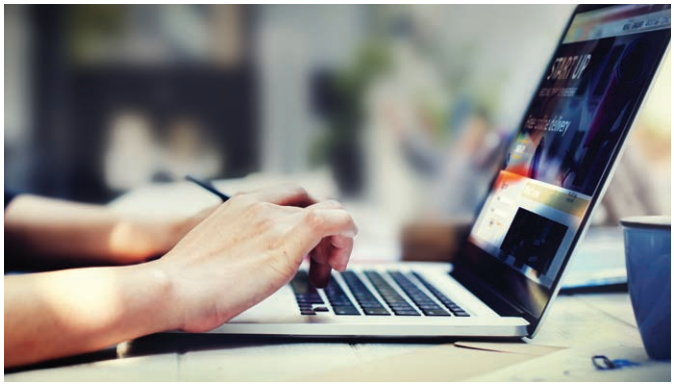
- Maintain capability to deliver short modular programmes, and ability to tailor delivery to support multiple channels (e.g. upskilling/reskilling), potentially leveraging Boot Camp model.
- Development of employer engagement through Sunderland Software City.
- Strategic focus on digital skills as a transformational enabler.

What changes are needed?

- The development of a sustainable teaching model that leverages regional capability, through HE/FE partnership and potential employer participation.
- Mechanisms to develop standards and curriculum in response to changing platforms/technologies.
- New approaches to engage employers in providing work-experience, and bridge the experience gaps identified by employers.
- Mechanisms to attract & engage more under-represented groups into Digital learning and careers.

What are the potential benefits?

- Development of strategically important growing sector providing access to high-value jobs.
- Provide confidence to potential new Digital investors.
- Development of very transferable high-level skills which will enrich other key sectors.
- A sustainable delivery model that mitigates risk of individual providers competing for scarce teaching resource in a very competitive market.



Advanced Manufacturing.

Sector Profile

Employing 57,000, the largest industrial sector in the region (ONS, 2023). Global capability in lean manufacturing, production of vehicles, pharmaceutical, and aerospace machining and component manufacturing. A small but growing high-value space cluster is emerging in the region, potentially putting further pressure on access to advanced technical skills in the longer term. Industrial digitalisation is providing opportunities to optimise efficiency, asset and resource utilisation, and data analysis is key to realising these opportunities. The region is attracting substantial inward investment, and automotive and electrification alone are forecast to create 12,000 new high-value jobs in the next 5 years, in the broader region. The International Advanced Manufacturing Park will attract more investment. GVA contribution per job is twice the national average, and new future digital facilities are more automated and complex, required to be sustainable. Clean-room manufacture is increasing, across Pharma, electronic component, and space technologies. All require higher-level technical skills mix and expertise in emerging technologies. Electro-mechanical technicians are a long-standing scarce skill which is transferable across sectors, and an incremental 5,000 will be required in the next 5 years, with increasing digital/electronic skills required. Traditional skills in die setting, tool making, and welding are scarce and advanced technical skills in materials such as plastics are difficult to source locally.

What is currently happening?

- A strong demand for electro-mechanical technicians and engineers qualified to Level 3+, compounded by inward investment and growth, and increased requirements from other sectors, such as Off-Shore and Smart Warehousing, and the retirement profile in automotive.
- C. 700 Advanced Apprentice starts per year, but supply hasn't increased in response to new demand. Some employers source apprenticeship training from providers outside the region.
- Apprentice starts in Engineering/Manufacturing SMEs reduced by 60% since 2015/16. SMEs are particularly vulnerable to increased market demand for technicians.
- 70% reduction in Level 2 apprenticeships since 2015/16. Historically best-practice provision for Lean Manufacturing Operative. Increasingly difficult to attract learners at reduced apprentice pay rates.
- Requirements for Level 4/5 technicians/engineers not yet high volume, but emerging due to digitalisation, emerging technologies, and specialist facilities. Few apprenticeship standards at Level 4/5 currently available, and employers often revert to degree apprenticeships.
- Some batch process production in Pharma Manufacturing requires higher-level multi-skilled operator-technician in clean-room facilities due to regulatory and compliance requirements. Strategic Development Fund (SDF) has recognised the requirement and introduced Level 3 Science Manufacturing Technician programme.

What needs to be retained?

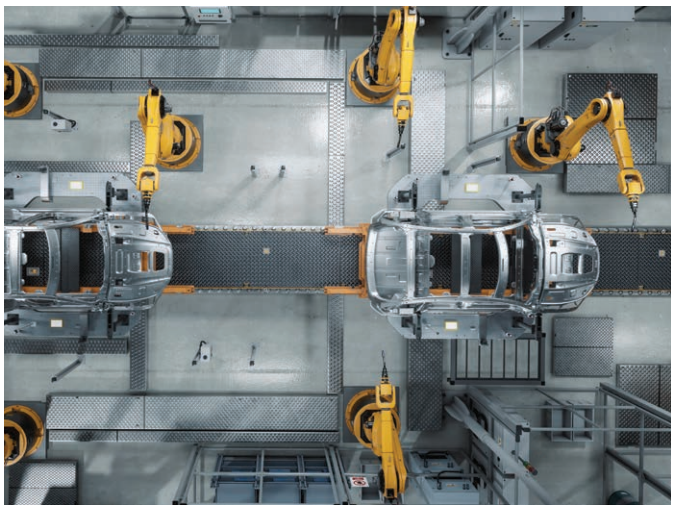
- Investment in Engineering technician training capability.
- FE/HE commitment to seamless progression pathway to degree apprenticeships (e.g., Battery/PEMD/applied digital).
- Level 2 Apprenticeships that support improved functional & behavioural skills and best practice L1/2 work experience and skills support, such as Ford Engineering Academy.
- Strategic Development Fund (SDF) - Science Manufacturing Technician provision.
- Digital SMART Learning Factory (NA College) but should be leveraged more.

What changes are needed?

- Basic digital skills provision in all engineering/manufacturing provision, including upskilling & CPD.
- A regional plan to meet future demand for Advanced Electro-mechanical technicians.
- Review Level 4/5 apprentice standards and prioritise development of in-region provision.
- Partner with Research & Technology Organisations (RTOs) to enrich technical curriculum and access research & teaching capability.
- Curriculum development to reflect industrial digitalisation in Level 3+ programmes.
- Development of more clean-room manufacturing provision.
- Increased SME engagement in apprenticeships.

What are the potential benefits?

- Supply of transferable electro-mechanical technician skills to support investment and growth.
- More resilient SME network, with the technical capability to grow.
- Wider capability to leverage digitalisation to improve productivity.
- More efficient training delivery due to more integrated Level 4-6 offer and pathway.
- Stronger skills proposition to supporting productivity, attract new investors and support regional growth.



Health and Health Science.

Sector Profile

Largest LSIP sector employer, 60,000+ employed across a range of separate Health & Social Care providers, including 5 NHS Trusts. A new Integrated Care Board is seeking to optimise the approach to delivering patient care in the region, but the demand signal for skills provision still sits with independent employers, managed within an annual budget cycle. A very challenging context, with increasing demand for services, constrained resources, leading to local skills shortages in critical roles, resulting in containment actions, including significant international recruitment and use of agency personnel. "Growing your own" is a mantra, but, is less prevalent in practice. Advances in Healthcare science has significant impact, accountable for 80% of diagnosis, leading to earlier treatment and lower treatment costs. Clinical practitioners need to be degree qualified, and most professions lack a structured career pathway, and operational pressures limit release and training opportunities. Digital technologies provide a transformational opportunity to improve prevention, diagnosis, and virtual care as well as improve productivity, but adoption is still ad hoc, and strategies are still emerging.

What is currently happening?

- HE higher/degree apprenticeships and graduates in Nursing, the Allied Health Professions, and Biomedical Science are supplemented by international hiring and agency support.
- Apprenticeship participation is limited to existing employees, and not available as an entry point for new employees.
- Nursing is a critical and scarce skill. Participation in Level 5/6 Nursing apprenticeships is limited by financial and operational pressures, requiring 50%+ time off-the job with no backfill, except in primary care, where funding for supernumerary support is available. There is no shortage of internal applicants, but Trusts typically hire 10 international nurses for every apprentice nurse they train.
- There is significant FE capacity for Healthcare provision, supporting around 800 new starts a year on Level 2/3 Healthcare Support Worker apprenticeships, 2,800 16-18 learners, and a large number of adult learners.
- Level 2 qualifications are no longer required for entry-level Healthcare roles, but employers provide functional skills training and Level 2/3 Healthcare apprenticeships to existing staff.
- SDF funding in 2022/3 was secured to develop Level 2 & 4 apprenticeships in Healthcare Science and Level 2/3 in Science Manufacturing, addressing needs in the NHS and Life Science Manufacturing. A North East Health Skills Hub provides a collaborative forum for employers and providers, and has overseen SDF implementation.
- T-Levels are now available, but there is no natural progression point from a Health T-Level within the NHS. Employers expect recruits to get practical experience in an entry-level Healthcare Assistant role without guarantee of progression, which is unlikely to be a compelling proposition for the learner.
- An NHS strategic workforce plan is anticipated, and indications are that it covers some of issues identified.

What needs to be retained?

- Healthcare Support worker provision.
- Leveraging SDF capability to increase participation in Healthcare Science and Science Manufacturing programmes.
- The North East Health Skills Hub.
- HE provision for Nursing, Biomedical Science, Paramedics, and other Allied Health Professions.
- Level 5 Associate Practitioner Apprenticeship to support pathway to practitioner level in Allied Health Professions.

What changes are needed?

- Embed digital needs in all Health provision, and establish CPD offer for existing staff.
- HE providers to explore innovative ways to reduce time-off-the-job for apprenticeship delivery without compromising quality.
- NHS Trusts/ICB/NHS England to establish funding model to enable release for apprenticeship programmes, as part of Strategic Workforce Plan for the region.
- Leverage Life Science research/training capability of National Horizons Centre.

What are the potential benefits?

- Sustainable workforce and resourcing plan that reduces dependency on international and agency staff, particularly in Nursing but also in other clinical professions.
- Improved productivity and resource optimisation through effective digital deployment.
- Integrated employer voice into Providers through the NE Health Skills Hub.
- Development of best-practice Healthcare science provision.

Construction.

Sector Profile

Sector employs c.25,000 across the NELSIP region, largely in micro-businesses providing specialist technical skills to those leading house-building or infrastructure projects. Forecast net employment levels to 2027 are flat (CITB, 2023). Ageing workforce, and replacement hiring of around 1,500 per year is needed. Potential investment in large-scale infrastructure projects can disrupt skills availability. Emerging Retrofit requirements will stretch skills availability further, compounded by challenges associated with poor sector attraction, particularly for underrepresented groups, and low SME participation in apprenticeships. Digital communication tools are commonplace, but digital adoption is still immature and significant scope for productivity improvement exists. Modern Methods of Construction (MMC) are emerging but are presently limited in the region.

What is currently happening?

- Strong demand for traditional skilled trades, and provision for most skills is generally available. Around 3,000 learners a year at Level 2, with apprenticeships in Bricklaying and Joinery most in-demand.
- Advanced skilled trades, such as Plumbing/HVAC or Electrical Installation are typically provided by sub-contracted micro-businesses, which often don't commit to apprenticeships.
- A strong "grow your own" culture emphasises the importance of the vocational pathway in larger employers, and drives demand for higher technical skills in areas such as engineering and surveying. c. 500 Level 4/5 apprenticeships and c. 200 learners at Level 4/5 pa.
- Some FE Colleges in the region are investing in new Construction training capability.

What needs to be retained?

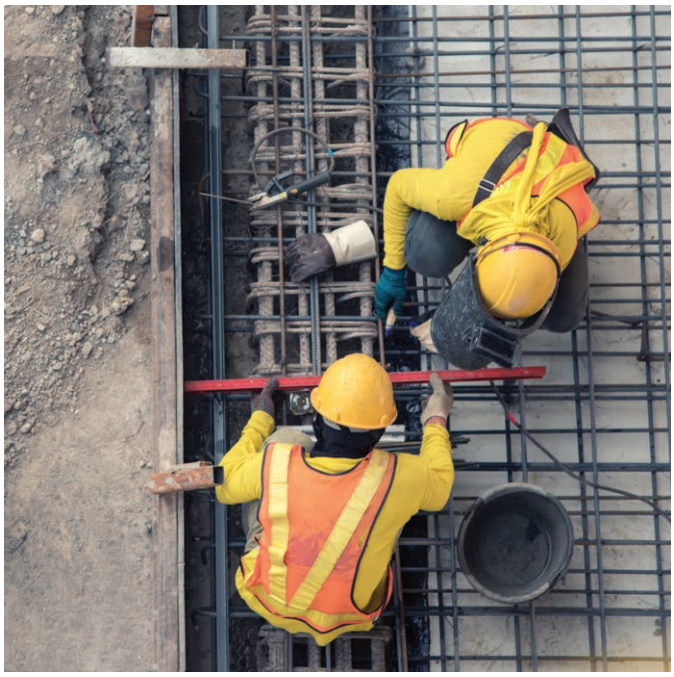
- Investment in the development of Construction training capability.
- FE provision of core skilled trades such as Bricklaying, Joinery, Electrical and Plumbing/HVAC.
- Employer engagement in identifying emerging skills requirements.
- Currently, employer-led workstreams are in place within the North East Institute of Technology (NEIoT) on Retrofit, MMC, and Digital and provide potential to leverage NEIoT capability in Lean Manufacturing to support MMC capability development.
- CITB support for SMEs apprentice recruitment through New Entrant Support Team.

What changes are needed?

- A cross-region process, including employers and providers, to monitor and take action to address gaps in the region for provision of scarce specialist skilled trades. E.g. roofing, flooring, and scaffolding.
- Basic digital skills to be embedded in all provision, and made accessible as upskilling modules for employers.
- Curriculum development to support Retrofit requirements, and development of plan to back-fill skilled-trades "pulled" into Retrofit (E.g. HVAC/Plumbing, Electrical, Glazers).
- Further development of curriculum at Levels 4 and 5 to embed digital skills and support vocational progression.
- Increased focus on SME engagement to enable participation in apprenticeships, including wider deployment of Flexible Apprenticeship model.
- Increased employer engagement in education outreach and 16-18 programmes, to enrich curriculum and attract young people and more diversity to the sector.
- Assessment of RTO partnership options to enhance provision and anticipate emerging technologies.
- Improve technical skills access through positive assistance to increase employment levels of underrepresented groups.

What are the potential benefits?

- Accessible and more diverse participation in provision for all skilled trades in the region.
- More digital adoption at all levels, enabling improved productivity.
- Enhanced provision for Higher Technical skills, enabling productivity, vocational progression and talent retention.
- Accelerated deployment of Retrofit activity, minimising disruption due to pull on scarce skills.
- Proactive consideration and curriculum planning associated with emerging technologies.
- More resilient SME supply chain, benefiting from increased apprenticeship participation.
- Increased supply of young people and diverse talent into jobs in the sector.



Transport & Logistics.

Sector Profile

Around 16,000 employed in the sector, predominantly in SMEs – less than 2% of businesses employ 50+ employees. GVA contribution to North East of £2bn+ a year (NELEP, 2021)– strategically important to other sectors, enabling productivity and inward investment by providing access to resilient global/local supply chains from a complex geography. An interdependent network for freight movement by road, rail, sea, and air, includes east-coast ports, a road haulage sector employing 6,000, and SMART warehousing. Sustainability is a key strategic driver, with a focus on decarbonising transport fleets and supply chains. Digitalisation provides opportunity for end-to-end value-stream visualisation and optimisation, eliminating waste, improving productivity and customer-fulfilment. Increased automation and smart warehouses and data analytics require higher level skills. 5G CAL (Connected Automated Logistics) illustrates regional innovation leadership in connected autonomous logistics. High profile, critical workforce challenges post Covid-19, including shortages of drivers were not caused by skills provision, but related to lack of investment in training and insufficient replacement of an ageing workforce due to a failure to be competitive for low-skilled work, which proportionally accounts for 1.5x the UK average. Anti-social working conditions make it difficult to establish attractive employment proposition, resulting in limited diversity that restricts the available labour pool. Sector tends to "grow their own", and developing managerial/commercial skills for existing employees is important, but career paths are limited.

What is currently happening?

- Limited demand signal into Providers for technical skills at Level 2+. Important scarce skills that are required to operate often fall outside Level 2+ provision (e.g. LGV driving & Fork Lift Truck). Low demand for apprenticeships – around 600 a year across the region (mainly Level 2). Boot Camps delivered by independent providers to support LGV driving requirements.
- Specialist Independent Training Providers exist with insight and experience of delivering in transport sector and meeting licensing requirements.
- Scarcity of skilled vehicle technicians presenting challenges to those managing Fleets, and skills to support transition to maintaining fleets with new vehicle technologies needs to be supported.
- Early adopters are exploiting potential of digital technologies, generating needs for technicians/engineers to establish and maintain digital infrastructure and facilities, and data analysts. Small numbers of learners at this stage, and skills consistent with other sectors (e.g. Advanced Manufacturing).
- Sustainability informing new green skills in established roles relating to planning, regulation, and reporting activities as well as managing operational environmental impact,
- Logistics UK has members in region, and network forums, but currently there is no specific sector ERB focussed only on the region.

What needs to be retained?

- Continued ITP provision of specialist sector requirements.
- Engagement with Fleet businesses to support development of vehicle technicians (plus upskilling on new vehicle technologies).
- Sector Innovation through autonomy - 5G CAL Testbed.

What changes are needed?

- Providers to monitor demand for electro-mechanical technicians and data analysis skills as level of automation accelerates– consistent with advanced manufacturing requirements.
- Modular basic digital CPD for existing employees and provision to enable advanced digital skill pipeline.
- Opportunities to further leverage existing programmes for supervisory/commercial skills within Transport & Logistics as automation increases.
- Technicians skilled in maintenance of new technologies in electrified last mile logistics.

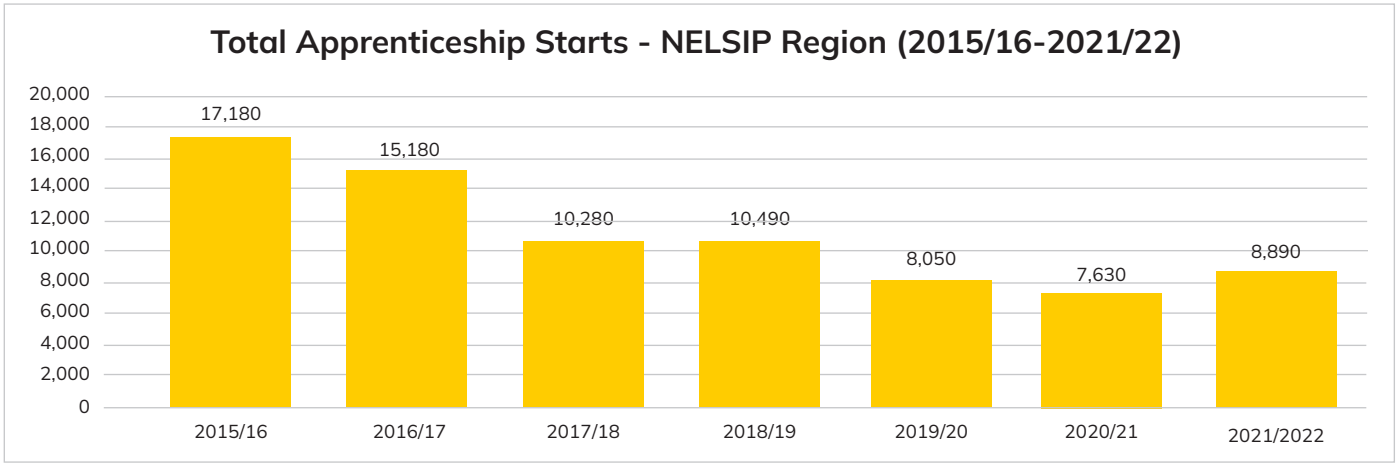
What are the potential benefits?

- Demonstrate regional leadership in development of best-practice lean digital Transport & Logistics activities, through connected automation, eliminating waste and improved productivity.
- Transition to sustainable fleet operations and net-zero impact warehousing operations. Increased local economic resilience through robust interconnected supply chain that is agile, and predicative and capable of anticipating and containing disruption in support of other sectors.
- Demonstrate global smart integrated supply chain connectivity to encourage inward investment.

Current State – Local Apprenticeship and Training Provision.

Apprenticeships

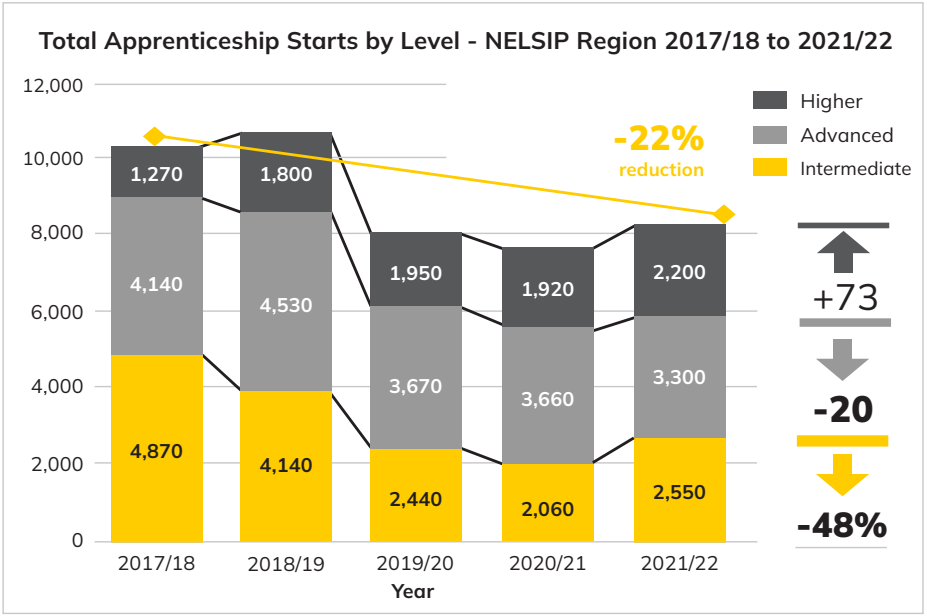
Apprenticeships are central to ensuring an adequate supply of technical learners into the workforce. However, apprenticeship starts in the NELSIP region have almost halved since 2015/16 (DfE, 2023).



Source: ONS 2023 – Annual Population Survey

The mix of apprenticeships in the region has also changed substantially in the last 5 years. Level 2 Intermediate apprenticeships have halved, whilst Level 4+ Higher Apprenticeships have increased by 73%. Critically, the number of Level 3 Advanced Apprenticeship starts has dropped by 20%, reducing the pipeline into "better jobs" at a time when more with those skills and qualifications are needed. SME participation has also dropped significantly – accounting for 62% less starts in 2019/20 than in 2015/16. Furthermore, starts with SMEs fell more than for larger employers during the Pandemic. Employers are now using apprenticeships more as CPD for existing staff than for new recruits – 47% of starts are now age 25+ and the proportion of Under-19 starts has dropped from 33% to 26% since 2017/18.

The increase in higher apprenticeships is important since it supports the development of higher-level technical skills and progression to better jobs. However, those starting apprenticeships from the 20% most deprived areas have been disproportionately impacted by the reduction in Intermediate apprenticeships, with participation from these areas falling by 60% between 2015/16 and 2019/20. (Source: Sutton Trust, 2022). Participation of those who have been eligible for Free School Meals is also relatively low in subjects such as Engineering & Manufacturing Technology and Construction, which offer opportunities for the highest wage premium associated with apprenticeships and qualifications.

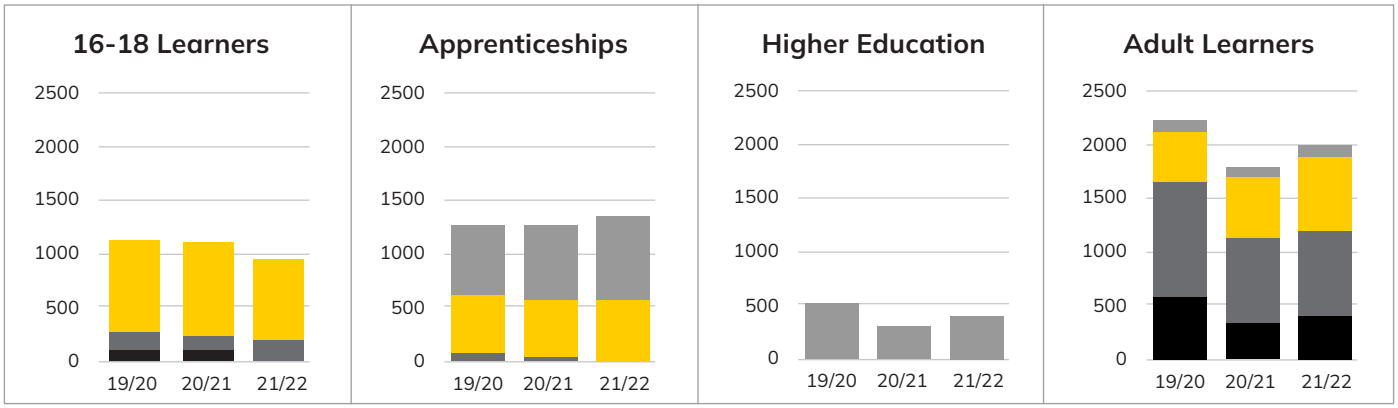


The tight employment market has provided a challenge to the established practice of many employers subsidising investment in apprenticeships by paying apprentices reduced pay rates, as those seeking work can now earn substantially more in low-skilled work outside an apprenticeship. Many may not be in a position where they can afford to pursue a lower-paid apprenticeship or may be sceptical of the value of it – only one-third of students surveyed strongly agreed that apprenticeships lead to well-paid jobs and only a quarter said that they would apply for an apprenticeship if it paid less than they could earn in another job. This may help explain why many employers say they find it difficult to find suitable applicants for apprenticeships.

Current Provision for NELSIP sectors.

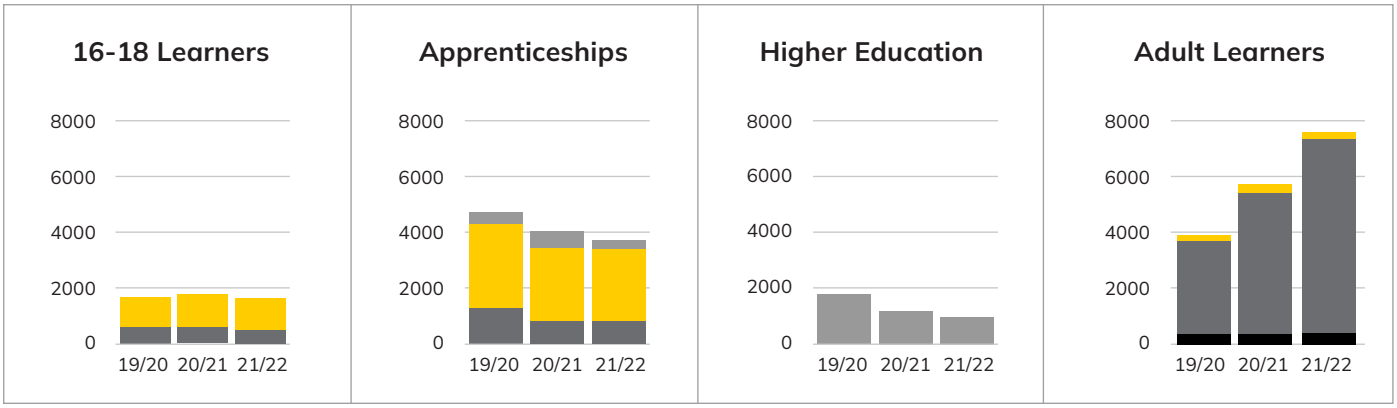
There is extensive education and training provision in the region which supports the skills requirements of the NELSIP high impact sectors, although limited demand for specific Transport & Logistics provision. The numbers detailed below reflect the number of active learners studying in the region within the respective academic year and gives a rolling three-year pipeline view of supply (Source: Vector, 2023).

Digital



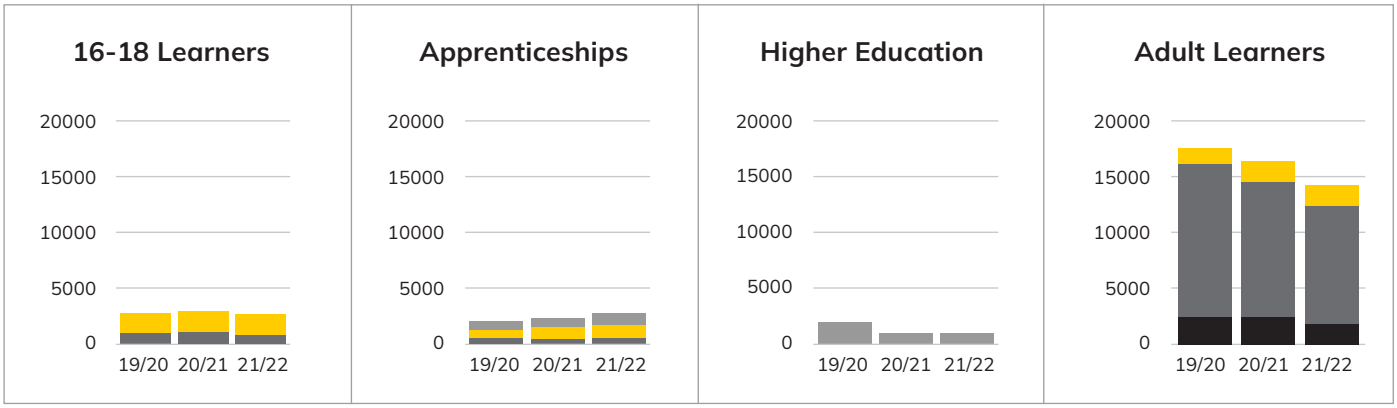
- Significant growth in adult learners reflects support for basic digital upskilling.
- Provision for advanced/higher programmes is substantially more than 5 years ago but has stabilised in last 3 years – c. 500 apprentices in learning at Level 3 and 700 at Level 4/5. C. 800 16-18 learners on Level 3 programmes.

Advanced Manufacturing



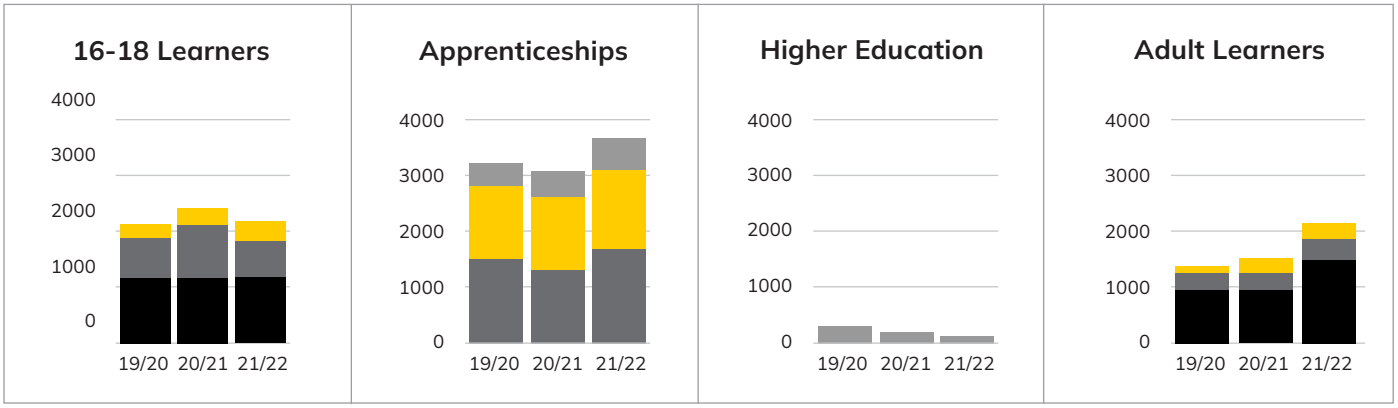
- Historically region has supported best-practice Level 2 Lean Manufacturing Operative Apprenticeship, but participation has declined by 30% since 2019/20.
- Advanced Level 3 Engineering Technician apprenticeships have declined by 20% since 2019/20 despite scarcity and expected strong demand.
- C. 1,000 Level 4/5 learners pa outside apprenticeships suggests could be more scope for apprenticeship standards at that level.

Health & Healthcare Science



- Very high volume of adult learners, but mainly at Level 2.
- Providers in the region have significant capacity to support 16-18 learners (c. 3,000 pa mainly at Level 3).
- Apprenticeship support for FE Colleges is largely Level 2/3 Healthcare Support Worker programmes, but future volumes will include new Health Science and Science Manufacturing programmes developed through SDF.
- Higher Education and Higher Apprenticeships are typically provided by Universities.

Construction



- High volume of Level 2 learners and apprentices reflects qualifications needed to provide a “license to operate” for most skilled trades.
- Apprenticeship demand has been maintained – employers’ commitment also reflects requirement to demonstrate social value in public procurement.
- Higher education levels are low, but increasing demand for Level 4/5 apprenticeships in technical subjects, including engineering and surveying.

Part 2 - Taking the LSIP Priorities Forward

6. Taking the **NELSIP** Priorities forward

This section identifies recommended actions to support progress against six NELSIP priorities. It includes a provisional view of what success measures should be adopted to monitor progress on proposed actions. A provisional RACI, which identifies Responsibility, Accountability, Consultation and Information rights is included in Part 3. The LSIP process recognises that systemic changes will be required, and the report does not make recommendation on timing for each specific action, although an indicative plan is included in Part 3. Progress should be made on all the NELSIP actions during the implementation of the NELSIP, but the specific timeline for each action should be agreed with those accountable during the transition to implementation. An important aspect of managing change is ensuring the programme is appropriately scoped, resourced, and programmed by the accountable leader. It is also recognised that there may be a time-lag before some of the more systemic outcome measures are impacted. More specific measures and accountabilities are recommended for priorities 1a and 2 below, which have been discussed with Providers, although it is recognised that some key enablers and resources will be needed to support implementation of the NELSIP priorities, and this should be considered by Providers as part of LSIF funding application process.

NELSIP Priorities.

1. Provide essential digital skills required by all learners at the appropriate level. Including upskilling & reskilling support for employers and adult learners and ensuring a work-ready supply of specialist digital skills.

a) Embed digital skills provision in all forms of technical provision, at all levels.
b) Establish a supply of higher digital apprentices, with the right capability and experience to meet demand.
c) Enable flexible upskilling & reskilling programmes to improve digital employment opportunities. E.g. leverage and align NE Digital Bootcamps.
d) Innovate to simulate workplace learning - using immersive technology, digital simulation, SMART learning factory, virtual reality wards/ classrooms.

a. Embed digital skills provision

The provision of digital skills impacts all learners. Digital skills are no longer optional in the workplace. Essential digital skills are needed for all occupations and the level and specific digital skills varies depending on the nature and level of the job. These skills need to be embedded at all levels of learning provision.

Essential Digital (All Sectors)

Priority	Action	Measure	Who
Basic digital skills for operational devices	- Embed basic digital skills in all Level 1 & 2 & 16+ education programmes	Basic digital provision embedded in all programmes	FE
	- Develop basic digital upskilling programme for existing employees	No. of employers/employees participating in digital upskilling	FE
Applied digital skills in all technical roles	- Review all Level 3+ technical programmes and embed appropriate applied digital skill development	Applied digital skills embedded in all L3+ technical programmes	FE/HE
Data science/ analytics capability	- Include basic data analytics modules in all Level 3+ technical programmes	Data analytics modules embedded in all L3+ technical programmes	FE
	- Ensure capability to deliver higher qualifications in digital analytics is available in modular form to support CPD/Boot Camp delivery	Availability of training Participation numbers and completion rate	FE/HE

2. Align 16+ technical education and training provision to ensure the key technical skills required by the five LSIP sectors are prioritised.

a) Prioritisation of technical skills required for five NELSIP sectors, mapped to existing technical occupational standards.

b) Embed transferable behavioural skills in provision that are needed by employers to enable work readiness/experience needed for the effective deployment of technical skills.

Advanced Digital Skills Priorities

Advanced Digital (sector)				
	Priority	**Action**	**Measure**	**Who**
Level 3/4	Improve diversity of Digital workforce	Develop plan to attract under-represented groups to advanced digital programmes	No. of females on advanced digital programmes. No. of FSM students on advanced digital programmes	FE
Level 4-5	Enhance higher level vocational offer in Digital	Develop full-time and modular offer that meets key requirements in region (software development/programming, data analysts/ engineers, and infrastructure)	No. of digital learner completions at Level 4-5	FE
Level 6	Vocational pathway to degree level	Identify opportunities to improve flexibility of degree apprenticeship programmes to ensure access to learners in employment	No. of participants on Digital degree apprenticeships at NE Universities	HE
Impacting all levels	Employability of those new to the digital sector through work experience	Establish plan with employers to provide meaningful work experience placements for those on advanced digital programmes	No. of local people securing jobs in digital sector	Sunderland Software City & FE
	Maintaining sustainable digital teaching capability in the region and agile curriculum development planning	Establish collaborative model for curriculum development and delivery across region	No. of advanced digital programmes available in region	FE/HE/ Sunderland Software City

Key Enablers

- The development of regional teaching capability and infrastructure that involves HE/FE and employers to deliver advanced/applied digital provision.
- Mechanisms need to be in place to track technology development and develop standards and curriculum in response to changing platforms/technologies. Digital specialisms are localised, and the region needs to anticipate and be agile to ensure adequate learning provision is in place to meet demand.
- Ensure skills delivery tailored to multiple channels in the digital sector, including implications for upskilling, reskilling, and funding of different learners and modular delivery.
- Develop new approaches to engage employers to build work-experience and address the 3–5-year experience gap that advanced digital employers identify as a barrier to recruitment.
- Establish mechanisms to attract under-represented groups to digital learning provision.

Advanced Manufacturing Skills Priorities

Advanced Manufacturing				
	Priority	**Action**	**Measure**	**Who**
Level 3	Address scarcity of Engineering/ Maintenance Technicians relative to strong demand	Ensure capacity in place to meet future regional demand. Increase SME participation in apprenticeship training. Develop curriculum to meet requirements of industrial digitalisation	No. of Level 3 E&MT apprentices No. of SMEs employing apprentices Curriculum review includes digital requirements	LSIP FE Colleges
	Leverage deployment of Level 3 Science Manufacturing programme developed through SDF	Continue to promote programme with Pharma manufacturers and NHS Aseptic Pharma Manufacturers	No. of Level 3 Science Manufacturing Apprentice starts	SDF Colleges
Level 4/5	Level 4/5 Engineering provision meets requirements associated with digital and emerging technologies	Engage employers in identifying additional Level 4/5 standards to be developed in region. Curriculum development of prioritised standards	Review completed. Curriculum developed. No. of Level 4/5 apprentices in region.	LSIP FE Colleges/ NEIoT
	Collaboration between local providers to provide seamless progression pathway higher level technicians/ engineers	Partner with HE provider in IESAM (Newcastle University) to establish complimentary pathway through to degree apprenticeship programmes associated with Electrification/Batteries.	Level 4/5 offer in place which is accredited for those progressing on to engineering degree programmes related to PEMD/ Batteries at Newcastle University	Newcastle University & FE Providers/ NEIoT
Level 6	Equivalent vocational pathway to Engineering roles in all disciplines	Extend availability of degree apprenticeships, including electrical and software engineering	Degree apprenticeship programmes in place Participation of local people on engineering degree programmes at NE universities	HE
Impacting all levels	Leverage advanced engineering research/ teaching capability to enrich higher technical curriculum	FE Partnering with in-region RTOs to enrich curriculum and establish sustainable teaching model (e.g. CPI, DER, Faraday, National Horizon Centre) Strategic partnering opportunities with national centres of excellence/RTOs (e.g. MTC/AMRC).	In-region partnerships with RTOs in place National RTO partnership opportunities evaluated and identified	RTO/HE
	Develop digital manufacturing experience and capability, through best-practice learning factory	Leverage simulated learning opportunity provided by SMART Learning Factory at NA College.	No. of learners attending Smart Factory No. of T-Level work placements at Smart Factory	Made Smarter/ RTO/HE/ NA College Collaboration.

Key Enablers

- A Regional plan is required to ensure an adequate pipeline of level 3 technicians. The acute shortage of Level 3 and above technicians will not be met by falling numbers of Level 3 learners.
- There needs to be a robust collaborative partnership with HE providers to establish complimentary seamless pathways through to degree apprenticeship programmes associated with Electrification/Batteries.
- Review Level 4 & 5 apprenticeship standards with ERB and NEIoT, and prioritise development of in-region delivery capability for niche low volume technical capabilities. This should involve developing partnership with Research and Technology Organisations (RTOs) to enrich vocational curriculum and access to specialist teaching resource and facilities.
- Leverage development of Level 3 Science Manufacturing programme (SDF) to ensure an adequate pipeline for pharma advanced manufacturing, including scoping of Level 4 standards and programme to meet Level 4+ Pharma manufacturing requirements.
- Industrial digitalisation requires basic digital skills are embedded in Level 1 & 2 provision, and in CPD offer for existing workforce.
- Resource SME engagement activity, as there is a real danger that SMEs will not be able to employ the technical expertise they require going forward.

Construction Skills Priorities

Construction				
	Priority	**Action**	**Measure**	**Who**
Level 2/3	Accessible in-region provision for all skilled trades	Review regional skilled-trade provision with employer representatives and identify gaps	Plan to address identified gaps	FE Colleges / CENE
	Maintain supply of specialist skills typically found in SMEs (e.g. Electrical & Plumbing)	Resource SME engagement	No. of apprenticeships with SMEs	FE Colleges
Level 4/5	Level 4/5 Technical/ Engineering provision meets requirements associated with digital and emerging technologies	Engage employers in identifying additional Level 4/5 standards to be developed in region. Curriculum development of prioritised standards	Review completed. Curriculum developed. No. of Level 4/5 apprentices in region.	LSIP FE Colleges/ NEIoT
Level 6	Equivalent vocational pathway to Engineering/ Surveying roles in all disciplines	Extend availability of degree apprenticeships	Degree apprenticeship programmes in place Participation of local people on engineering degree programmes at NE universities	HE
Impacting all levels	Resource capability required to manage Energy efficient Retrofit to meet Net Zero targets	Develop Retrofit curriculum. Identify skills requiring replacement due to Retrofit-pull and ensure capacity in place to support back-fill	Retrofit curriculum in place Level of participation in retrofit training Back-fill analysis completed	FE/NEIoT with employers
	Capability to meet Modern Methods of Construction skills requirements	Monitor emerging requirements	Monitoring responsibility identified	FE/NEIoT with employers

Key Enablers

- Establish flexible digital CPD offer for existing workforce.
- Embed applied digital and data analytics in all Level 3+ provision.
- Continue with NEIoT Strategic work-streams.
- Regional Employer Forums with Providers to assess regional scarcity of skilled-trades and gaps in provision.
- Leverage CITB New Entrant Support Team to enable SME engagement.
- Develop Retrofit provision in line with requirements specified by NEIoT workstream.
- Continue to monitor emerging MMC requirements through NEIoT work-stream – including opportunities to leverage NEIoT digital manufacturing capability.

Health & Health Science – Skills Priorities

Health & Healthcare Science				
	Priority	**Action**	**Measure**	**Who**
Level 2/3	Healthcare support worker provision	Monitor capacity to meet regional demand	Annual review	FE/NHS Trusts
Level 3/4	Development of Healthcare Science talent pipeline	Leverage SDF investment in Healthcare Science across all NHS Trusts in region	No. of participants in Level 4 Healthcare Science apprenticeships	FE/NHS Trusts
Level 5-6	Vocational Pathway into Nursing	Providers to explore innovative practices to reduce time-off-the-job requirements without compromising quality Provide supernumerary cover to enable release	No. of participants in Nursing Associate & Registered Nurse Degree Apprenticeship at NE Universities	HE Providers & NHS Trusts NHS England
Impacting all levels	Focussed collaboration between employers and providers	Continue to leverage NE Health Skills Hub for ongoing dialogue on future requirements	NE Health Skills Hub Meetings	East Durham College

Key Enablers

- Embed digital skills & data literacy in all Health provision – including occupational specific (e.g. Digital nurse).
- Establish digital CPD offer for existing Healthcare workforce.
- To enable increased participation in vocational higher/degree apprenticeship programmes, HE providers to explore innovative practices to reduce time-off-the-job requirements without compromising quality.
- New NHS Workforce Plan. Approach which recognises need to provide supernumerary cover to enable release for participation in higher/degree apprenticeships.
- Continue to develop the NE Health Skills Hub and leverage SDF deployment in Health Science & Science Manufacturing.

Transport & Logistics Skills Priorities

Transport and Logistics priorities by level.

Transport & Logistics				
	Priority	**Action**	**Measure**	**Who**
Level 3	Vehicle technicians to maintain “green” Fleets	Curriculum development to support new vehicle technologies	Curriculum in place	FE
Level 4-6	Optimising sustainable supply chain	Establish Digital/data engineering provision relevant across sectors	Programmes in place	FE

3. Increase the supply of level 3+ technical skills to meet current and future regional requirements.

a. Develop strategic skills plans that increase the supply of Level 3+ skills from all educational pathways, including adult learners.
b. Ensure approaches to T-Level deployment and associated career and progression pathways that are both attractive to learners and employers.

4. Collaborate to deliver key technical skills for regional growth.

a. Ensure NELSIF reflects NELSIP priorities through broad and inclusive regional collaboration to leverage best practice.
b. Ensure 22/23 NE SDF investment and other technical skills funding and programmes are fully leveraged in support of LSIP priorities.
c. Leverage strategic partnerships and collaborative arrangements, including the NEIoT, to develop key technical skills. Ensure integrated and seamless technical educational pathways that provide an adequate supply of technical skills to meet regional requirements.
d. Realise opportunities arising from the North East Mayoral Combined Authority to promote partnership between FE/HE providers in region and RTOs to align curriculum & delivery model for high value inward investment, emerging technologies, and Higher Technical Qualifications.
e. Develop and invest in resourcing and deployment models that establishes, retains, and leverages digital and higher technical teaching capability across the region, including support from employer secondees.

5. Employer focussed - Enable employers, including SMEs, to identify their technical skill requirements, and access high quality technical skills development for their current and future workforce.

a. Leverage established employer advisory boards to provide strategic leadership on emerging and scarce technical skills across the region.
b. Resource Workforce Planning and skills brokerage support for employers, particularly SMEs, to improve workforce planning and participation in vocational apprenticeships, reskilling & upskilling.
c. Establish a mechanism to prioritise transfer of unspent apprenticeship levy in the region to support NELSIP priorities.
d. Increased number of regional opportunities for technical work experience and apprenticeships.
e. Develop guidance and establish flexible opportunities to increase upskilling, informed by NELSIP priorities, and enabled through proposed flexible Lifelong Loan Entitlement and devolved regional Adult Education Budget.

6. Prioritise Social Inclusion – aligned approach to enable those from under-represented and disadvantaged groups to develop the skills needed and provide the support required to remove barriers to access good jobs and careers.

a. Establish and deliver appropriate Level 1 and 2 Maths & English attainment targets to improve the foundation skills for employability and increased economic activity.
b. Establish and deploy a set of consistent social inclusion measures and positive assistance actions for underrepresented groups that support achievements of NELEP targets on employment rate and economic activity and sector employment representation targets.
c. Focussed approach to vocational careers, including improved and aspirational early career guidance within North East Ambition deployment of the Gatsby Framework to require all pupils to improve awareness of vocational learning options open to them. Extend provision and ongoing access to careers advice for adults.

PART 3 - Delivering the LSIP Priorities

7. Delivering the NELSIP Priorities

Delivering the NELSIP priorities will require a new response to the skills challenges in the region, which will involve changes to established practices, and will require stakeholders across the region to align in support of these changes. In this section we identify cross-cutting themes and key challenges that will need to be addressed to enable effective NELSIP implementation and delivery of outcomes in line with NELSIP objectives.

Translating aggregate employer demand into a sustainable supply of skills

Significant education and training capability already exists in the NELSIP region, including seven Further Education Colleges, two universities, and independent training providers. There are other strong FE and HE providers adjacent to the LSIP region who engage with employers and learners within the region. The provision of training for some of the high impact sectors in the NELSIP area has been a core aspect for many of these providers over a long period, and there are some good examples of long-term employer-provider partnerships built on a shared understanding of the employers' skills needs. Conversely, employers have a choice between Providers with similar offers, and do switch between Providers, which can represent a risk to Provider investment in long-term capability.

There is also evidence in the region of occupational groups with longstanding skill shortages, reflecting a failure, over time, of all employers to collectively support the volumes of vocational technical training needed to replenish, and meet the skills requirements to support growth. Inward investment into the region has increased demand further and compounded these issues. The technical skills requirements and rate of transition associated with emerging technologies present additional complexity and challenge for both employers and providers.

A different response to the skills challenge is required and it must involve all stakeholders. The collective capability of Education & Training providers across the region needs to be greater than the sum of its parts. Long-standing issues will need to be addressed to ensure that the region has a sufficient supply of technical skills, and a truly inclusive skills system is required to increase the size of the employment pool. All employers, particularly SMEs, need to participate and all local people need to have routes to access opportunities to education and skills training, that lead to good jobs and careers. In this section we recommend actions that can help address these challenges, including cross-sector actions. LSIPs are one part of a complex change process, that needs to be supported by stakeholders and involve appropriate supporting actions. A robust systemic deployment programme needs to be underpinned by a robust change plan that enables the changes required and ensures that they are sustainable and institutionalised through accountable stakeholders.

Cross-cutting themes.

Employer Focussed

LSIPs are positioned as "employer led". Employers need to play an active role in shaping a skills system that meets their requirements as part of their workforce planning. Some employers will have the resource and capability to provide leadership, and there are best-practice employers in the NELSIP region who do this. However, the reality is that many other employers, including most SMEs, find the skills system fragmented, difficult to navigate and wish to engage with a single focal point. Some sector-level Employer bodies play a role in consolidating employer "voice", but they are not resourced to manage ongoing detailed interaction with Providers on solution development, or able to commit to a funded demand-signal on behalf of employers. It is important that this reality is recognised, and it is reflected in the "employer-focussed" approach adopted in the NELSIP, which provides assistance to employers to enable their participation in education and training.

An employer focus will require:

- Workforce Planning assistance for employers to assist them in developing a longer-term workforce and skills strategy appropriate for their organisation.
- Business engagement support in Providers, that helps employers understand what provision can meet their needs and how they can access it, including identifying opportunities presented by policy change, devolved Adult Education Budget, and the proposed Lifelong Loan entitlement.
- A commitment to support reskilling, upskilling and continuous professional development (CPD) through flexible modular delivery to enable employee development and career progression.

- Forums which facilitate employers and providers coming together at a sector and regional level to monitor progress on key priorities and identify emerging issues. Identifying specific gaps in provision within the region and identifying efficient ways of addressing them.
- Mechanisms that provide additional support to SMEs in key sectors (e.g. prioritised apprenticeship levy-transfer).
- Increasing focus, cohesion, and simplification of regional skills infrastructures for employers, with support from NEMCA.

Regional Collaboration

Several collaborative models and strategic partnerships already exist in the region, but for most sectors there aren't presently mechanisms at a sector-level that bring all Providers together to monitor priorities across the region and identify the most effective way to address them. This can result in duplication and waste, competition for students and scarce teaching talent, which ultimately leads to a dilution of regional capability and important regional skills requirements not being addressed. Providing education and training in higher technical, digital skills and responding to emerging technologies requires a different approach that leverages capability across employers and learners in the region. The recent SDF programme for Health Science in the region is a good example of Providers and Employer Bodies collaborating at a sector-level through the North East Health Skills Hub. Regional sector-level collaboration is important, and should enable:

- Development of shared capability (in terms of capital equipment, curriculum development, and teaching capability) in higher technical and digital provision that can be focussed to support an emerging demand signal and leveraged across the whole region.
- Partnership that leverages the research and teaching capability of Higher Education and RTOs in emerging technologies to enrich the vocational technical curriculum.

Collaboration Best Practice

IESAM – partnering to support growth and the transition to Net Zero. Newcastle University has created the Institute of Electrification and Sustainable Advanced Manufacturing (IESAM), a partnership between the region's universities, FE colleges and the North East Institute of Technology. The North East is fast becoming an international leader in electrification technologies, and IESAM, supported by funding from UKRI/Innovate UK, recognises the importance of a common supporting curriculum which leverages the world-leading expertise in the region to maximise impact. IESAM provides a common curriculum for electrification skills aimed at students, apprentices, schoolteachers, and college lecturers. It will create Power Electronics, Machines, & Drives (PEMD) content to enrich T-level, Higher Technical Qualifications as well as Advanced and Degree Apprenticeship programmes. IESAM's curriculum development team is working closely with its education and industry partners to ensure that current and future industrial needs are reflected in the education offer, including Robotics, Automation and Control, and Digital Manufacturing. Professor Stephanie Glendinning, Pro-Vice-Chancellor of the Faculty of Science, Agriculture and Engineering, said: "I am really excited about the launch of IESAM: it is a true collaboration that will support the work of industry, universities, colleges and government to grow the UK PEMD supply chain, providing new jobs in the region and helping the global transition to net zero."

Seamless Technical Education Progression

Several factors are leading to an increased employer emphasis on internal career progression, to 'grow their own' talent. This includes the tightening of the employment market, which is making recruitment challenging, and the apprenticeship levy providing an opportunity to fund training for existing staff. Career progression requires efficient educational pathways that provide seamless progression, particularly from Level 3 through to Level 6 to enable opportunity for a technical career pathway and progression to better jobs. Some employers express frustration with instances where employees have duplicated training when progressing to higher level programmes with different providers. This can prompt the employer to default straight to selecting degree apprenticeship programmes with one provider to avoid the risk of duplication, which could sometimes result in wasteful over-training where a Level 4/5 programme may have been more appropriate.

Seamless technical skills progression will require:

- Removing repetition of content between different providers in the region at different levels, to enable efficient and timely progression.
- Credit accumulation within and across FE and HE institutions to enable life-long vocational pathways and confidence and credibility with learners and employers.
- Concurrent upskilling of core transferable behavioural and digital skills required to be effective in higher level technical occupations.
- More flexible modular delivery, remote and work-based, to accommodate, work, home, and study obligations. Innovative approaches to learning 'off the job', to enable learning to be accessible without compromising quality. Improved employer support and release from the job, with backfill-funding where time off the job is high, such as nursing.

Aspirational and Inclusive

Inclusive economic growth requires all local people to have access to education and training which can provide the opportunities associated with good jobs and employment. The proportion of the population that is economically active in the North East is the lowest in England. There are examples of good practice in the region where positive assistance is provided to under-represented and disadvantaged groups, but there is not a consistent approach which aligns schools, education providers, and employers in support of shared objectives. Poor attainment in education and low aspiration are barriers to entry into employment and progression to better jobs. Vocational career pathways should be viewed as aspirational.

A cohesive approach to Inclusion would include:

- A consistent set of success measures and attainment targets deployed across the region, and in-region monitoring of progress against those measures.
- Access to high quality Careers advice and guidance which ensures all pupils understand vocational learning and career options available to them.

Systemic Challenges.

Addressing some of these cross-cutting themes presents some key challenges to be managed.

Cohesion & Leadership

Public funding streams often seek to improve collaboration between Providers, but requirements associated with different funding streams can result in different collaborations forming (e.g. NEIoT, SDF, LSIF). Some Providers are outside some arrangements, and consequently other in-region collaborations have formed, including partnerships spanning different LSIP regions. This can present a challenge for employers or sectors seeking a focal point across the region, rather than fragmentation. Clarity and simplification of this interface, certainly at a sector-level, will build employer confidence in investing time in strategic partnerships with the Education & Training sector.

In regions where a more integrated approach to investment, skills, and economic growth has been achieved, it has required a significant ambition to make a substantial long-term difference to the economy of the region, and a strong and tenacious leadership to implement the systemic changes required to align stakeholders, resource, and action in support of that. NEMCA provides opportunity to create a stronger focal point for alignment and collaboration across the broader region, consolidating fragmented funding streams, and providing more focussed engagement for employers. In Part III our draft RACI anticipates NEMCA playing an important role in establishing a vision and framework for systemic alignment in the region.

Effective ERBs supporting sector skills

There are several sector-specific ERBs in the region, and 'skills shortages' are frequently cited as a priority for their members, multinationals to SMEs. Some already have employer forums related to skills, but others don't, and their resourcing model doesn't generally enable them to commit appropriate capability and resources to play a leadership role in this area. A recent poll by one sector-ERB suggests that most members are now looking for the ERB to play a more active role in partnering with providers to coordinate delivery of programmes to meet common sector needs. This may reflect the challenges that some employers face in trying to service their own needs through the education and training system, and the survey did not address the subject of how this resource would be funded or empowered. Translating this sentiment into resourced programmes that are financially supported by multiple employers and attended by participants from different employers has historically proved difficult. Notwithstanding this, it is important that employer-groups do come together and provide a regional sector-level "voice" into Providers on scarce skills and emerging requirements. A good example of this is the work that Construction sector employers are leading in identifying emerging requirements through work-streams within the NEIoT.

A focus on SME Engagement is needed

The c. 50,000 SMEs, across the broader North East are responsible for half the region's turnover and employment (Ref: NELEP, 2022), often in activities requiring advanced technical skills. SMEs often do not have the resource or capability to navigate the education and training system or funding arrangements, and they feel undervalued.

> "Colleges aren't interested in businesses like ours. They want to be associated with the big names who can commit to training higher numbers of apprentices." Manufacturing SME

Mentoring apprentice training requires resource, and many SMEs won't commit to a regular demand signal. The number of apprenticeship starts with SMEs in the region has declined significantly in recent years - down by 62% between 2015/16 and 2019/20 (DfE, 2021). This

leaves SMEs in a vulnerable position, particularly as inward investment, the transition to Net Zero and associated technical compliance requirements, increases the demand for higher technical skills in the region.

Although the North East trend for apprentice starts in SMEs is consistent with the national picture, there is evidence that SMEs will commit to training if the employer offer is high-value and accessible. At the University of Sheffield AMRC training centre, 80% of the 700+ Level 3+ apprentices are employed by SMEs, attracted by the high-value offer under-pinned by advanced manufacturing research capability, as well as the full recruitment and administrative support provided. The need for intermediaries to help access training solutions appropriate for their business has been identified by the CITB with the introduction of a New Entrant Support Team and by IPPR (May 2023). In the absence of that type of approach, the Business Development teams within providers have an important role to play to support SME engagement, and resourcing needs to reflect that.

Strong leadership commitment to training and "social responsibility" has been identified as a differentiating element in those SMEs that do commit to apprenticeships (BEIS-2014), and this is evidenced by best-practice SMEs in the NELSIP region.

Best-practice - SMEs committed to training & development

MGL Construction, based in Durham and providing a range of construction and demolition services, consistently commit to apprentice training - around 30 of their 470 employees are on apprenticeships at any one time, and more than 90 of their employees have been supported through Higher Education. The HR Manager is proactive, and draws on support from the local CITB advisor, to leverage apprenticeships across a wide variety of roles. attracting new and diverse talent to the business.

BTS Facades & Fabrications supply and manufacture Rainscreen systems and Façade systems from their site in Newton Aycliffe, and demonstrate significant commitment to people development which spans apprenticeship training, work-experience placements, and employability programmes. 4 of their 55 employees are currently on apprenticeships, including two on degree apprenticeship programmes at Teesside University.

The Work Experience Dilemma

85% of employers emphasise the importance of employability & work-readiness skills. They value problem-solving, critical thinking, and team-working and work experience is recognised as a way of developing these skills. Yet securing opportunities for this experience is often challenging. More than one-third of young people responding to our student poll had not had the opportunity to gain work experience with an employer in the subject they were studying. Many employers find it difficult to commit to provide work-placements for a variety of reasons, including operational pressures, safety, safeguarding, and hybrid/remote working limiting the availability of staff to supervise placements. This presents a systemic challenge for programmes, such as T-Levels, which require work-placements to be provided at scale. Work placements also attract new people to the sector. Students who had external work experience in a sector related to their studies were more likely to be very interested in working in that sector following completion of their studies (NELSIP student poll).

Simulated working environments and immersive learning have many benefits, and should continue to be deployed, but have limitations in terms of developing the behavioural awareness and skills important to employers. Further hybrid innovation will be required to address this dilemma and make work-experience more accessible. The SMART learning factory at NA College illustrates what is possible. This type of Learning Factory features prominently in the higher technical curriculum for Advanced Manufacturing in countries such as Austria and Germany, and the Gatsby Foundation has recommended they should play a key role in accelerating UK Manufacturing digitalisation and productivity.

Leverage best-practice SMART Learning Factory

UK Community Production, in partnership with NA College, provide learners with access to a fully integrated digital manufacturing process and the working environment. The digital production environment engages the learner in the manufacture of a real product and provides practical experience of the transformational impact of industrial digitalisation. The SMART factory is equipped with innovative automation, including collaborative robots, autonomous guided vehicles, and an EffiMat pick and place system. Learners experience how to integrate these digital technologies into a lean manufacturing process, developing skills related to business improvement, data analytics, and machine programming, Sustainability is central through the elimination of waste and maximising energy efficiency. The SMART Factory at NA College has also been accredited for T-Level Work Placements, and has significant potential to compliment technical training provision at all levels for other Providers, leverage best-practice Business Improvement teaching capability, and develop work-readiness for learners in the region.

The T-Level Challenge

T-Levels are progressively being introduced and are generally recognised as a rigorous qualification supplemented by valuable work-experience, although there remain concerns about Level 3 reforms which require the transition away from other vocational qualifications. Other concerns relate to the ability to scale-up participation, particularly the availability of work-placements, and the need for universities to recognise parity with A-Levels. Employers will also need to consider how to align entry points for T-Levels within established career pathways and provide the learner with an attractive progression proposition into higher-level technical roles. Managing all this complexity will be important in enabling progress to be made on one of the key LSIP priorities which identifies the need to increase the supply of level 3+ technical skills to meet current and future regional requirements.

Evidenced examples of occupational alignments requiring attention.

Health

NHS Trusts have limited organisational structure between Band 2 Healthcare assistant roles and Band 5/6 clinical practitioners, and do not generally recruit externally onto higher apprenticeship programmes. A T-Level student would be expected to enter the NHS as a Band 2 Healthcare assistant to gain practical experience, without any guarantee of progression. This is unlikely to be an attractive proposition, and those interested in Nursing, or the Allied Health Professions are likely to be incentivised to progress through the traditional undergraduate route.

Engineering

An Engineering T-Level will not provide the breadth or depth of practical/technical skill acquired by those undertaking 3-5 year advanced apprenticeships. They will not be qualified for the electro-mechanical technician roles identified as a key scarce-skill across the region and a gateway to higher technical roles. Their options are more likely to be repeating a Level 3 qualification through an advanced apprenticeship, or pursuing an engineering degree through the traditional undergraduate route, as employers prioritise higher apprenticeships to “grow their own.”

Support for Life-Long Learning

Half those responding to our student survey indicated that they were very interested in continuing to study at a higher level in future. Pursuing this ambition, however, can be difficult. Anecdotal evidence suggests that economic circumstances is requiring some young people to seek work rather than continue studying at 18, including making choices to pursue low-skilled work paying more than most apprenticeships. Progressing out of this low-skilled work then becomes challenging – time off or financial assistance for education and training is unlikely to be supported by their employer, and finding the time and funding to continue with education is difficult. 65% of current/recent adult learners identify various barriers to learning, with work/time pressure being the most frequent, followed by a lack of confidence, and cost (Learning & Work Institute, 2022). Funding changes are proposed in 2025 through the introduction of a Lifelong Loan Entitlement for those 18+ accessing training equivalent to Level 4-6 qualifications, which will provide more flexible funding for modular training over the lifetime of the learner. The impact of these changes will depend on accessibility of learning, and the extent of take up. Only 7% of current/recent adult learners pay for their training through a loan, and attitudes to debt will likely continue to be a factor. Support will be required to help potential adult-learners understand and accept the new loan arrangements.

Resourcing Teaching capability required for higher technical and digital

FE and Independent Training Providers describe significant challenges in being able to afford to attract and retain the staff they require. This challenge is particularly evident when seeking teaching staff for higher technical training and digital where scarcity of skills generally is driving market-levels of remuneration that the education sector cannot compete with.

> 'Trying to get somebody in off the tools that's probably earning £50,000 a year to come in to teach and drop £20,000 to teach.' – Provider (Learning & Work Institute, 2021)

This challenge clearly presents a risk to Providers' willingness and ability to sustain delivery of the higher technical and digital skills prioritised within the NELSIP, particularly as skills-requirements in these subjects are dynamic and require an agile approach to curriculum development and delivery. The challenge is compounded if FE Colleges in the region compete for the same limited expert personnel with each other, the ITPs, and Colleges from adjacent regions. The subject of remuneration within the education sector is outside the direct scope of the LSIP, but it does highlight the need for sufficient and different approaches to resourcing teaching capability in important subjects. The delivery model may need to adapt to incorporate a blend of different solutions, which could include:

- FE Providers collaborating to share and leverage scarce specialist teaching resource across the region.
- Partnering with HE Providers in the region to leverage HE teaching capability for HTQs.
- Secondments of specialists from industry to support curriculum development and delivery.
- Subject matter experts from employers delivering specialist modules within programmes – Construction employers are currently considering this for sector-specific advanced digital skills.
- DfE policy and funding interventions, including recognition of incremental costs of employing specialist teaching expertise.

NELSIP Governance

A NELSIP programme board was established with stakeholders from employers, ERBs, HE/FE, ITPs, and local government to oversee the development and deployment of the NELSIP. It provided governance and oversight to the NELSIP project team, to ensure that the NELSIP is:

- Closely aligned with the Strategic Economic Plan for the North East.
- Effectively programme managed within the timeline and budget and meeting all the requirements and conditions associated with funding provided by the Department for Education.
- Developed in collaboration with employers, key stakeholders and education and training providers in the region.
- Reflective of employer requirements across all the key sectors identified as the primary scope for the NELSIP.
- Aligned with other strategic skills programmes in the region, including work being undertaken by the NELEP and LSIPs in adjacent regions.
- Transparent to all key stakeholders, and not disproportionately representing the interest of any single stakeholder or stakeholder group.

Further detailed consultation with those accountable and an understanding of resource available and prioritisation would be required to establish a timeline for each of the LSIP priorities.

The NELSIP board recognise that to turn the NELSIP priorities into an effective implementation plan it needs to be firmly underpinned by stakeholder commitment to the changes required. The Local Skills Improvement Plan (LSIP) is as much a process of change, as it is the development of priorities included in a report. The NELSIP sets out the first stage of a "roadmap" for delivering the recommendations. A first draft of a RACI is included for all priority areas. However, it will be appropriate to develop this further with specific output measures and timing, involving the appropriate local stakeholders in the initial implementation phase. This consultation should occur during the first phase of NELSIP implementation. It is envisaged that progress should be made on all these actions during the implementation of the NELSIP, but it is recognised that there may be a time-lag before some of the more systemic outcome measures are impacted. The recommendations outlined below in the RACI include a provisional view of stakeholder accountability and responsibility, and consultation and information rights. There are number of complex issues that need to be addressed, including split accountability for policy, delivery, and funding within the education system as well as the transition to NEMCA during the implementation stage and the intended consolidation of the LSIPs for the North East and North of Tyne regions.

Detailed NELSIP RACI with rationale

Definitions	
Responsible	Body/organisation that does the work to complete the work or create the deliverable.
Accountable	Body/organisation who ensures those responsible know the expectations and deliver the work.
Consulted	Body/organisation that provides input and feedback/ has a stake in the outcomes because it could affect their current or future work.
Informed	Body/organisation looped into the progress of the work but not consulted as not decision makers.

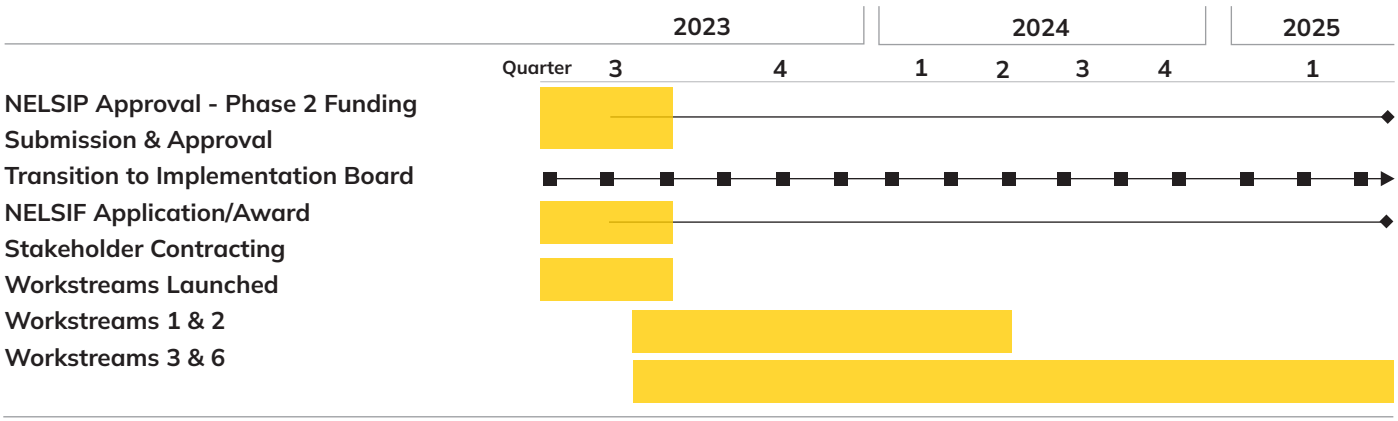
NELSIP Priority	NEMCA	Local Authority	Skill Providers	Employers	DWP	Schools	SECTOR ERB
Provide essential digital skills	C Devolved funding body for adult skills. Alignment with regional digital strategies	C Alignment with local digital strategies	A LSIP FE College' to FE/6th Form College R Any skills provider funded to deliver training	R Identification of needs Provide placements for students and release for re/upskilling	I	I May have responsibilities, but sits outside LSIP scope	C Provide sector trends and current/ future skills needs
Align 16+ technical education	R Responsible for devolved funding for adult skills Aligning skills needs to inward investment and strategic priorities	C Aligning skills needs to inward investment and strategic priorities	A FE College' to FE/6th Form College Aligning Priorities, LSIF & Delivery R Any skills provider funded to deliver training	R Identification of current and future technical skills need and translating into a demand signal	I	I	C Provide sector trends and current/ future skills needs
Increase the supply of level 3+ technical skills	R Providing regional leadership and oversight on technical skills planning	C Aligning skills needs to inward investment and strategic priorities	R Ensuring adequate L3+ capacity and quality of technical provision	A Provide sufficient L3+ apprentice demand R Provide work placements	I	R Ensure all students get access to Vocational careers advice. CEIAG	C Employer Engagement across the sector
Collaborate to deliver key technical skills	R Driving an integrated approach across the region	I Aligning skills needs to inward investment and strategic priorities	A Ensuring adequate supply of higher technical skills R Mechanisms to meet regional needs	R Translating skills requirement into a demand signal	I	I May have responsibilities, but sits outside LSIP scope	C Provide focal point for sector collaboration
Employer focussed - Enable employers	R Improve levy transfer mechanisms and align Adult Education Budget	C Aligning skills needs to inward investment and strategic priorities	A Accountability to DfE to work with Employers R Utilise forums & resource for engagement	R Translating skills requirement into a demand signal	I	R Employer engagement through outreach & promoting work experience	C Coordination and Alignment of sector level requirements
Prioritise Social Inclusion	A Strategic approach to improve level of employment rate.	R Deployment of regional strategy	R Positive assistance to drive equitable participation levels in line with regional strategy	R Equitable representation through inclusive people practices	R Reduce economic inactivity	R L2 attainment and careers guidance	I Sector representation and attraction

A number of principles drive the approach and consistency of the RACI:

- Single accountable lead body.
- Schools' commentary limited to LSIP scope.
- Assumed LSIF alignment to support broader LSIP priorities.
- Assume transition to NEMCA during implementation – recognise roles and responsibilities will be subject to clarification.
- Lead employer body role of NEAA in LSIP implementation covered by separate programme governance. NEAA sector role covered in Sector ERB.
- Role of skill providers recognises local FE Colleges direct accountability to DfE. All funded providers have responsibility for delivery of contracted programmes.

NELSIP Roadmap

The high-level roadmap reflects the transition of the NELSIP programme from development to implementation.



Following DfE programme budget approval of phase 2 of NELSIP, initial Phase 2 activities will include:

- Transitioning from the NELSIP Programme board to a new board that reflects the accountabilities and responsibilities in the RACI and provides governance for implementation.
- Alignment and approval of NELSIF and other appropriate funding to support the six LSIP priorities.
- Stand up the leadership and resourcing for the six workstreams aligned to priorities.
- Development of master programme schedule incorporating work break down schedules and outputs, and measurables for approval by the NELSIP implementation board.

It is envisaged that timing of delivery of priorities 1 and 2 will be during the three-year NELSIP implementation period, whereas that more systemic change activity associated with workstream 3-6 will be sustained beyond the programme.

NELSIP
North East Local Skills Improvement Plan

Funded by UK Government

delivered by the NORTH EAST AUTOMOTIVE ALLIANCE

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NELSIP North East Local Skills Improvement Plan

Annex A - Strategic and economic context for the NELSIP region

delivered by the NORTH EAST AUTOMOTIVE ALLIANCE

Funded by UK Government

Annex A.

This annex provides an extended view of the socio-economic context of the NELSIP region.

The NELSIP Region.

The geographic scope of the NELSIP, defined by the Department for Education (DfE), is the 4 local authorities immediately South of Tyne – Gateshead, South Tyneside, Sunderland, and County Durham. The region is home to around 1.1 million people, with a workforce of c. 518,000 across a diverse economic region which spans urban, rural, and coastal communities. County Durham spans the largest geographic area and accounts for 45% of the workforce in the region. Domestic and international migration into the region is relatively low. The proportion of the population that is economically active is significantly lower in the North East relative to the rest of the UK and activity levels have declined in the past decade. (ONS, 2023)

The Strategic Economic Plan (SEP) for the region is defined by the North East Local Enterprise Partnership (NELEP). A new North East Mayoral Combined Authority (NEMCA) will come into effect from May 2024, which will encompass the local authorities within the NELSIP region and those currently served by the North of Tyne Combined Authority. The DfE will seek to align the LSIP specified area to the NEMCA within the first year of the NEMCA, and the NEMCA will have devolved authority for the Adult Education Budget (AEB). The region currently borders two other NELSIP regions, the North of Tyne and Tees Valley, and there is significant workforce mobility across the regions.

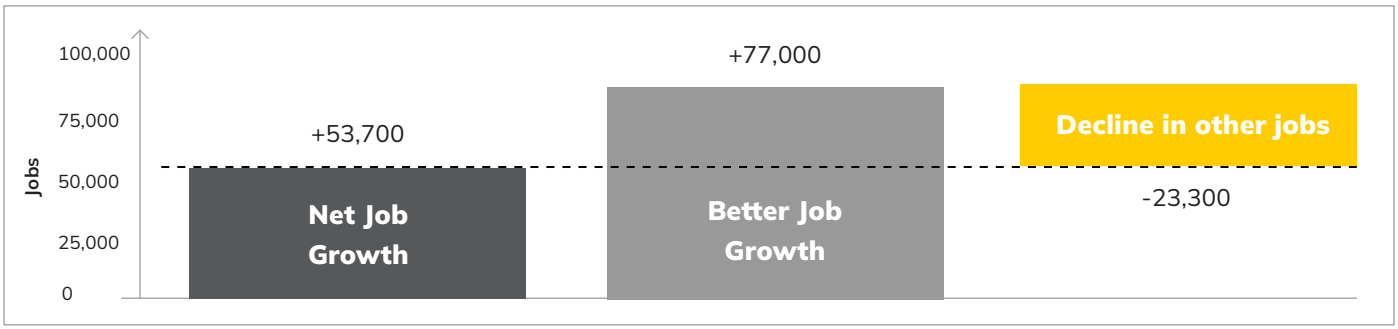
NELSIP Employment (Source: ONS 2023)

Local Authority	**LSIP Region Employment**	**% Total**	**Proportion of Population Economically active, %**			**UK average 57.2 %**
	518,400		**2021**	2011	Change	2021 VS UK
County Durham	235,700	45.5%	**51.2**	53.8	-2.6	6.0
Gateshead	94,500	18.2%	**54.1**	56	-1.9	3.1
Sunderland	123,700	23.9%	**51.8**	53.6	-1.8	5.4
South Tyneside	64,500	12.4%	**51.5**	53.1	-1.6	5.7

Source: ONS 2023

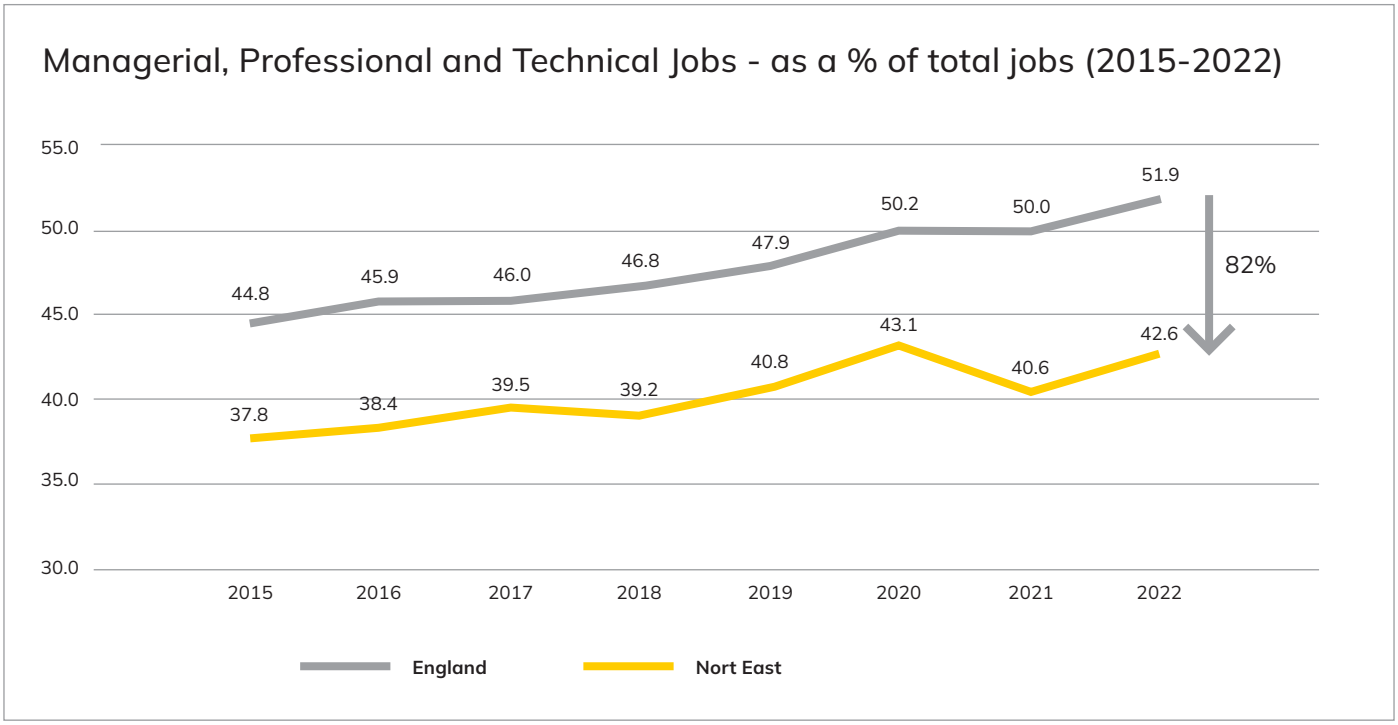
Socio-Economic Context.

Growth in better jobs requires more higher-level technical skills. Progress on the NELEP strategy to create "more and better jobs" is being driven by the growth in "better jobs", defined as managerial, professional, and technical roles. The net growth of 53,700 jobs in the region since 2014 reflects an increase of 77,000 "better" jobs off-setting a reduction of 23,300 other jobs.



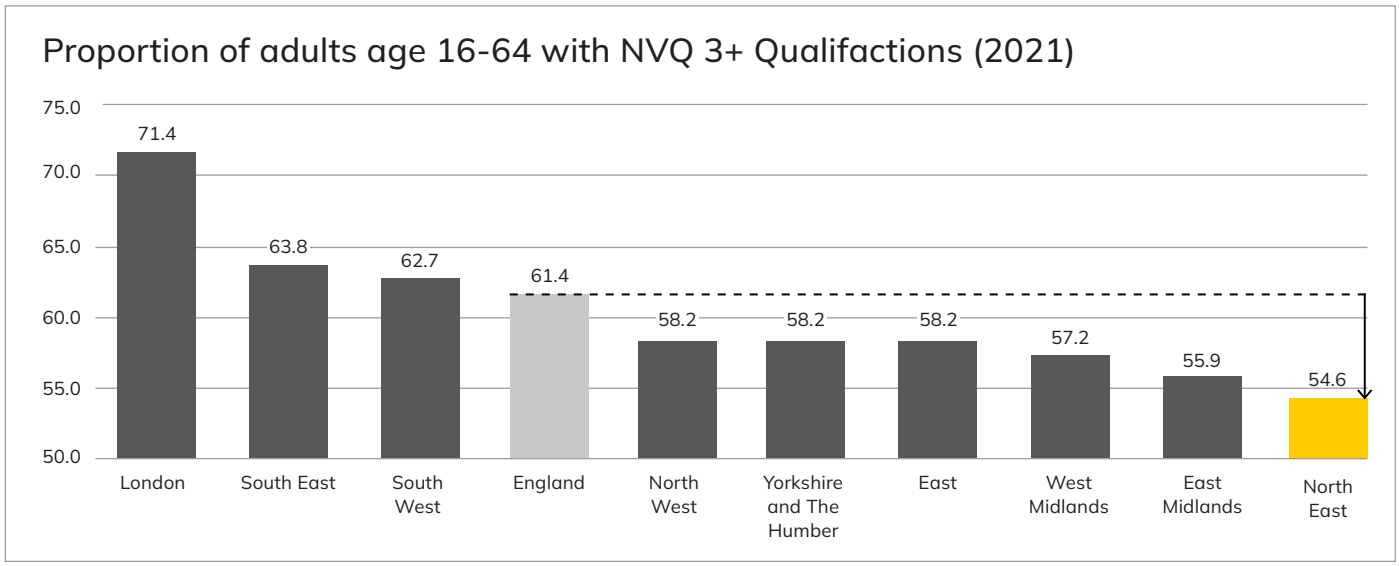
Source: NELEP Evidence hub

The region historically lags the rest of the country regarding the proportion of "better jobs", impacted by low levels of Research & Development spend (half the rate of R & D per head of the national average - ONS, 2021,). This can make it difficult to attract highly qualified technical staff to the region as they may perceive limited career development opportunities in product development roles. The strategic drivers of Sustainability, Electrification, and Digitalisation and associated inward investment, provide new opportunity to accelerate the changing mix of work and create more high-value jobs.



Source: ONS 2023

Higher value jobs generally require higher-level qualifications, typically at Levels 4-6, with Level 3 qualifications providing a key gateway to these jobs and qualifications. However, levels of advanced and higher educational attainment are low. The proportion of adults with a Level 3 qualification is the lowest in the country, and the rate of progression from Level 2 to Level 3 by age 19 is 10% below the national average (DfE,2021). Level 2 attainment in Maths & English is required to enable people to progress through Level 3+ vocational qualifications and into "better jobs" – GCSE Maths & English attainment is in line with national levels at age 16, but 30% of each annual cohort are still without a Level 2 qualification in Maths & English by age 19. In technical roles in sectors such as Engineering and Manufacturing, those with Level 4/5 qualifications by the age of 25-30 secure a median pay premium of 30% versus those with level 3 qualifications and 60%+ over those with Level 2 qualifications at the same age. (Unit for Future Skills, 2023)

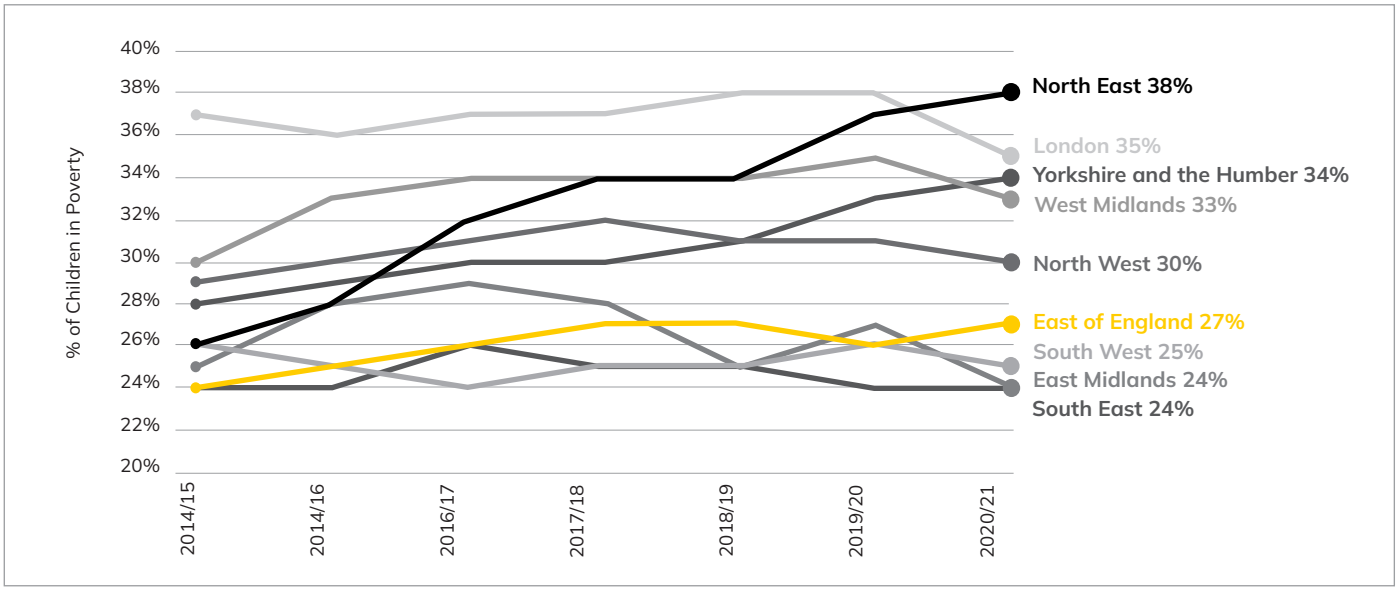


Source: ONS 2023 – Annual Population Survey

The region also has the lowest level of graduate employment, equivalent to 143,000 fewer graduate jobs than the UK average, worth circa £1/3bn of lost regional income a year (IFS, 2020). The number of graduates from local Universities staying in the region following graduation varies between institutions.

Social Inclusion.

The region has some very significant social challenges. It has the highest proportion of households in the country which are deprived on at least one dimension (54.6% - ONS), life expectancy is below the UK average for men and women, a high proportion of children eligible for Free School Meals (28.5% versus national average of 22.5%), and the highest rate of child poverty in the country (38%).



Source: https://endchildpoverty.org.uk/child-poverty/

There are high levels of digital exclusion and the proportion of the population that is economically active is the lowest in the country and has declined over the last decade. These issues reflect longstanding economic and social challenges which are beyond the scope of the LSIP, but it is important that the LSIP recognises this context and seeks to prioritise social inclusion. Enabling wider access to vocational qualifications will benefit employers and the economy by increasing the pool of qualified workers, but it will also provide wider access to good jobs and careers that can help people contribute more to the local economy and provide improved opportunities for future generations.

The reduction of intermediate apprenticeships and the increase in higher apprenticeships has disproportionately impacted those from lower socio-economic backgrounds. The proportion of those from most deprived 20% of neighbourhoods on Intermediate apprenticeships is twice the level of those on Higher apprenticeships. Furthermore, those Free School Meal eligible are less likely to participate in apprenticeships in sectors such as Engineering and Construction, which can afford significant pay premia and enable social mobility.

Figure 16: Changes in the composition of apprenticeship starts by deprivation quintiles

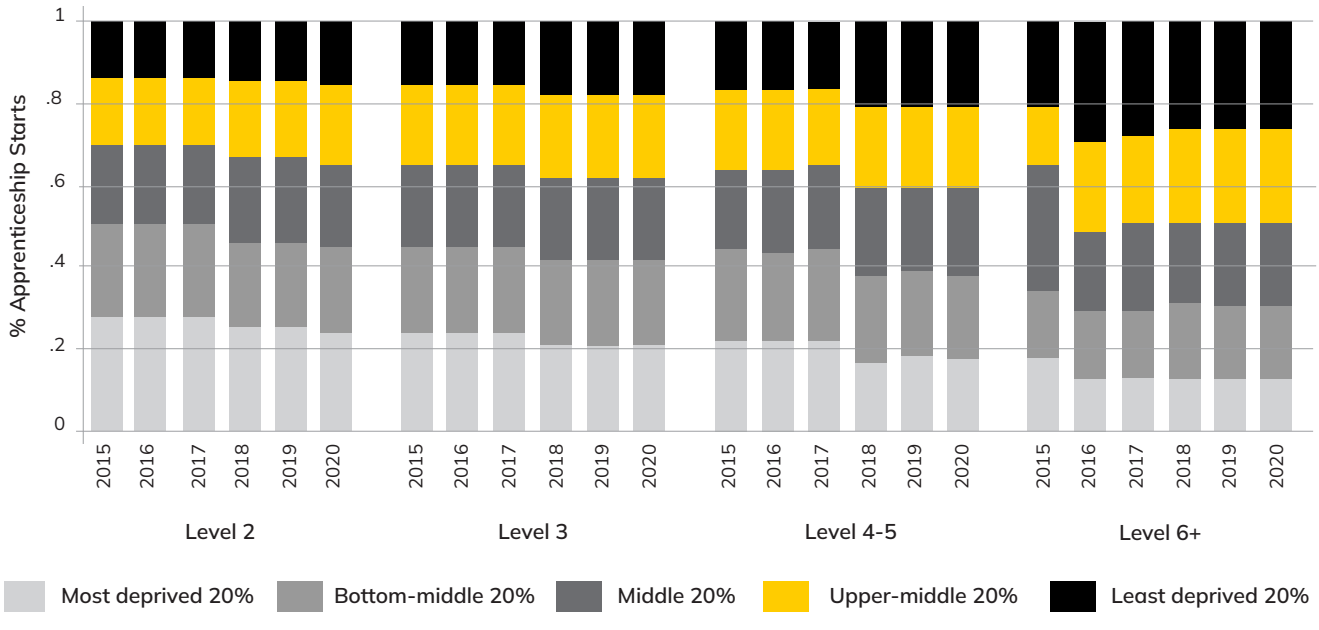
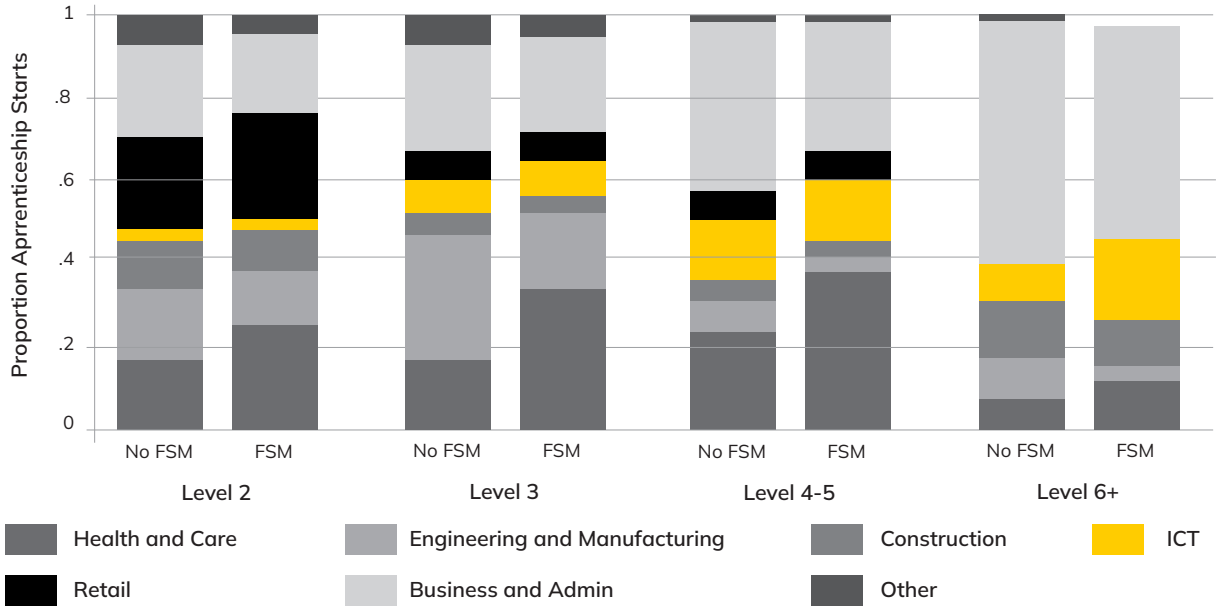


Figure 19: Sectors composition by Level and young apprentices' socio-economic background (FSM eligibility)



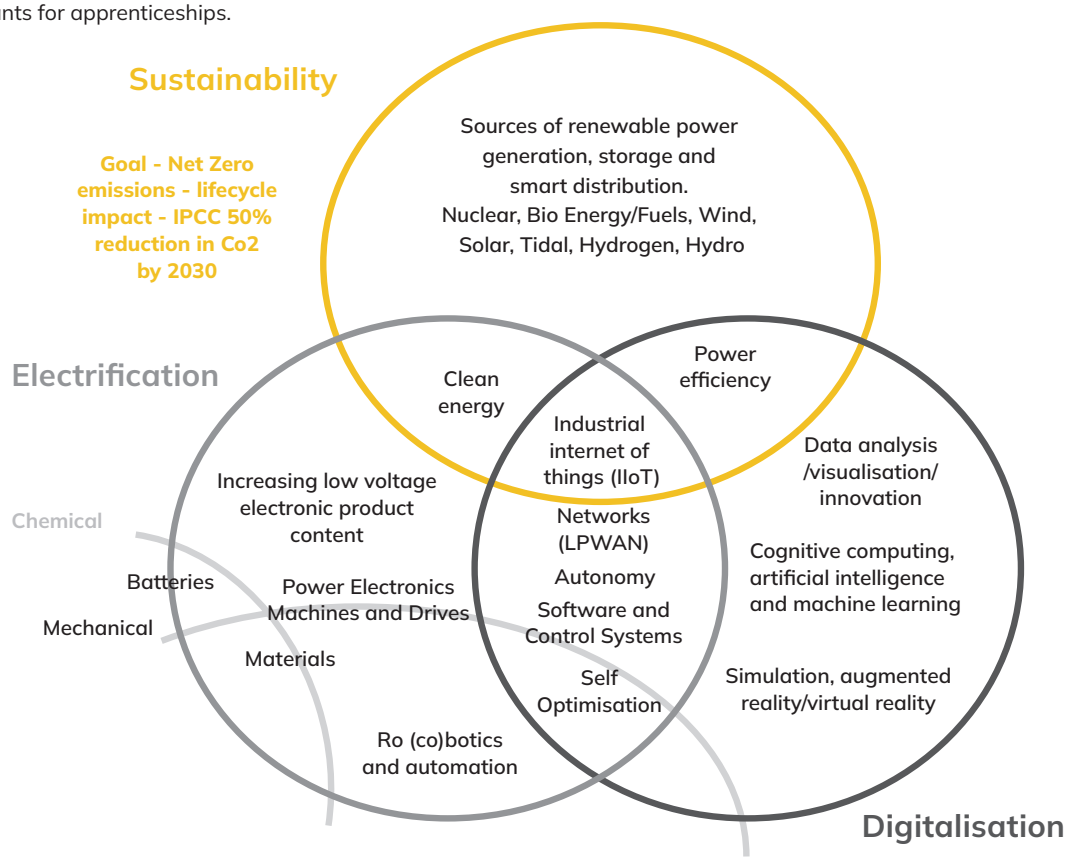
Notes: The figures shows, within each apprenticeship level, the proportion of apprenticeships started in each sector in academic year 2018/19 by apprentices' socio-economic background as measured by their eligibilty for Free School Meals (FSM) in Year 11. The sample only includes apprentices of up to 29 years of age, as this is the group for whom information from the National Pupil Database (NPD) can be consistently recorded in the period of interest. Source; ILR linked to NPD.

Source: Sutton Trust (2022)

The tight employment market has provided a challenge to the established practice of many employers subsidising investment in apprenticeships by paying apprentices reduced pay rates, as those seeking work can earn substantially more in low-skilled work outside of an apprenticeship. Many may not be in a position where they can afford to pursue a lower-paid apprenticeship or may be sceptical of the value of it – only one-third of students surveyed strongly agreed that apprenticeships lead to well-paid jobs and only a quarter said that they would apply for an apprenticeship if it paid less than they could earn in another job. This may help explain why many employers say they find it difficult to find suitable applicants for apprenticeships.

Strategic Drivers

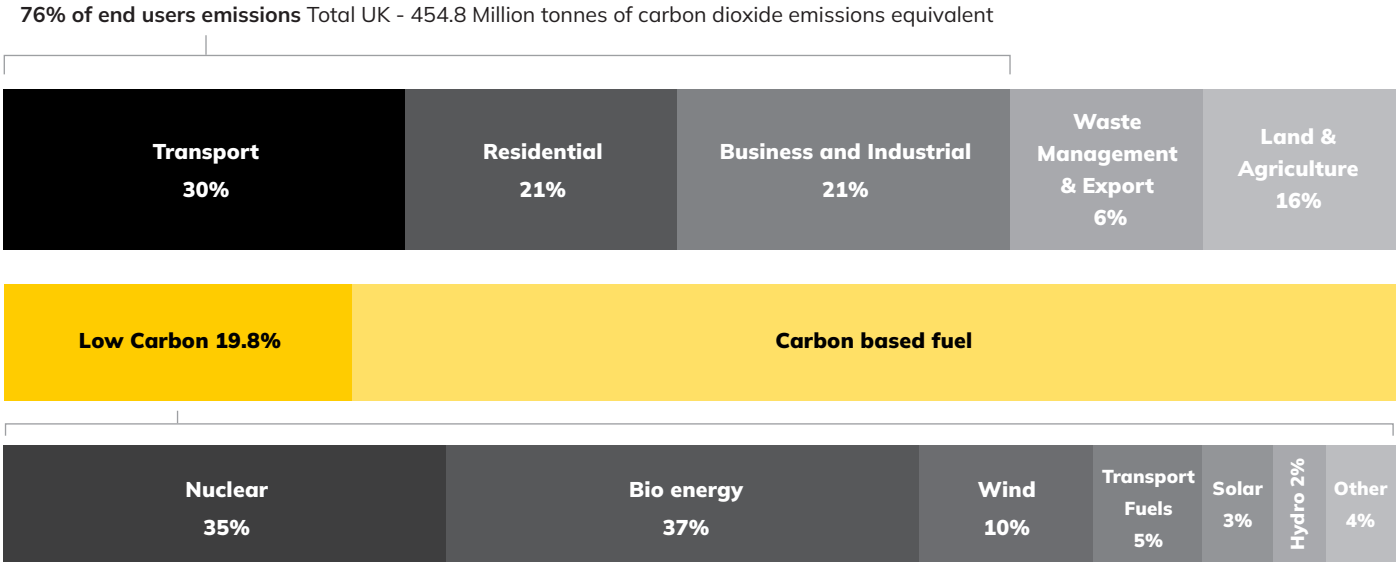
Sustainability, Electrification, and Digitalisation are three significant interdependent drivers in the North East region and the technical capability and skills requirements required to realise the socio-economic potential should not be underestimated and they can serve as catalyst to support leverage transformation in other sectors, including health provision and health science.



Sustainability is an imperative.

Increasing emphasis on sustainability is driving electrification. Reduced carbon usage is an essential aspect of achieving net zero emissions targets. Transport, residential and business and industrial users account for over three-quarters of the UK 454.8 million tonnes of end user emissions each year. Sustainability is a now business imperative driven by commitments to a 50% reduction in CO2 by 2030 (Intergovernmental Panel on Climate Change), and minimising environmental impact arising from product design, manufacture, product/ service usage and disposal is recognised as central to high performance. Regulation and corporate Environmental, Social & Governance (ESG) commitments are driving requirements to reduce emissions. Many businesses are responding to investor and customer calls to accelerate decarbonisation of their products and processes.

The electrification of transport and infrastructure/facilities helps avoid direct carbon emissions, however for the benefits to be realised there must be a supply of clean electrical power. Presently only 20% of UK power generation is generated through low carbon fuels. (BEIS 2020).



The numbers do not add to 100% due to rounding

Source: UK ENERGY IN BRIEF 2020 - BEIS

Whilst legislation has driven automotive OEMs to battery powered electric vehicles in the short term, many continue to explore other hybrid solutions such as range extended electric vehicles (REEV), as well as alternative power sources, such as hydrogen, Bio and synthetic fuels, with appropriate after burn treatment. Batteries are not a viable power solution for all forms of transport propulsion due to existing power density constraints. Batteries are relatively heavy, have limited durability and are best suited to low usage, short distance light vehicle applications. The deadweight performance penalty associated with carrying a vehicle battery cell remains a concern, but clean alternatives remain immature in their development. Hybrid hydrogen fuel cells (FCEVs) and Hydrogen ICE and Bio and synthetic fuels may offer a better long-term solution for aviation, heavy freight, maritime and off-road vehicles that operate for long continuous periods and over longer ranges. These solutions provide much of the same flexibility of petrochemical, whilst avoiding CO2 emissions. However, in reality they lack technology readiness and cost viability. As well as requiring specific safety and storage and distribution infrastructure requirements, in addition to technical solutions for engine injection and exhaust aftertreatment to remove any residual Nitrogen Oxide or other emissions.

Green Jobs

The UK Governments Green Jobs Task Force (2020) define a 'green job' as a broad term used to identify a job that either directly contributes to, or indirectly contributes to, achieving net zero emissions and other environmental goals. Four of the five high impact NELSIP sectors are explicitly included as key sectors by the Green Jobs Task force. The Task Force specifically identify Automotive and HVAC as sectors experiencing growth, driven by climate targets and legislation. The construction energy-efficient retrofit sector is also identified as expecting to grow in the short to medium term.

Sector	Summary assessment of impact and focus of green skills needs
Digital	• Software and firmware to enable electrification. • Digital capability that enables end to end value stream visibility. • lifecycle impact modelling, interpreting analysis and data science. • Industrial digitalisation optimisation resource use. • Smart grid infrastructure and electrical load balancing across AC/DC networks in support of electrification. • Zero impact of digital network infrastructure footprint. • AR/VR replacing resource consumption.
Advanced Manufacturing Industrial decarbonisation	• Product design for sustainable manufacture, service & disposal. • Electrification driving innovation in power electronics, machine and drives (North East DER. -Industrialization Centre) and battery development (Faraday Institution). • Product development & testing, rapid prototyping – reduced waste. • Materials production and refining - extraction and refining of raw material for parts. • Manufacture – use power & resources - facility and production processes. • Product usage and service. • End-of-life - Dismantling of product & waste management of the materials. • Scope 1-3 – Greenhouse Gas protocol.
Construction	• Energy efficient retrofit for existing buildings – retrofit assessment and project management, installation of heat pumps, smart devices and controls, heat networks and hydrogen boilers; • Environmental impact assessment and project management across technical areas. • Electrification – Electric Vehicle charging infrastructure, photovoltaics. • Modern Methods of construction – modular/ framing. • Advanced building management systems. • Sustainable procurement.
Transport and logistics	• Carbon accounting; level of supply chain moves - Inward/Outbound logistics and storage. • Transport Fleet planning and emissions management (Scope 1-3 – Greenhouse Gas protocol). - data management; efficient equipment design and maintenance. • SAFED (safe and efficient driving). • Facility Footprint.

The NELSIP also recognises the increasing importance and growth in the offshore wind sector in adjacent geographies, and the supporting smart systems and digital technologies, including energy storage and demand-side response and balancing of electricity networks. Many of the skills required for the net zero transition are not specific to certain sectors, but transferable across sectors. Transition also provides complexity which is driving demand for multi-skilling and interdisciplinary skills, an example is managing interdependencies across whole building retrofitting.

Green skills will be required progressively and will often build on existing skills and education provision and will need to reflect reskilling and upskilling demand as well as preparing learners coming into jobs for the first time. Anticipating timing of transition and volume of demand will be challenging. The educational sector will need employer and government support to attract and retain qualified teaching resources, which will likely be scarce in the short term.

Electrification is accelerating at pace

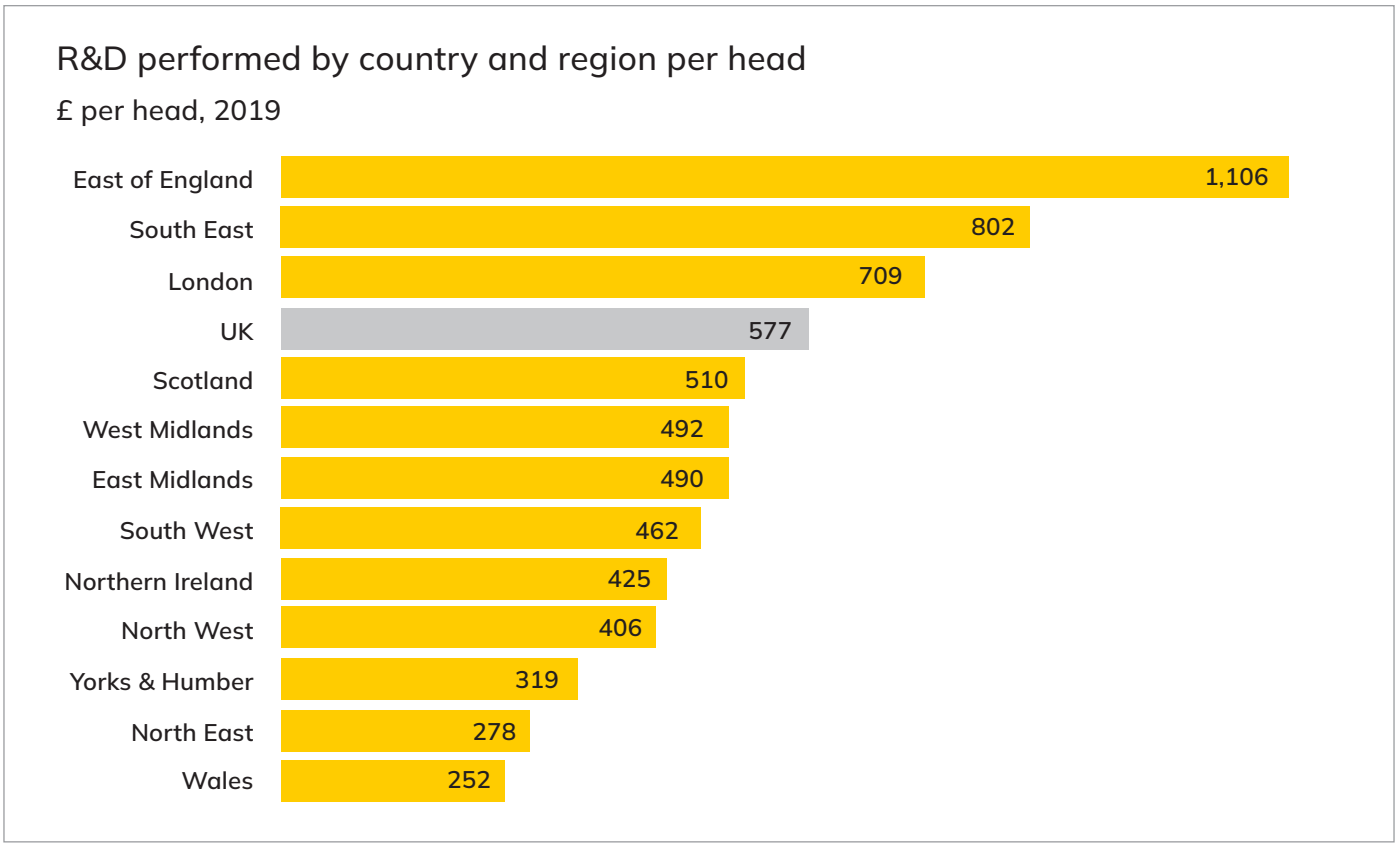
Transport, business and industrial processes, and residential account for 3/4 of UK carbon emissions and less than 20% of the power consumed is presently low carbon.

Advancements in electro-mechanical devices provide the basis to be able to monitor, control and link independent machines through interconnectivity.

Although the impact of electrification is very much cross-sector, the UK Government assumes that, in the near term, the most value from it will be derived from the electrification of automotive, due to market dynamics and high volume. The IEA Global EV outlook 2020 estimates of 140M electric/hybrid vehicles by 2030 and a global market of £233Bn in electrification technologies. The value of PEMD is approximately £9Bn, and the North East has 20% of Power Electronics spend in the UK, accounting for £72M pa. However, whilst IP for power electronics is generated in the North East there is limited manufacturing (NEAA October 2020). The NEAA suggest there is a potential for £3.7Bn incremental economic activity for the North East based on current known innovation and growth opportunities.

The UK electrification supply chain has existing dependence on third parties overseas. There is increased activity in the UK regarding the installation of Giga-plants for the large-scale manufacture of batteries and the establishment of Faraday Institution North East at Newcastle University, recognising the NE region leadership in battery manufacture. Envision AESC will expand their current facility adjacent to the Nissan plant to supply the higher power battery to support the Nissan Leaf to the UK. BritishVolt announced its intent to build a £2.6 billion factory in Blyth, Northumberland with the potential to power 300,000 electric vehicles and provide 3,000 highly skilled jobs, with a further 5,000 more in the wider supply chain, and whilst this venture has had a difficult start, the business has been novated to a new owner Recharge Industries since cross sector battery product demand remains.

The Driving the Electric Revolution industrialisation centre (DER-IC) in Sunderland is focused on supporting the growth of supply chains for Power Electronics, Machines and Drives (PEMD). The growth in innovation, product development, test validation, prototyping and scale-up provides the region with an opportunity to move up the value stream and build on an established Drive capability that accounts for circa 60% of the value chain. The NEAA estimates that 17 of 21 of the regions Research & Development (R&D) centres are involved in electrification, contrasting more generally with the levels of R & D investment in the region. The North East attracts only half the UK average level of investment in Research & Development.



Source: ONS, Gross domestic expenditure on research and developement by region and House of Commons Library calculations using ONS populatation estimates.

This matters because R&D leads to innovation, which enables productivity and creates well-paid jobs. It also enables an eco-system that is self-reinforcing. Innovation requires and is re-enforced by a cohesive approach to vocational capability and skills development at all attainment levels, and such capability development supports further product and process innovation and best practice. There is a significant risk that in the absence of a credible approach to skills, the R&D activity will migrate to other parts of the UK where business leaders perceive that the ongoing availability of skills is more robust and readily accessible to support growth commitments. Additionally, until there is a critical mass of product development activity in the North East it will be difficult to attract and retain graduate/post-graduate talent who may not have a perspective of long-term career options within the region. Research & Technology Organisations (RTO) can play a key role in integrating a compelling regional proposition that leverages research capability to benefit business innovation and scale-up, enrich the vocational technical curriculum, and strengthen SMEs. The University of Sheffield AMRC and the MTC at Coventry for instance have enabled ecosystems providing innovative assistance for SMEs, through deployment of new technologies, enhanced technical apprenticeships, and additional financial assistance. 80% of the 700+ Level 3+ apprentices at the AMRC Training Centre are employed by SMEs from within a 40-mile radius of the centre. The broader North East region has Universities with research strengths relevant to emerging technologies in strategically important sectors, including electrification, digitalisation, data, and life-science. A cohesive approach to aligning this capability in support of the vocational technical curriculum in the region would enrich provision in the region and help sustain the ecosystem.

Newcastle University recognises the need for regional technical leadership and is seeking to coordinate a focused push to accelerate the development of the skilled workforce and processes for electrification through EPIC (Electrification Process Innovation Centre). EPIC is intended to bring together engineers, technicians, and academics, with core skills and technical knowledge in PEMD and battery manufacturing, process development, data, and business acumen; cutting edge manufacturing equipment and research equipment; co-located in a purpose-built facility and working with industry to deliver innovative manufacturing processes, and skills.

EPIC will enable and support close collaboration between Academia, industrial partners and RTOs to jointly develop solutions to a host of technical and skills needs arising from the electrification agenda and net zero targets. It will provide industry with a 'one-stop shop' for the capability required to grow their business, educate their workforce, and deliver manufacturing processing, utilising the underpinning technologies required to deliver net zero. It builds on IESAM and provides an opportunity for the region to be at the forefront of innovation and skills development for electrification.

Collaboration Best Practice

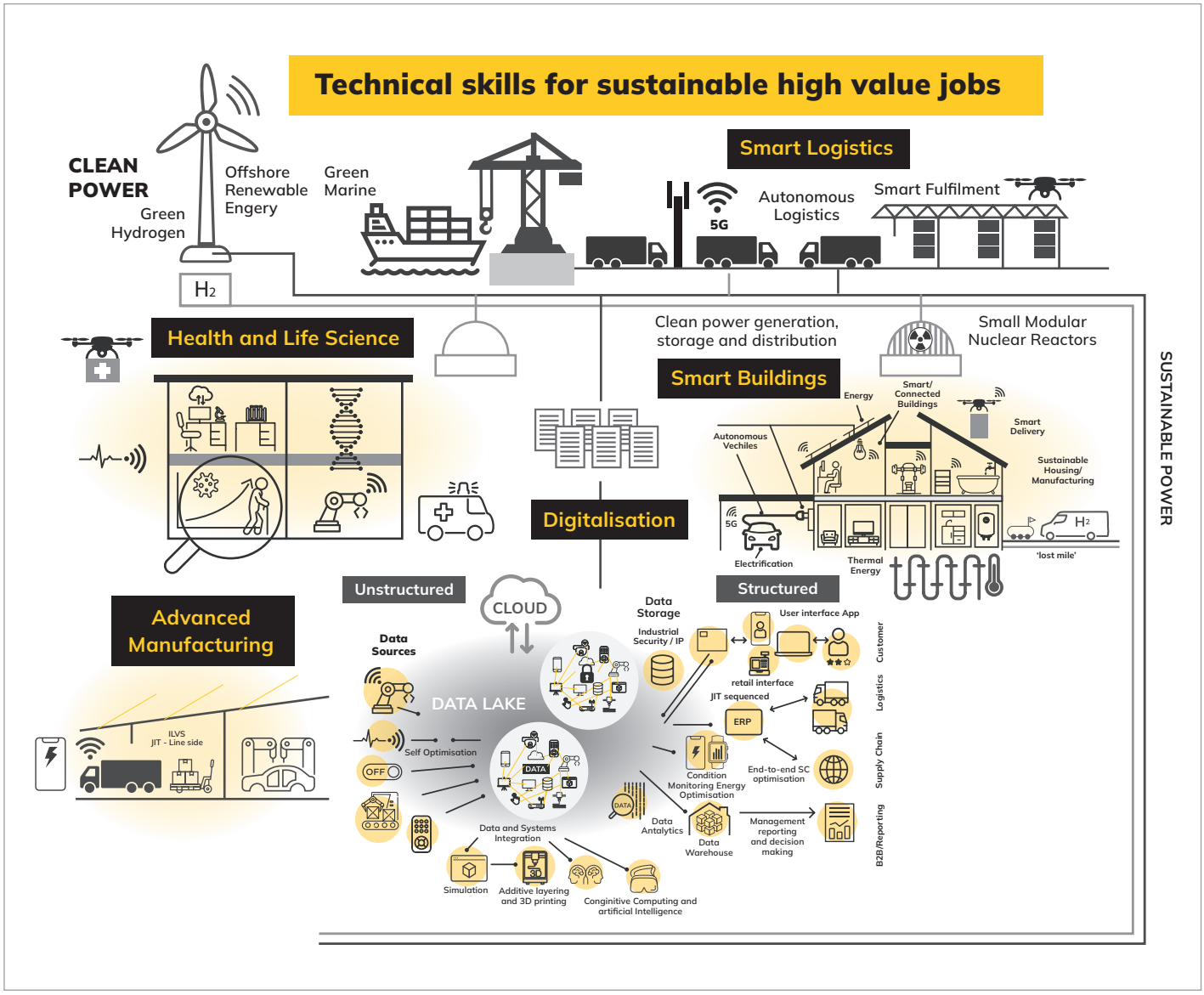
IESAM – partnering to support growth and the transition to Net Zero. Newcastle University has created the Institute of Electrification and Sustainable Advanced Manufacturing (IESAM), a partnership between the region's universities, FE colleges and the North East Institute of Technology. The North East is fast becoming an international leader in electrification technologies, and IESAM, supported by funding from UKRI/Innovate UK, recognises the importance of a common supporting curriculum which leverages the world-leading expertise in the region to maximise impact. IESAM provides a common curriculum for electrification skills aimed at students, apprentices, schoolteachers, and college lecturers. It will create Power Electronics, Machines, & Drives (PEMD) content to enrich T-level, Higher Technical Qualifications as well as Advanced and Degree Apprenticeship programmes. IESAM's curriculum development team is working closely with its education and industry partners to ensure that current and future industrial needs are reflected in the education offer, including Robotics, Automation and Control, and Digital Manufacturing. Professor Stephanie Glendinning, Pro-Vice-Chancellor of the Faculty of Science, Agriculture and Engineering, said: "I am really excited about the launch of IESAM: it is a true collaboration that will support the work of industry, universities, colleges and government to grow the UK PEMD supply chain, providing new jobs in the region and helping the global transition to net zero."

The impact will be to secure and grow an appropriately skilled workforce, to establish the UK as the epicentre for electrification process R&D, to drive inward investment, and to accelerate job growth and a higher regional profile.

Digitalisation is all pervasive

The digital networked world is rapidly reshaping our work and home environment. The Internet of Things (IoT) links electrical devices through cloud-based applications to collect and share information real time across all aspects of activity. Interconnectivity is key and the illustration below provides a systemic view of how this interconnectivity links the NELSIP five high impact sectors within the region in the context of a sustainable future.

NELSIP sectors – a systemic view.



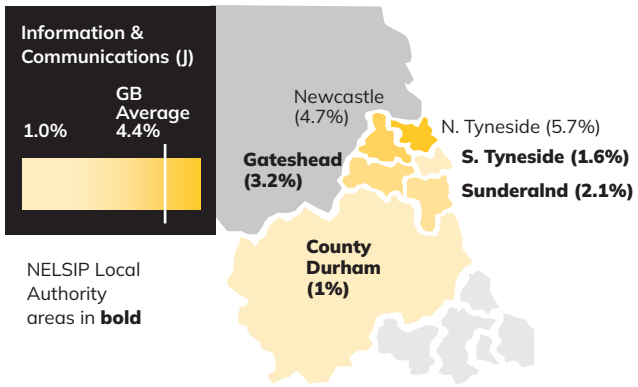
Digitalisation is transforming all sectors, and redefining many. Commercial models are evolving into cloud-based services that offer professional consulting, shared services, online retail, and other streamed content, as well as other leisure activities, such as gambling and gaming. They rely on data on product usage patterns leading to marketing and upselling. Products are merging with services, and subscription is replacing ownership. New product introduction, upgrades and augmented services can be enabled remotely through software configurations applied to installed hardware for relatively little marginal cost.

Digital skills are increasingly required for better jobs; however, the NELSIP region is trailing the rest of the UK. The workforce in the digital sector represents 1.5% of the NELSIP workforce, compared to an average employment rate in the sector of 4.4% nationally (ONS,2023). The North East digital sector is concentrated around the Newcastle and North of Tyne area. In the LSIP area c 70% of the specialist digital workforce is located in Gateshead (3.2% of total workforce) and Sunderland (2.1%).

All jobs will require basic digital skills, and higher skilled jobs will also require occupational specific advanced digital skills, they are critical to employment security, and they are a key requirement to access better jobs and higher pay.

Digitalisation is central to the NELSIP since it is a key enabler to better jobs. However, demand for advanced digital skills in the North East is trailing the rest of the UK, with the exception of skills relating to Machinery Technology, reflecting the relative density of advanced manufacturing in the region. This requirement should be reflected in skills development, but it should also be recognised there is a link to a shift in higher value product development that typically require advanced digital skills capability in areas such as Software & Programming, Digital Design, and Data Analysis.

Business Register and Employement Survey - ONS 2021

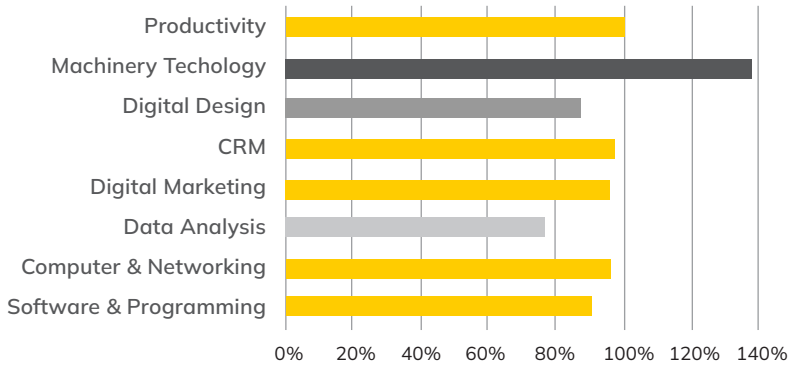


Digital intensity of advertised vacancies in advanced digital skills

- **High realative to UK average**
- **In line with UK average**
- **Lower than UK average**
- **Significantly lower than UK average**

Demand concentration shows how concentrated digital demand is within a geography in relation to the number of job adverts in digital occupations. UK-wide average digital demand equals 100%. So greater than 100% is higher than UK average.

Digital Demand Concentration - North East



Advanced digital skills:

- Improve regional economic resilience; jobs with a higher digital skill requirement reduce the risk of job elimination due to automation by 59%.
- Are required for career progression into higher level jobs, enabling a greater proportion of the workforce to be employed in better jobs.
- Attract a significant wage premium over jobs that do not require advanced digital skills, increasing with the skill level of job.

Digital Skills - qualification alignment and pay premium

Skill Level	RQF Levels	Example qualifications	Digital Skills Requirement % Jobs		Digital Pay Premium
			General	Advanced	
Low-Skill	Entry level, Level 1, Level 2	Entry level certificate, GCSE, Level 1/2 certificate, intermediate apprenticeship Functional Skills	77%	29%	+12.7%
Middle-Skill	Level 3, Level 4, Level 5	A level, Advanced Apprenticeship, Higher National Certificate (HNC), Higher National Diploma (HND)	85%	59%	+22%
High-Skill	Level 6, Level 7, Level 8	Degree Apprenticeship, Bachelor's Degree, Master's Degree, Postgraduate Degree, PhD	83%	67%	+33%

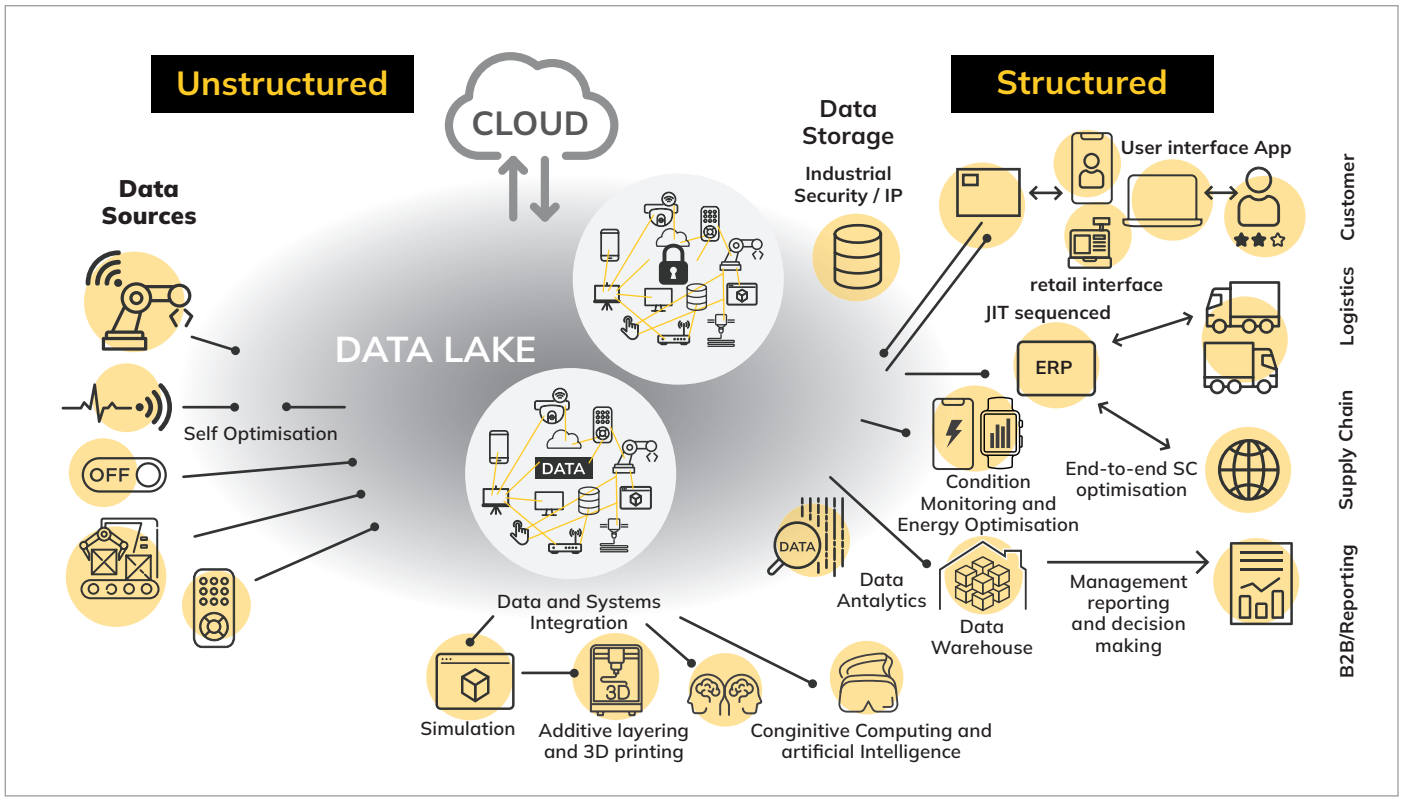
Source: No Longer Optional: Employer Demand for Digital Skills, June 2019. Burning Glass Technologies for UK Government - Department for Digital, Culture, Media, and Sport (DCMS).

Digital and the NELSIP high impact sectors
Industrial Digitisation – Advanced manufacturing

Advanced manufacturing is an early adopter of digital in the region. Employers are demanding advanced digital skills to support machinery technology and leverage associated data to drive improved productivity and performance in the region.

Industrial Digitalisation is at the heart of the next generation of advanced manufacturing organisations. A network of electrical sensors, smart linked machines, and other devices supports real time monitoring, data collection, and exchange. This unstructured data is uploaded to the cloud and structured to enable analytics and data science, and facilitate machine learning and artificial intelligence to enable devices to self-optimise and deliver operational insight. End user interfaces provide reporting and visualisation and real-time insight which leads to predictability, agility, better decision making and increased supply chain resilience.

Industrial Digitalisation



Made Smarter (2017) identified a number of areas where better digital adoption rates in industry could 'turbocharge' UK productivity and international competitiveness.

- Creating new, higher-paid, higher-skilled jobs that add value to society and positively offset the displacement of poor productivity and poorly paid jobs.
- Strengthening UK supply chains and creating new value streams.
- Addressing regional economic disparities.
- Increasing exports through competitiveness.
- Creating a new vibrant technology market serving UK industry and attracting foreign direct investment
- Improving the resource efficiency of the UK's industrial base, making it more resilient to global resource supply disruptions and reducing its environmental impact through more
- efficient manufacturing and industrial processes and more optimised supply chains.

(Made Smarter 2017)

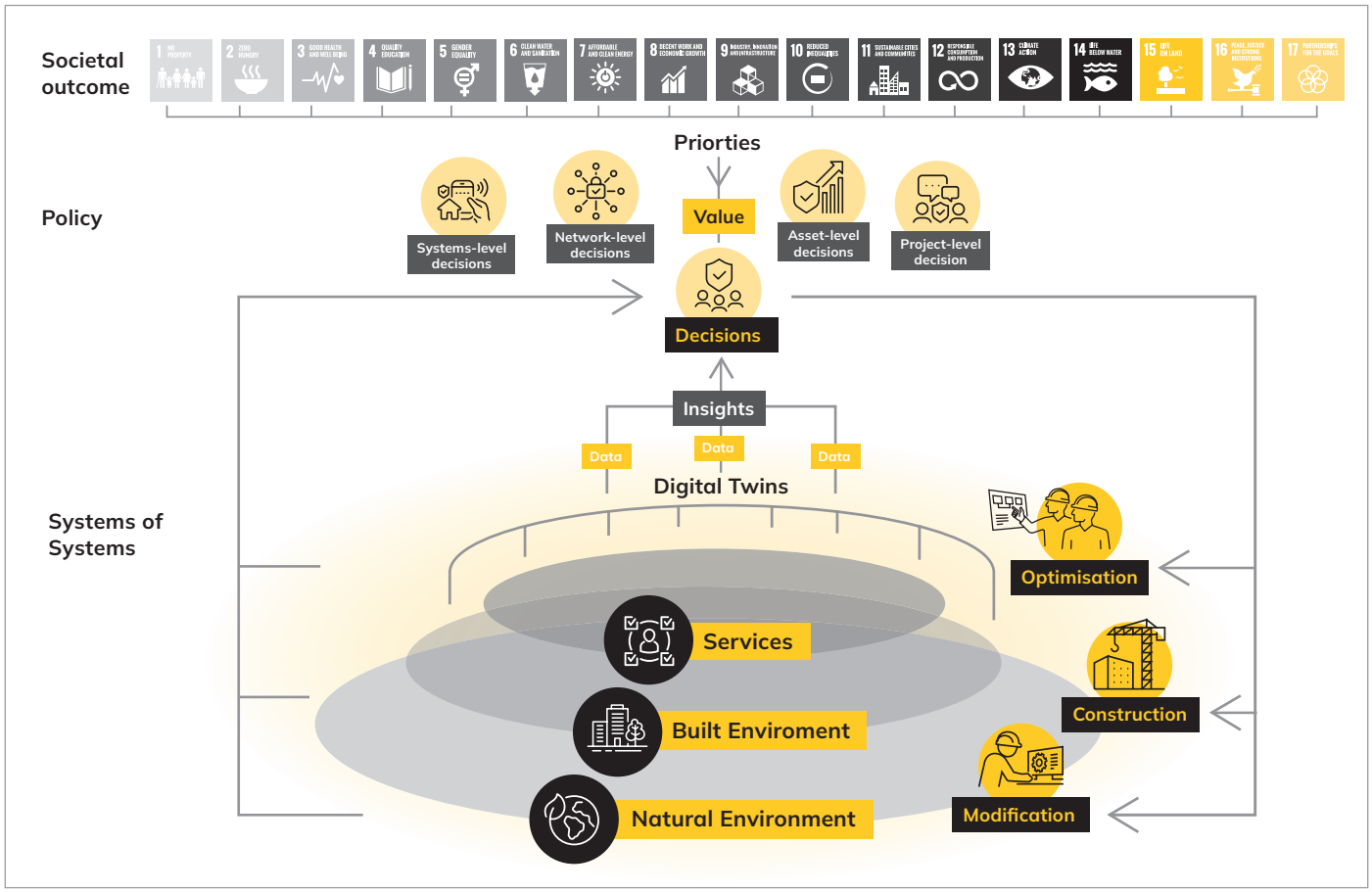
Best practice in advanced digital manufacturing also illustrates how early adopters have recognised that a continuous focus on improving people capability and skill is central to future success. It is characterised by innovative approaches to leadership and learning that embrace training techniques which include the emerging technology, codathons, gamification, digital learning pathways, virtual reality (VR) and augmented reality (AR) learning tools in authentic learning environments. A number of emerging capability themes have skills implications.

Emerging Capability theme arising from industrial digitalisation	Skills Implications
Empowering the front line to innovate and improve, using technology and data	• Rising level of base level operator numeracy and literacy – ability to read, interpret and analyse data through use of technological interface. • Skills to use information to inform decision making and take/effect the appropriate action. • Supervisor skills to support autonomous decision making and appropriate escalation.
Proactively building capabilities, both technical and soft, and managing talent	• More automated digital manufacturing facilities change the skills-mix - requiring more skilled technicians who need higher level technical and digital skills. • Data literacy and analytical skills required to interpret more complex data and information, and translate it into value and competitive advantage. • Lean and business improvement capability needed to optimise opportunity of digital in LEAN 4.0.
Adjusting the organizational structure to enable digital transformation.	• Cross-functional and whole value-stream understanding required to realise value of collaborative digital network. • Ability to manage large quantities of data and extract what is salient through analysis • Strong domain knowledge will need to be aligned to support advanced digital skills and services.
Implementing new ways of working such as agile and increased transparency	• Data availability will enable quicker enterprise-level or cross-functional decision-making.
Improving day-to-day assembly and operating tasks through automation and technology	• Automation of routine tasks raises the skills bar for entry-level operational roles. • Increases requirement for operators to interact with data and machines. • Business improvement capability required to identify process and value-stream improvement opportunities informed by data. • Leverage Made Smarter/Smart factory and connected supply chain and connected and autonomous logistics (VCAL).
Increasing levels of problem solving and collaboration on the front line	• Cognitive and problem solving skills required in entry-level roles to interpret data, communicate information, and make decisions. • Role of first-line supervisors and managers redefined, due to more distributed digitally-enabled workforce.

Adapted from: Fourth industrial revolution. Source: McKinsey & Company Lighthouse analysis (2020)

Construction

In Transforming Infrastructure Performance: Roadmap to 2030 (2021) The UK government describe the transformation challenge within the construction industry to meet sustainability goals on a path to net zero by 2050. The Built Environment Model (BEM) takes a holistic look at construction and is underpinned by the use 'modern digital approaches and technologies'.



The Built Environment Model. (Policy Paper, Infrastructure & projects authority, UK Gov 2021)

The fragmented nature of the construction sector has presented challenges in adopting digital technologies, impacting investment in technology and integration of systems and data. The pace of change is accelerating though, as digitalisation is recognised as a transformational enabler of productivity and sustainability.

Building Information Modelling (BIM) provides a digital representation over the life-cycle of a project or building, from design through to manufacture, operation and maintenance, enabling effective collaboration, reduced cost, life-cycle optimisation and energy efficiency. The significant employer demand for these skills is evidenced in the recent Digital Skills Bootcamps in the North East.

Digital Construction management software enables effective project planning, scheduling, and collaboration. Work instructions are routinely shared electronically, requiring basic digital skills across all operators and contractors. Augmented Reality (AR) and Virtual Reality (VR) technologies enable visualization of design, improving planning, avoiding waste, and improving collaboration.

Drones are routinely being used to accelerate site surveys, and inspection of hard-to-reach areas. Robotics, such as autonomous vehicles and robotic arms assist with material handling, excavation, and also enable specialist services such as bespoke masonry which can be difficult to sustain due to scarce specialist skills and ergonomic risk.

Connected digital devices enables the real-time monitoring and management of construction sites and equipment through sensors and electronic devices, enabling proactive decision-making and planning, improving safety, resource allocation, and operational efficiency. Building management/services are increasingly reliant on cloud based digital applications to optimise HVAC impact and the efficient optimal operation of other support services.

Employers are recognising the transformational opportunity that digital technologies and skills are providing in technical and project management roles, and the importance of basic digital skills at all levels. Some indicate that there is still more scope for adoption among skilled trades.

Modern Manufacturing methods are emerging but uptake in the North East is slow. These methods will increasingly rely on advanced manufacturing CAD/CAM capability, not only changing the way some operations are conducted but shifting the location to a factory rather than on-site.

Health & Health Science

Digital technologies have huge potential to transform health and well-being through early diagnosis and prevention. Advances in Genomics and big data enable early diagnosis and personalised treatment, surgical robots, and 3D bioprinting can revolutionise treatment. However, wider applications of digital technologies are also providing opportunities to transform every-day Health and Care provision in the North East, and feature in the digital strategy of the North East & North Cumbria Integrated Care Board.

Electronic patient records are improving the availability of information to Healthcare professionals, enabling improved and more timely decisions about patient treatment. The Great North Care Record enables availability of patient data across different Healthcare providers, including General Practice, Hospitals, and the Ambulance Service.

Virtual wards and remote patient monitoring enable responsive patient care at home, and a more efficient use, and effective prioritisation, of NHS resources. Remote monitoring increased during the Covid-19 pandemic, and wider adoption has been prioritised. App technology can provide patients with more direct access to information they need, and e-referrals are standard practice.

Digitally enabled diagnostic services in Pathology and Radiology can transform the speed and quality of care through secure sharing of digital images and reports. Digitalisation also enables further automation, augmentation, and monitoring, enabling work previously done by professionals to be safely transitioned to staff at lower skills levels. This frees up capacity for work that requires the expertise of clinical practitioners.

The use of electronic devices by all care staff is integral to improvements in patient care, and managing and interpreting data is becoming a key requirement in all roles. Employers describe a degree of reluctance among some employees, and mixed success with digital upskilling, which will need to be more effective moving forward. Data management and analysis will be key to leveraging the strategic and operational opportunity provided by digitalisation, in terms of both identifying preventative health measures and timely treatment, and also enabling the continuous improvement of everyday delivery of integrated healthcare.

Transport & Logistics

Transport and logistics organisations are key strategic enablers. The pandemic and Brexit demonstrated the importance of resilient and agile supply chains, enabled by end-to-end visibility across the globe. The geographic location of the North East provides complexity, and Transport & Logistics capability is integral to the performance of existing businesses, and important to new investors. Digitalisation provides this transparency across the supply chains and enables identification of opportunities to optimise supply chain management through improved speed, scalability, and reduced waste and operating cost. Deployment of Warehouse Management systems are more common, and the region does have SMART warehousing activity which leverages digital technology to enable order fulfilment for retail-customers and Tier 1 manufacturers. Recent inward investment by a large-scale online retailer operating order fulfilment centres has surprised other sectors, and drawn on existing technical skills in the region. New sustainable facilities incorporate automation, machine technologies, and digital connectivity drawing in a workforce with advanced technical skills from other sectors.

Automation can already enable Dark Warehouses and Automated Ports, where automated Material Handling Equipment is programmed to complete all operational tasks. This requires substantial investment and is not yet a characteristic of distribution activities in the North East. Best practice operators in the region have identified digital technologies as a key enabler of performance improvement and have invested in the equipment and capability to enable this. Electronic devices track materials and equipment and, through cloud-based technologies, enable the optimisation of material movement, equipment, and workforce within their facilities. Developing and sourcing the skills to enable this digital transformation has been key, and has included developing the technical engineering capability to establish and maintain the digital infrastructure, and the data analytical skills to use the data to identify improvement opportunities. These skills will be transferable across sectors deploying digital technologies. Augmented and virtual reality are also deployed for training and enable workplace safety and the optimisation of facilities.

Heavy good vehicles and light commercial vehicles account for over 30% of transport emissions.

 Cars & Taxis	 HGVs	 Buses & Coaches	 Light Commercial	 Motor cycles and mopeds	 Rail	 Domestic Aerospace	 Domestic Marine
55.4%	15.9%	2.5%	15.7%	0.4%	1.4%	1.2%	5%

Source: Decarbonising Transport A Better, Greener Britain (DoT. UK Government, 2021)

It is clear that sustainable fleet management is more common enabling SAFED (safe and efficient driving) through increased digital monitoring and optimisation of maintenance and vehicle performance, as well as minimising stock movements and supply chain miles. Final mile deliveries are increasingly electrified and alternative bio fuels are increasingly under consideration for larger vehicles.

Workforce Implications

Sustainability, electrification, and digitalisation are driving changes in the work that is done and how it is done, with implications for skills that are required, illustrated for the five LSIP sectors below. An ageing workforce and high levels of economic inactivity are restricting the available labour force, driving increased wage pressure and automation across all sectors. Sustainability drivers for Health & Health Science are complex and the NELSIP scope is limited to consideration of technical skills in health & social care provision & pharmaceutical advanced manufacturing. It is recognised climate change and health are inextricably linked, and the NHS has an objective to be the world's first net-zero Health service.

	Digital	**Advanced Manufacturing**	**Health & Health Science**	**Construction**	**Transport & Logistics**
Strategic Drivers	5G Connectivity. Cloud data storage. Data analytics/ science. SMART optimisation. Visualization. Augmented decision making. Virtual/augmented realities. Machine learning/AI.	Industrial Digitalisation – Made Smarter. Digital twins/ machine optimisation. Increasing automation & clean room activity. Rapid new product introduction/ smart Pharmaceutical. Zero lifecycle carbon imprint. Electrification of products and subscription services.	Ageing population with complex needs vs cost – shift to integrated care. Digital Transformation. Electronic Patient Records. Medical devices. monitoring. remote digital consultations. Digital wards. Analytics & data science. Technical advances in Medical Science - earlier diagnosis and more affordable treatment.	Retrofit Environmental assessments. EV and PV infrastructure. Digital devices to improve productivity at all job levels. SMART Building services/HVAC.	Fleet optimisation/ decarbonisation. Net Zero impact. Reduced supply chain miles. Automation/ Smart Warehousing. Supply Chain visibility /resilience.
Base digital skills required by all work					
Skills Implication	Increase in specialist digital skills. Rate of digital adoption drives skill demand. Ongoing refreshing of skills as software and platforms change. Digital are Better & well-paid Jobs - 20-30% premium.	Automation driving increasing base skill requirements. Significant upskilling and reskilling required. Increase in higher digital technical skills, - analytical and data science. New product technical skills Complex facilities require higher skilled technicians.	Rate of technological adoption drives higher digital specialist skills. Shift to integrated care requires cross disciplinary skills. Workforce resourcing plan- needs to support transformation. New technical career paths needed for healthcare to build local skills & improve organisation capability.	Traditional skills need replacing – ageing population. Upskilling and reskilling for retrofit new technologies. Uncertainty regarding pace of adoption of modern construction methods.	Technicians to support SMART facilities. Skills to support digital logistics and operational real time end to end tracking. Emerging skills to support environmental and data analytics.

These strategic drivers are converging to drive investment opportunities in the North East, which are creating high-value jobs, requiring a strong supply of technical skills. Cross-sector investment in areas such as Life-sciences, Off-Shore Renewables, SMART Warehousing, Electric vehicle and battery manufacture, and energy efficient Retrofit are all increasing demand for a workforce with technical and digital skills, and require a regional cross-sector response.

NELSIP
North East Local Skills Improvement Plan

Funded by UK Government

delivered by the NORTH EAST AUTOMOTIVE ALLIANCE

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NELSIP
North East Local Skills Improvement Plan

Annex B -
NELSIP Development Process

delivered by the NORTH EAST AUTOMOTIVE ALLIANCE

Funded by UK Government

Annex B.

Stage A: Articulating Employers' skill needs.

The NEAA recognised that as the appointed lead sector Employer Representative Bodies (ERB) it was important to establish a set of operating principles to underpin the approach taken by the NELSIP programme team. The principles set out below were consulted on with stakeholders and adopted at the start of the programme and informed programme decisions, priorities, and subsequent resource allocation.

NELSIP Process – Programme Team Operating Principles

- **Employer led –** engaging a broad range of employers and ERBs across strategically important sectors in the North East, to define the workforce capability needed to drive and sustain productivity and regional economic growth.
- **Agile & forward looking –** anticipating and responsive to changes in the demand for skills associated with emerging advanced manufacturing and engineering technologies, Net Zero, digitalisation, and new investment.
- **Strategically focussed –** aligning and promoting technical education and training capability, prioritising areas of greatest impact, identifying and supporting the changes and key actions required to improve outcomes for employers and residents in line with the strategic ambition of the region.
- **Collaborative and systemic –** employers, all providers, and key stakeholders working together in a coalition for change to efficiently integrate and leverage 16+ technical education and training capability to create a supply of work ready people - meeting specific and cross-cutting skills needs across key sectors in the region and providing a seamless vocational pathway for learners.
- **Ambitious and Inclusive –** shaped by, and enabling best UK practice, providing residents of the North East with attractive and accessible learning routes to develop the foundation, technical and soft skills needed to access and progress to high-value jobs.
- **Compelling –** learning that leads to better jobs and attractive careers.

Establishing the NELSIP Strategic Priorities

The LSIP statutory Guidance (DfE, October, 2022) stresses that LSIPs should focus on the key changes and priorities that can gain traction and maximise local impact. Accordingly, for Phase 1 development, the NELSIP programme team sought to:

- align to the Strategic Economic Plan (SEP) for the North East and the areas that are identified in the region as having high strategic impact, and play an important role in the transition to Net Zero.
- reflect employer requirements for technical skills across five key sectors, aligned to the SEP, identified as the primary scope for the NELSIP.
- leverage existing collaborative networks involving employers, key stakeholders and education and training providers in the region, including the Health and Health Science 2022/23 SDF programme.
- align with other strategic skills programmes in the region, including work being undertaken by the NELEP and LSIPs in adjacent regions.
- operate transparently and be accountable to all key stakeholders, and not disproportionately representing the interest of any single stakeholder or stakeholder group.
- demonstrate effective programme management of the LSIP programme, within the timeline and budget required, and meeting all the requirements and conditions associated with funding provided by the Department for Education.

It is clear from the strategic analysis that digitalisation, electrification, automation, & sustainability (Net Zero) are creating higher skilled jobs across the UK, across all sectors. The future skill requirements in the North East need to be anticipated and prioritised to enable local investment opportunities and realise improved productivity and regional growth. Higher skill requirements result in "better jobs" (North East LEP - Strategic Economic Plan (SEP)), leading to higher income levels that drive and sustain a stronger regional economy. The SEP recognises the importance and influence of certain sectors and their ability to serve as catalyst to leverage improved regional productivity and higher value growth. The sectors may be impacted directly, as early adopters of innovation and technology, or be sectors that are disrupted or transformed by the emerging technologies. Alternatively, they may be important enablers that indirectly support productivity and growth through the provision of physical and intellectual infrastructure and resources that supports the extent and pace of investment and technology adoption in the region.

Phase 1 of the NELSIP focusses on five interrelated sectors. Collectively, they have high socio-economic impact, sharing many of the same transferable technical skills. Leveraged collectively, they have potential to drive high value regional growth, creating significant numbers of better jobs in the North East. The sectors directly employ c. 184,000 people in the NELSIP region (around 36% of the total workforce) and provide growth opportunities which will create high-value or "better jobs" in technical roles which benefit the regional economy through a significant pay premium.

1. **Digital. –** A capability that is transforming most sectors. The rate of digitalisation is accelerating, based on the proliferation of electrical devices, electrification and technical progress in computing hardware/software and cloud networking capability. This is enabling various forms of data analytics and science that is supporting artificial intelligence, machine learning and augmented/virtual reality. Digitalisation underpins operational transformation and sustainability in most sectors. Digital skills will be required in future work environments, and the North East will need to accelerate the development of more advanced digital capability, to avoid falling behind the rest of the UK.
2. **Advanced Manufacturing. –** An established high value sector operating in automotive, aerospace, and pharmaceutical, with significant sustainable growth identified and committed in the region. These investments arise from demonstrated global competitiveness, the adoption of emerging technologies, and the huge potential for electrification and industrial digitalisation.
3. **Construction. -** Environmental legislation will transform the industrial and domestic built environment, initially through retrofit, but eventually through modern manufacturing techniques. Advanced sustainable construction methods will change working, practices and require new skills, other skills will likely be displaced entirely. The construction sector is fragmented and historically slow to adopt modern technologies and manufacturing methods. Proactive employer engagement through the sector will be needed to anticipate and pace the alignment of workforce capability with future requirements.
4. **Health and Health Science. –** An aging population continues to place new and increasing demands on health provision whilst resources are constrained. Improved prevention measures, diagnosis and monitoring, tailored treatment, and health care are fundamental and are digitally enabled. The adoption of new technologies, progress in medical science, and digital solutions require a transformation in technical skills to support the science backbone of the NHS. They are complemented by regional capability in aseptic pharmacies, pharmaceutical manufacturing, and advanced research capability in life-sciences.
5. **Transport & Logistics. –** Growth requires effective supply chains. This requires end-to-end digital visibility that optimises productivity, whist minimising environmental impact. Developing and sustaining this capability in region enables further inward investment ensuring global connectivity of supply chains, responsiveness, resilience, and a sustainable operating footprint.

Maintaining focus and responding to challenge

The NELSIP programme team developed the following positioning for phase 1 to ensure that the scope is manageable, and focus was maintained. They informed the ongoing workplan and consultation process.

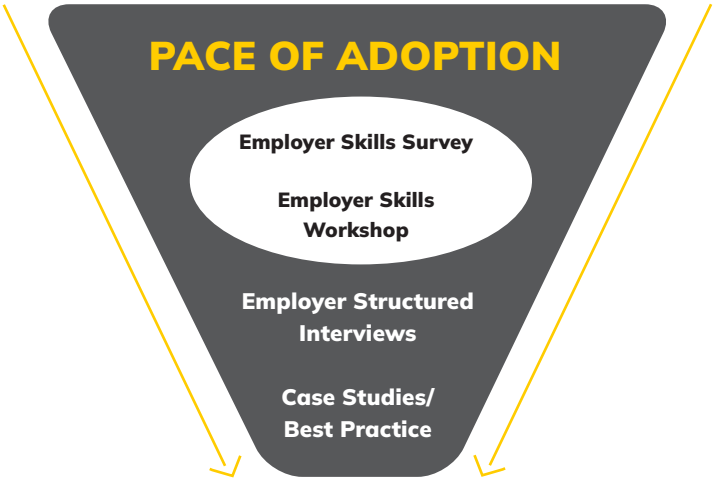
- **Phase 1 NELSIP should remain focussed on five key sectors.**
  There was initial pressure from some FE providers to extend the phase 1 sector scope to other sectors, including those not identified as priorities in the North East LEP Strategic Economic Plan. The DfE statutory guidance emphasises that LSIP is not intended to cover the entirety of educational and skills provision within the LSIP geographical area, but it should align with local strategic priorities and areas of established SDF skills funding. The Project Team conducted a further review with the NELSIP Project Board to secure approval for the high impact sectors identified as focus areas for the NELSIP. It was important that the DfE clarified with providers that whilst the Local Skills Improvement Fund will help build the capacity of providers to meet strategic LSIP priorities, it is not the only funding available. We appreciated that the NELSIP priorities have implication for strategic priorities and future funding opportunities for the local FE colleges and the conformation reduced the level of uncertainty.
- **Not all employee shortages are skills shortages.**
  It was important to recognise with employers that not all 'hard to fill jobs' are a result of technical skill shortages, particularly when the labour market is tightening. The North East job market has experienced a strong post Covid-19 recovery, and competition to attract people into low-wage work is particularly high, causing many employers to describe their difficulty in recruiting as a "skills" issue. There is a need to differentiate and draw a distinction between scarce technical skills that are limited in the general employment market and shortages of available candidates in a particular sector arising from an unappealing employment proposition. This created a challenging discussion with some employers initially, but it was important to establish a shared understanding on underlying skills related issues, and highlight that many "hard to fill jobs" weren't specifying a requirement for technical skills or qualifications.
- **The supply of skills is complex, involving Employers, Providers and Learners, as well as other key stakeholders.**
  The NELSIP project team recognised that all stakeholders have role to play in meeting the regional skills needs and that any approach requires a systemic view and recognition that solutions are typically multi-faceted, requiring early stakeholder involvement of those that have accountability and responsibility for delivery, as well as recognising those stakeholders that have consultation and information rights. Whilst the LSIP was positioned as employer led, the NELSIP team maintained a balanced position, and ensured that the role employers play in interacting with the education and training system and in committing to training and development, was subject to critical analysis.
- **Providers are key to change and will need to be resourced and appropriately incentivised.**
  Providers operating in the FE sector have multiple priorities and requirements, and operate within a challenging economic and social context in the NELSIP region. They also have extensive experience of the local labour market and employer requirements, and often provide a valuable role in helping employers and learners identify solutions that meet their needs. The NELSIP team invested time in working with all providers operating in the NELSIP region, drawing off their expertise and perspective, providing constructive challenge, and committing to ensuring that the support required to enact the NELSIP is adequately recognised in the plan.

A robust methodology

A robust methodology was deployed for the NELSIP for engaging employers in their skills requirements. A common set of tools was variously deployed, tailored to each sector, to capture sector specific insights on employer technical skill needs and priorities. The NELSIP tools and resources included:

- Analysis of existing reports and relevant recent research already conducted by employer bodies locally and nationally on technical skills.
- Emerging technology and skills foresighting from national employer bodies, Research & Technology and Catapult organisations concerning the pace of development of emerging technologies and the impact on technical skills. This included consideration of upskilling and reskilling for the existing workforce, as well as future skills needs of the prospective workforce.
- NELSIP baseline employer skills survey to inform high level themes across all aspects of the NELSIP development. Informed by the Department for Education Employer Skills Survey, and best practice from the Productivity Through People framework (Be the Business).
- Facilitated workshops involving different groups of employers in different forums, including SME involvement – allowing for discussion and feedback regarding different perspectives, and consideration of unique or shared experiences of emerging themes that impact technical skills availability.
- Structured interviews with employers and sector bodies to understand the specific experiences of employers, within the context of their future business needs.
- Case studies have been developed to illustrate challenges or showcase best practice at the employer or sector level.

Emerging sector technologies and associated skills



Through these methods the NELSIP programme team:

- gained an understanding of key drivers shaping future workforce requirements, including the implications of emerging technologies and regional economic and inward investment strategy.
- got an appreciation to the extent to which employers are anticipating future requirements and the rate of adoption of emerging technologies and best practice in different sectors and the impact on skills required.
- identified current and future skills needs, including skills gaps and supply issues, and current plans that are in place to address these requirements.
- identified and validated key cross-cutting themes with employers and employer bodies
- got an understanding of the extent to which technical skills transcend sectors and how a cross sector perspective can inform better integration of skills planning across the region.
- identified the experience of businesses of different size across different sectors and identify how experiences or approaches differ or are similar.
- sought to understand how effectively employers work with education and training providers to signal their future requirements, and partner with providers to enable the development of education and training solutions that meet their needs.
- identified the barriers to accessing training and development that meets their current and future workforce requirements, and identify activity required to address those barriers.
- established employer priorities to improve future skills.

ERBs with members and other appropriate bodies in the NELSIP phase 1 priority sectors were invited to be involved in the NELSIP development process, and some were contracted by the LSIP team to conduct activities to support the identification of employer needs. Trailblazer experience demonstrates the value of enabling ERBs to draw on insight from their members and highlights the importance in providing them with appropriate resources to perform activities in support of an LSIP.

Sector	Employer Representative Body/ Other
Digital	Sunderland Software City
Advanced Manufacturing	NEAA, AMF, NEPIC, CPI, Engineering & Manufacturing Network
Health & Health Science	AHSN, NHS England/Health Education England, North East & North Cumbria Integrated Care Board
Construction	Constructing Excellence in the North East, CITB, Northern Home Builders Federation
Transport & Logistics	Logistics UK

Sector ERB support was available at four resource levels depending on activity:

1. ERB Lead - providing strategic insight and experience of Employer members.
2. Project support – supporting operational activity.
3. Marketing/PR – support for LSIP profile and engagement
4. Administrative – organisational and scheduling support

Some sector ERBs were unable to commit resource to support the Project.

Detailed Evidenced based Approach

1. Leverage Existing Data/Reports/Analysis

Allows the NELSIP to build on what has already been achieved in a sector skill planning and gauge the maturity of established technical skills planning practices and identification of best practice at an employer or sector level.

2. Data Sources

Wherever possible data was drawn from existing recognised and approved data sources. The Unit for Future Skills Dashboard and the North East LEP Evidence Hub were the default sources for data available through their websites. This was supplemented, where required, with data from other government sources, including ONS, and the Department for Education. Vector data, recognised by Providers, was used for detailed analysis of post-16 learners by subject-level and data.

Unit for Future Skills – Local Skills Dashboard:
https://department-for-education.shinyapps.io/local-skills-dashboard/
North East LEP Evidence Hub:
https://evidencehub.northeastlep.co.uk
ONS – NOMIS Official Census & Labour Market Statistics:
https://www.nomisweb.co.uk
Department for Education – Statistics & Data:
https://explore-education-statistics.service.gov.uk
UK Employer Skills Survey:
http://www.skillssurvey.co.uk
Vector (RCU) Post-16 Education & Training Data:
https://www.rcu.co.uk/vector/
CITB Construction Skills Network – North East 5 Year outlook (2023)
NHS England Apprenticeship Dashboard
NHS England Vacancy Statistics:
https://digital.nhs.uk/data-and-information/publications/statistical/nhs-vacancies-survey
North East Digital Boot Camp data (Gateshead College – 2023)
LInkedIN Data provided from DfE: Copy of UK_DfE_GeosUpdated_05Dec22.xlsx
North East Child Poverty Commission - https://nechildpoverty.org.uk
Indeed Hiring Lab - https://www.hiringlab.org/uk/

Bibliography.

General

Skills for Jobs – Lifelong learning for Opportunity and Growth (2021)
The Recent Evolution of Apprenticeships – Sutton Trust (2022)
Reforming the Apprenticeship Levy – Policy Exchange (2023)
Apprenticeships at Level 4 and above – Learning & Work Institute (2021)
Adult Participation in Learning Survey – Learning & Work Institute (2022)
Future of Apprenticeships – Edge Foundation (2022)
Putting Apprenticeships to Work for Young People – National Foundation for Educational Research (2021)
Skills, Innovation and Productivity – The Role of FE Colleges in Local and Regional Ecosystems – The Productivity Institute (2023)
Labour market and skills demand horizon scanning and future scenarios – Department for Education (2022)
16-18 Accountability measures: technical guidance – Department for Education (2022)
North East Devolution Deal – Department for Levelling Up, Housing and Communities (2022)
Response to consultation on Lifelong Loan Entitlement – CBI (date)
Local Skills Report – North East Skills Advisory Panel – North East LEP (2022)
How local authorities can ensure that local young people, colleges and employers can get the most out of T Levels – APPG for T Levels (2021)
An evaluation of the North East of England pilot of the Gatsby benchmarks of Good Career Guidance – University of Derby International Centre for Guidance Studies (2021)
Labour Market Outlook _ Resolution Foundation (Q1 2023)
Evaluation of Skills Bootcamps – Wave 2 Implementation Report – Department for Education (2023)
What has happened to College teacher pay in England – Institute for Fiscal Studies (2023)
Macroeconomic Perspectives on Productivity – The Productivity Institute (2022)
A skills manifesto for the Science Industries – Science Industry Partnership (2022)
Labour market impact of progressing more learners to Level 3 – Department for Education (2018)
No Train, No Gain – An investigation into the quality of apprenticeships – EDSK (2022)
Train in Vain? Skills, tasks and training in the UK labour market – Centre for Economic Performance (2022)
Adult Education: the past, present and future – Institute for Fiscal Studies (2022)
Working for the Future -Institute for Employment Studies (2022)
Made Smarter (2017)
UK Energy in Brief (BEIS, 2020)
Business Register and Employment Survey. ONS ((2021)

Green Skills

Green Jobs Task Force – Report to Government, Industry and the skills sector (2021)
Skills for a Net Zero Economy – Learning & Work Institute (2022)
Greening UK Skills Report – NOCN Group/Bach (2022)
Green Skills as an enabler of UK Retrofit – pwc (2022)
What is the difference between Scope 1, 2 and 3 emissions, and what are companies doing to cut all three? WEF (Sep 20, 2022). https://www.weforum.org/agenda/2022/09/scope-emissions-climate-greenhouse-business/

Inclusion

Special Educational Needs and Disability: an analysis and summary of data sources – DfE (2022)
Accessible Apprenticeships Report – mencap (2021)
Exploring the funding and support for apprentices with additional support needs – Learning & Work Institute/DfE (2018)
Education Inequalities – Institute for Fiscal Studies (2022)
Diversity and Inclusion in STEM – House of Commons Science & Technology Committee (2023)
Covid-19 and disadvantage gaps in England – Nuffield Foundation (2022)
Digital Exclusion in the North East LEP area – North East LEP (2021)

Health

Our strategy for regional growth and national change in health, life sciences and medicines manufacturing – North East LEP (2021)
Health and Life Science Skills Report – NELEP (2020)
Building the NHS Nursing Workforce in England – The Health Foundation (2020)
The NHS Workforce in England – House of Commons Library (2023)
Apprenticeships in the Life Science Sector – ABPI (2021)
Life Science s 2030 Skills Strategy – Science Industry Partnership (2020)
Life Science Industrial Strategy Update – Office for Life Sciences (2020)
Degree Apprenticeships – What Employers Need to Know – NHS Employers (2017)
NHS Innovations Report (2023)
NHS People Plan – NHS England (2020)
Health Informatics Careers Pathways – Health Education England (2019)
A Health and Care Digital Capabilities Framework (2022) – NHS England
Genomic Innovation – Technologies for personalised medicine – AHSN (2020)
Virtual Wards: How they work. NHS South West London.

Digital

Sunderland Software City – North East Digital Skills Audit (2022)
DCMS – No Longer Optional: Employer Demand for Digital Skills (2019)
Addressing Digital Exclusion in the North East – IPPR North (2021)
Digital Exclusion in the North East LEP Area – NELEP (2021)
People & Skills Report - Tech Nation (2022)
The Digital Talent Engine – Dynamo North East (2021)
Implications of Industry 4.0 to Supply Chain Management and HR Management – Kilic & Ozkan (2018)

Transport & Logistics

Skills and Employment Report – Logistics UK (2021)
Transport Labour Market and Skills – Call for views and ideas (Responses) – Department for Transport (2022)
Northern England Logistics 2021 – Logistics UK
Decarbonising Transport A Better, Greener Britain (DoT. UK Government, 2021)

Advanced Manufacturing

2030 Skills – Closing the Gap – Make UK (2022)
Engineering Skills Needs – Now and into the future – Engineering UK (2023)
Developing Skilled Technicians to support productivity and growth – NEAA (2019)
Manufacturing Innovation report – NEAA/Urban Foresight (2018)
Fourth industrial revolution. Source: McKinsey & Company Lighthouse analysis (2020)

Construction

CITB LSIP Guidance (2022)
Industry Skills Plan Update – Construction Leadership Council (2022)
Future Skills – Construction Leadership Council (2021)
Construction Digital Future – CITB (2018)
Modernise or Die – Mark Famer Review (2016)
Training Report – CITB (2021)
CITB Construction Skills Network – North East 5 Year outlook (2023)
The Built Environment Model. (Policy Paper, Infrastructure & projects authority, UK Gov 2021)
Heritage & Carbon: Addressing the Skills Gap – Grosvenor (2023)
CITB: Grants and Funding for Industry support - https://www.citb.co.uk/levy-grants-and-funding/grants-and-funding/

3. Deployment of NELSIP Employer Skills Survey (NEESS)

The NEESS was devised to capture a high-level view of reported skills activity in the NELSIP area. The survey questions were directly informed by the DfE Employer Skills Survey. It represents an employer perspective of experience and practice that are influencing technical skills availability, planning, development and provision in the North East and signposted areas that need further investigation through employer interviews and workshop.

The survey was administered across all sectors through an online questionnaire containing 30 questions and distributed through the employer representative bodies in the sectors. A summary of the process and responsibilities, and list of questions are provided below. To encourage employer response rates a third party was also contracted to solicit employer responses directly. In consultation with AHSN, the Health and Health Science survey contained some different choices regarding technical skills reflecting the specialist nature of the organisation involved.

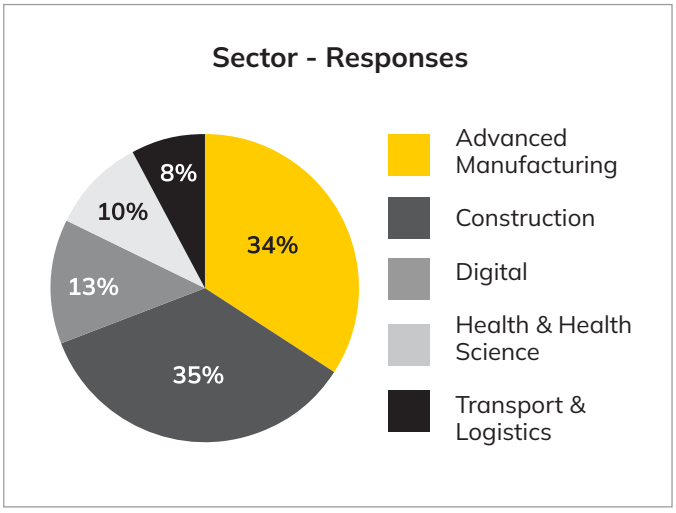
Purpose	LSIP Team Support	ERB Support
• Collect high level data: ✓ Capability Drivers ✓ Current experience and approach to accessing skills ✓ Future skills requirements ✓ Mangement practices relating to skills development and acquisition. • Diverse sector/cross-sector representation to distinguish unique and shared issues • Data to inform key themes to be explored in further discussions with employers through workshops and 1:1 interview prior to drafting LSIP recommendations.	• Provide common survey template and format • Shared deployment tool • Single database supported by legal agreement restricting data use to LSIP. • Communication template to support survey distribution. • Analysis of responses (sharing sector-level responses)	• LSIP promotion to members • Distribution of Survey and direct promotion to specific segmented audiences • Reporting and follow up to ensure completion rates to specified level • Support analysis of sector themes and areas for consideration at work-shops and structured interviews • Ensure representative sample

Summary of NELSIP Skills Survey Results.

Completion rate and sector split

Survey Completed	
Online Completion	143
Assisted Completion	168
Health Survey	9
Total Surveys Completed	320

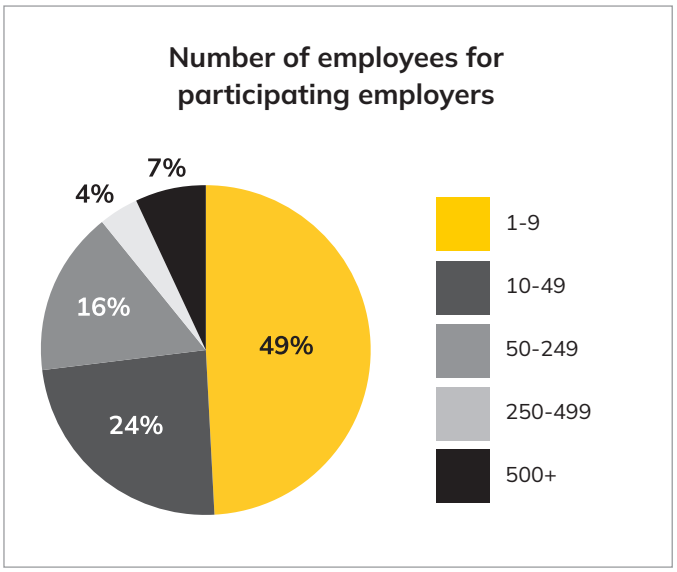
Significant sample size providing input that was then used to inform workshops and interviews.



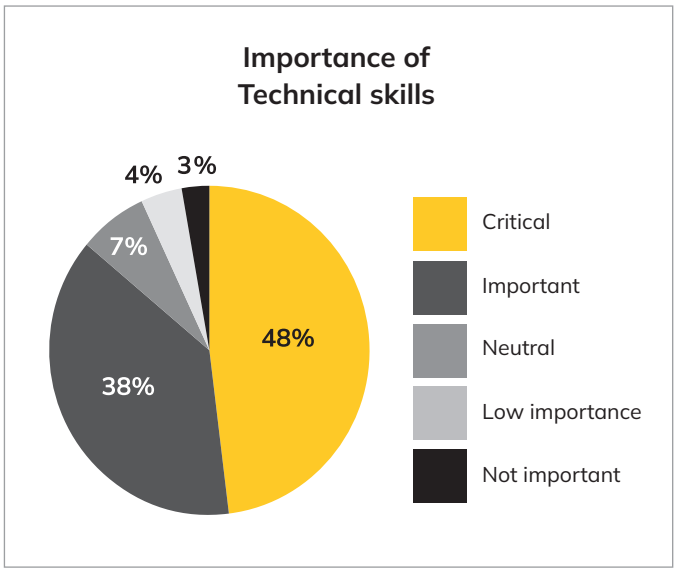
- A slow initial response rate to the survey was improved by the engagement of follow up assistance.
- ERBs had varying degrees of success in engaging employers.
- Response rates vary by question.

- Over 20 responses from each sector. Input from sectors with lower responses balanced through workshops and interviews.
- Construction and Advanced Manufacturing accounted for 70% of the responses

Employer size – number of employees (n-319)

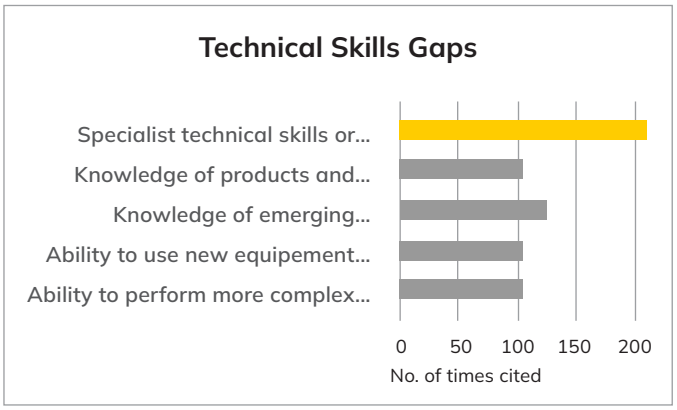


- 320 employers participated
- 155 with less than 10 employees
- Over 20 with 500+ employees



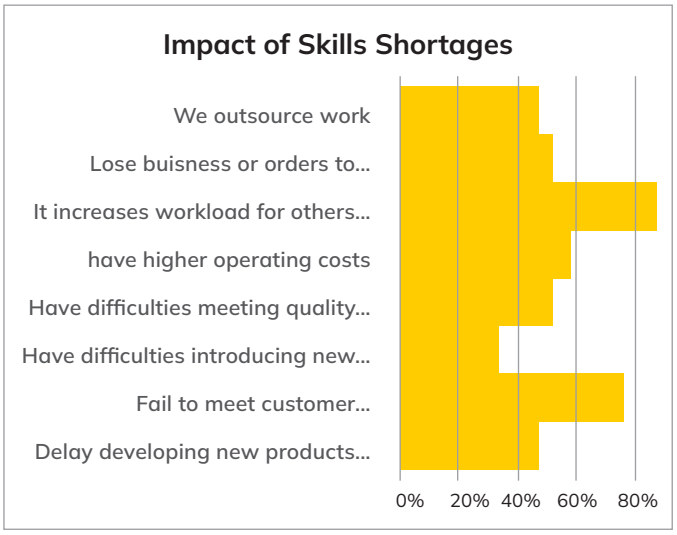
- Only 14% of employers do not see their technical skills as important or critical to their business.

Technical Skills (n-290)



Specialist occupational technical skills are cited nearly three times more often than other skills gaps.

Impact of skills shortage (multiple answers allowed)

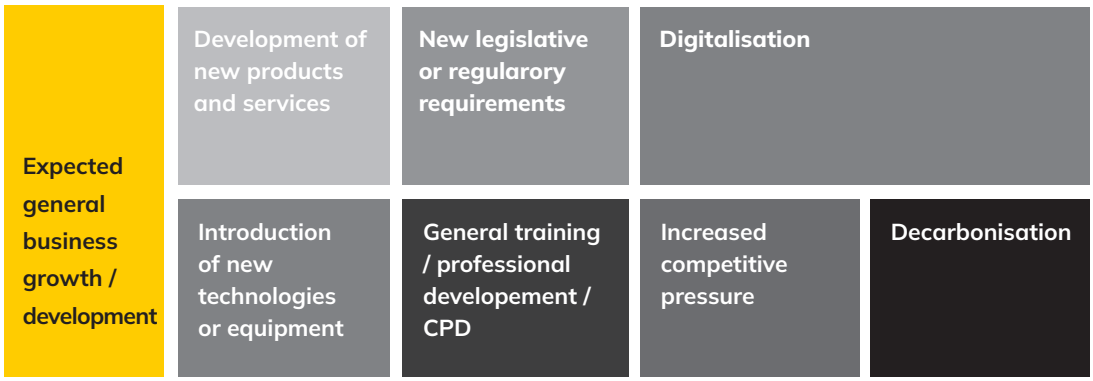


Employers reported that the impacts of skills shortages is significant for their organisation.

The data show the percentage of employers (n-288) reporting the consequence to their organisation of skills shortages.

Future Skills Requirements

Future drivers of new skills

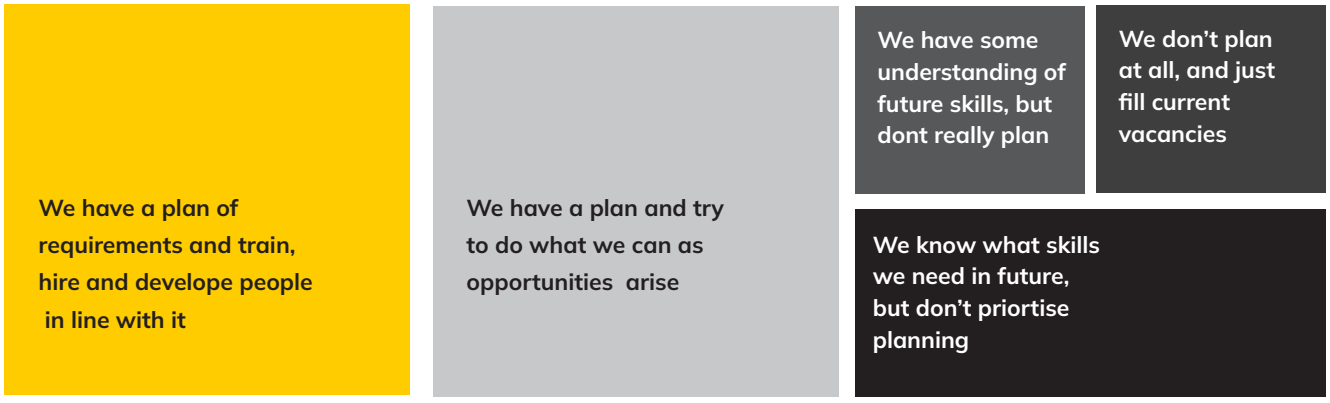


There are multiple drivers – legislation, digitalisation and decarbonisation are recognised as beyond 'business as usual'.

n-142

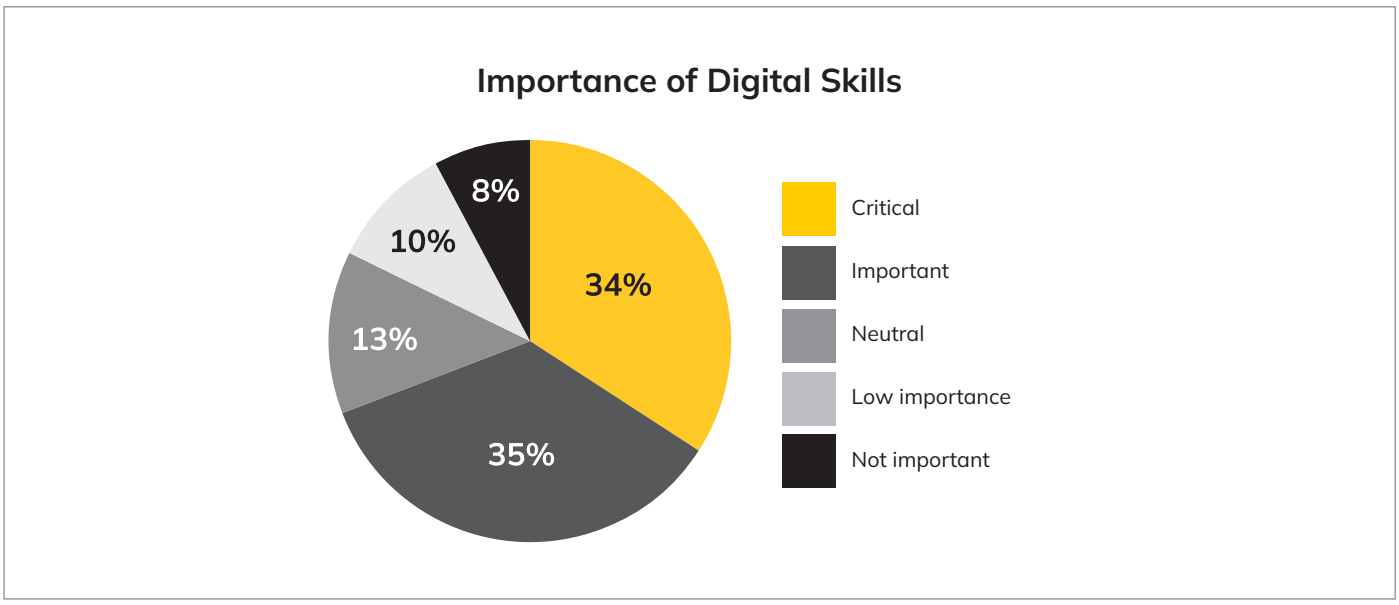
40% of employers who responded to the survey have a good skills plan that they are proactively working to. A further 30% of employers have a plan, but are opportunistic, rather than proactive.

Extent of Employer Skill Planning (n-114)



The remaining employers recognise that they may have some understanding, but don't really plan for developing skills.

Importance of digital and behavioural skills (n=288)



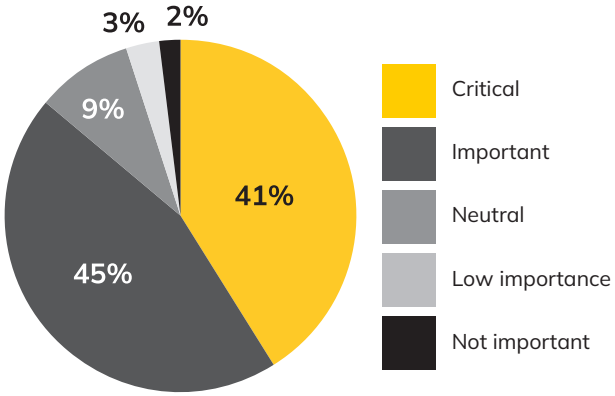
- 70% of employers recognise the importance of digital skills.

Digital skills in Demand

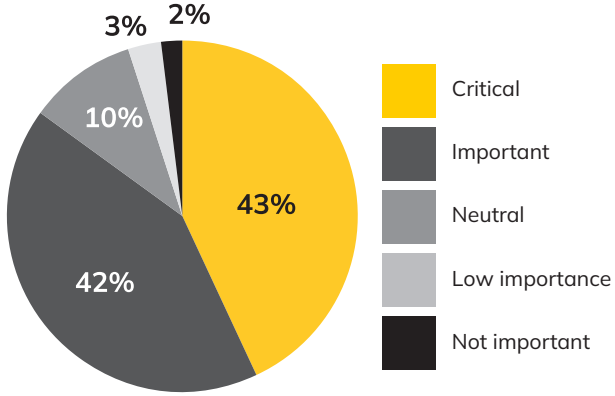
- Data analysis / analytics / data science skills
- Specialist software or hardware / internal systems
- Social media / digital marketing skills
- Database skills
- Use of specific productivity / profession ai software
- Application ('app') programming and develop..
- Advanced microsoft Office skills
- Building and maintaining IT systems and...
- Web developement
- Skills using new or updated company software or systems
- Basic Microsoft Office skills
- Cloud-based and other storage...
- Multimedia production skills
- Completing transactions online / within application
- Foundation digital skills - communication...

- Data analysis skills are in demand from all employers.
- Basic digital apps and IT databases and infrastructure are imporatant to employers.

Importance of Work Readiness



Importance of Behavioural Skills



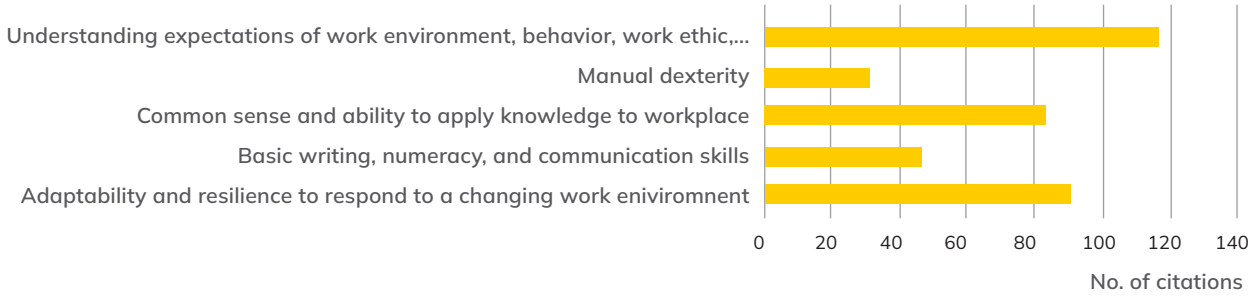
Key Behavioural Skills

- Problem solving
- Leadership skills
- Critical thinking
- Knowledge of how your organisation works and how to get things done
- Team working

Over 80% of employers recognise the importance of employee behaviours, at all stages of a career.

Employers are increasingly focussed on values and behaviours of candidates when filling jobs.

Key Employee Attributes



NELSIP Skills Survey Questions.

1. ABOUT YOUR ORGANISATION

I. What is the name of your organisation?
II. What is your name?
III. What is your role in the organisation?
IV. How can we contact you?
V. Which Organisation asked you to participate in this local skills improvement plan (LSIP) survey?

2 How many people does your organisation employ at this location?
3 Where is your business located (Post Code)?
4 What sector (s) do you operate in? (Select all that apply)
5 What type of work is your business primarily involved in?

CURRENT SKILLS NEEDS & GAPS

6 How important are the following to your organisation:
(i) Technical skills
Please select the technical skills your organisation lacks and find difficult to acquire? (Select all that apply)
(ii) Digital/IT skills
Please select the Digital/IT areas where you have a gap in digital skill. (Select all that apply)
(iii) Soft skills
Please select the areas where you have a gap in soft skills. (Select all that apply)
(iv) Basic work readiness skills
Please select the areas where you have a gap in work-life skills. (Select all that apply)
7 What proportion of your vacancies are hard to fill primarily because of a general shortage of people in the job market, rather than because they require applicants to have technical skills?
8 What impact does not having the right skills available have on your business?
9 What is influencing your future technical skills requirements?

ANTICIPATING FUTURE TECHNICAL SKILLS REQUIREMENTS

10 Which of the following statements best describes your organisations approach to planning for future skills needs? (In 2-3 years' time)
11 How important will the following skills be to your organisation moving forward?
(i) Technical skills
(ii) Digital/IT skills
(iii) Soft skills
(iv) Basic work readiness skills

BUILDING SKILLS

12 How best would you describe your organisations approach to skills training?
13 How is skills training typically delivered in your organisation?
14 What stops you from doing (more) training?
15 Do you currently employ any apprentices on technical apprenticeship programmes?
16 Which of the following statements regarding apprenticeships would you agree with? (Select all that apply)
17 Do you pay apprenticeship levy?

ACQUIRING SKILLS

18 Do you have full local authority to decide local hiring levels?
19 How would you describe the level of turnover in your skilled workforce compared to before the pandemic?
20 Have you recruited any technical employees in the past 12 months?
21 How do you attract candidates for your vacancies?
22 Have you changed your approach to attract the technical staff you need? (Select all that are appropriate)
23 How difficult has it been to recruit new employees with the technical skills your organisation needs?
(i) Technical
(ii) Digital/IT
24 Do your preferred candidates for technical roles typically have missing soft-skills or work-readiness skills?
(i) Soft skills gaps in available candidates. (select all that apply)
(ii) Basic work readiness skills gaps in available candidates. (select all that apply)

25 Do you use agency or contract personnel (3rd party personnel) to meet your technical skill needs?
26 Which of the statement best describes your approach in the use non-UK nationals to fill vacancies that require scarce skills?
27 Do you support FE/HE education providers in any way and/or engage directly with students?
28 How do FE/HE education providers engage with your business to support your technical skills needs?
29 Have you accessed subsidised programmes to provide training for your staff?

NEXT STEPS

30 How would you like to further engage with the North East Local Skills Plan.

4. Employer workshops and group sessions.

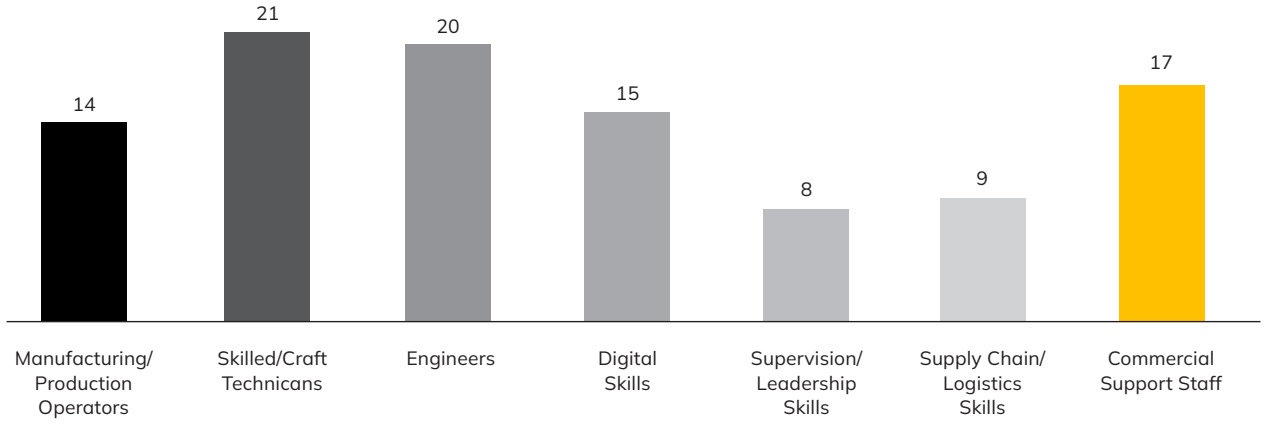
Employers were involved in circa 270 instances of direct engagement on the NELSIP enabled through specific workshops arranged through the sector ERB or other employer bodies or through the involvement in a specific discussion as part of an established employer forum. These collective sessions enabled group interaction amongst employers to surface common themes or differences regarding employer experience and approach to technical skills.

Purpose	LSIP Team Support	ERB Support
• In-depth discovery, discussion & feedback with representative sample of employers (including SMEs) to help identify key themes and challenges. • Explore shared and different experiences of: • Current experience of accessing and developing the skills they need. • Anticipated future challenges and how they plan to meet them. • Later sessions used to validate initial findings and recommendations.	• Structured outline for workshop and key questions. • Interactive polling tool to enable data collection and facilitate direction of discussion. • Short briefing document for those attending workshops. • Facilitator briefing ahead of workshop. • Project Manager support for workshop. • Template for workshop feedback. • Follow-up discussions to explore key themes. • Case Studies identified to illustrate challenges/best practice.	• Identification of appropriate employer attendees. • Demonstrate extent of reach - as wide and as representative input from sector employers as possible. • Not just best-practice employers – important to have representative input. • Invitation & securing attendance of workshop participants. • Facilitation of workshops, with LSIP PM support. • Collation of feedback through completed template. • Follow-up discussion with LSIP project team to ensure shared understanding of key themes.

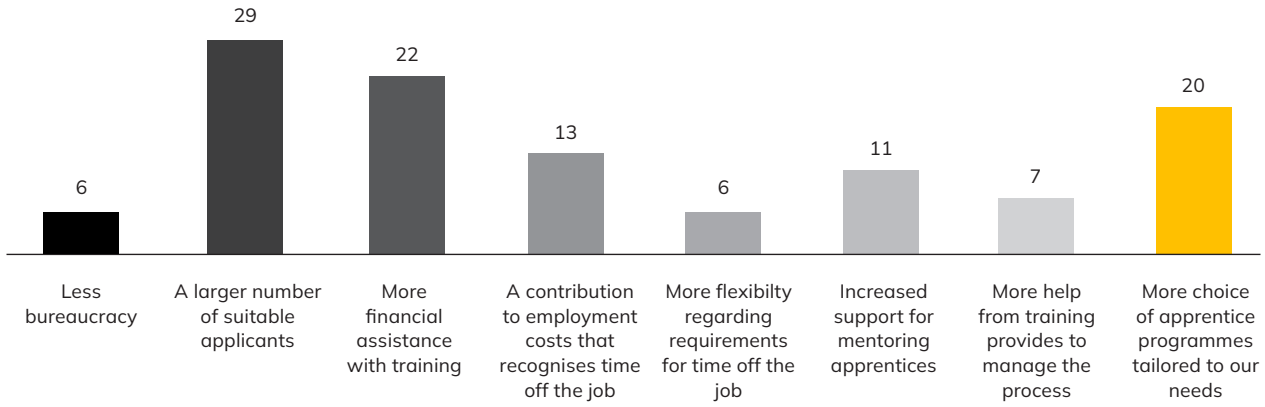
Workshops and meetings sometimes included, where appropriate, a short on-line poll on specific issues to get insight from employers to supplement our data collection. During this process feedback on specific issues was received from 74 representatives of employers in Advanced Manufacturing and Construction. Illustrative feedback collected at one session is included below.
This polling helped us gain insight on:

- Specific skills challenges facing employers in their sector.
- An employer perspective on factors impacting apprenticeship recruitment.
- An employer perspective on LSIP Priorities

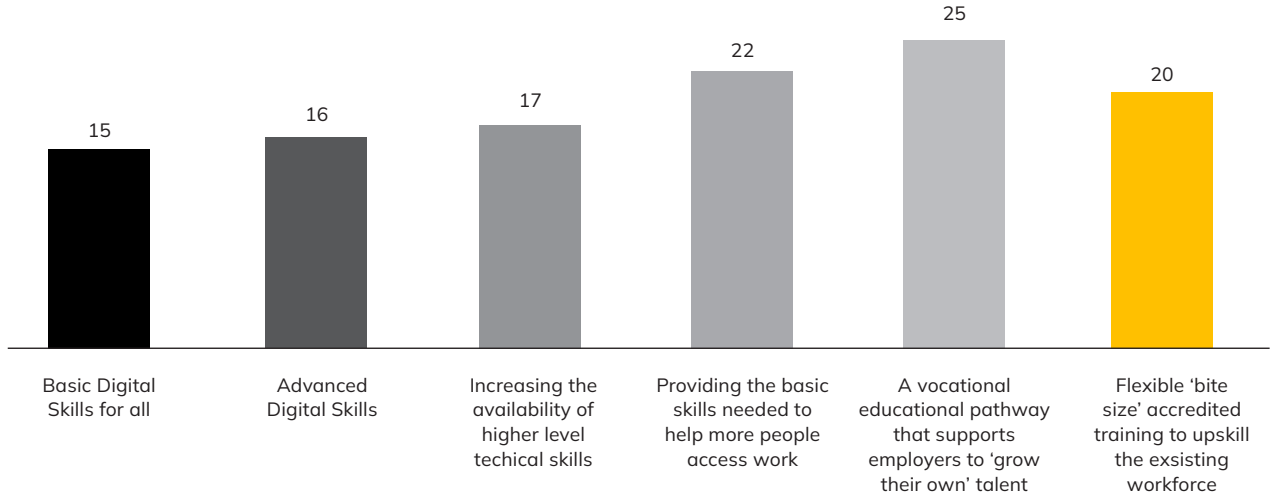
What workforce availability challenges are most affecting your business?



What would most help your business recruit more apprentices to meet the future needs of our sector?



What should the North East LSIP prioritise?



5. Structured Employer Interviews –

Structured interviews were conducted directly with 66 representatives of employers to discuss their skills requirements. These discussions provided detailed accounts of employer experience in managing skills. The also allowed a greater depth level of challenge and critical analysis to understand underlying systemic issues regarding the dynamics of skills and workforce availability.

Purpose	LSIP Team Support	ERB Support
• In-depth exploration of specific future challenges/requirements facing employers in strategically important sectors. • Understanding of implications of those challenges, and proposed employer response. • Critical assessment of underlying employer practices and implications for skills planning. • Identification of learning that can inform LSIP recommendations.	• Structured interview format/ questions. • Interview with representative of selected employers – conducted by NELSIP project team. • Analysis of interview.	• Identification of employers. • Approach, context setting & engagement of selected employers. • Introduction of LSIP and Project Team and arrangements. • Participation in interview (optional) with ERB support/attendance if appropriate.

6. Capture Case Studies/Best Practice

Case studies and examples of best practice were sought throughout the discovery process to illustrate issues and opportunities through practical examples to increase awareness and provide understanding as the basis for change.

Purpose	LSIP Team Support	ERB Support
• Demonstrate key themes through Illustrative examples of best-practice approaches to workforce planning or partnering with providers. • Characterize the challenges facing the sector in accessing future skill needs in simple vignettes.	• Identify case studies and best practice that best exemplifies indicative themes in an applied situation. • Draft case study – likely to be short description highlighting good practice or key challenges. • Provide out of region comparator as appropriate.	• Engage employers in involvement of case studies. • Support with employers to check accuracy and enable use of case-study. • Gain agreement for use in report if appropriate.

Stage B: Translating employer Skill Needs.

Engagement with Providers was recognised as being key to the NELSIP and it was recognised that there was a level of uncertainty associated with the LSIP process. Following project approval, a provider kick-off session was held to brief providers on the LSIP process.

NE LSIP Developement Process - Opportunities for Further Education input at all stages

Process

	STAGE A Understand current workforce skills needs/ requirements	STAGE B Translating Employer Demand into Provision	STAGE C Addressing Learner Demand and Employer Engagement
Potential Input	• Effectiveness of employer activity in identification and articulation of technical skills needs - gaps/shortages. • Extent to which emerging technologies are recognised in employer demand signal for future skills vs. legacy skills. • Insights regarding differences/similarities between sectors and level of sector skills planning maturity. • Extent of employer engagement in curricula and content development. • Level of sector engagement and participation levels of SMEs. • Extent of shared understanding of employability and required level of foundation skills.	• Insights/analysis regarding the current state of technical skills provision in the North East. • Experience of placing learners into 'better jobs'. • Clarifying business drivers for education providers, including alignment of resources, capability and funding streams. • Challenges with establishing capability prior to higher volume demand signal. • Examples and illustrations of best practice technical provision. • Extent of RTO collaboration/ participation in vocational learning in the NE. • Foresighting activity in NE and participation in emerging UK standards development & skills framework.	• Congruence between employer requirements & learner preferences - Compelling Offer. • Analysis of learner pathways, including analysis of current pipeline/progression versus future skills requirements. • Role of NE IoT in L4/5 technical skills. • Employer engagement/ effectiveness of existing employer attraction/outreach/ supply-side priming activities. • T-level transition. • Activity to engage under-represented and disadvantaged groups to improve access/ progression into jobs. • Addressing the challenge of foundation and digital skills attainment at 16 & 19. • Identification of enabling policy or funding changes required to improve impact.

Report
Submitted
May 2023

30-page report which includes:

1. LSIP Priorities (Draft March)
2. Taking LSIP Priorities Forward
3. Delivering the LSIP priorities
4. Annex & Method (supplementary to 30 pages)

- Refreshed annually
- Implementation until March 2025

NORTH EAST AUTOMOTIVE ALLIANCE

A number of assurances were given regarding direct involvement in the NELSIP process

The way forward - Colleges involvement in the LSIP process

Build relaionship and trust	• Establish direct line of two-way communications with NE FE leadership. • Transparency of information and data regarding provision. • Provide opportunity for formal and informal dialogue with LSIP programme team. • Create an environment that encourages candid exchange of views. • Shared understanding of areas of agreement or ongoing concern/challenge.
Sharing existing insight, research & perspectives	• Drivers/assumptions for recent SDF applications. • Employer/key sector insight - models for employer engagement/work readiness. • Outcome/process data - foundation/technical skills/progression/destinations. • Emerging technical skills - assumptions & challenges. • Learner choices/career perceptions/barriers to participation.
Regular scheduled dialogue	• Monthly meeting to enable involvement of wider provider community • Supplementary "deep-dive" working group meetings on key themes/issues • Meetings with FE Principals • Sharing of evolving themes informing emerging draft priorities - 'no surprises'
Ongoing consultation	• Direct feedback • Shared understanding of input required for 2023 funding round • Supporting role of the North East IoT/ Institute of Electrification & Sustainable Advanced • Manufacturing (IESAM). • Perspective on key barriers/challenges facing FE Colleges • Review and feedback on key LSIP themes prior to submission

The engagement process endeavoured to:

- Create a constructive engagement process to try to provide clarity on the approach and timeline for engagement, to mitigate any implied criticism that providers are unclear on the approach.
- Ensure that LSIP resources remained focused and expectations from the FE sector and the Association of Colleges (AoC) were appropriately considered.
- Recognise that FE Colleges are important stakeholders, but ensure an open and inclusive approach that provides access to consultation for all providers.
- Allow all providers to have input and a voice and not allow the narrative to be dominated by any one provider, recognising potential tensions between LSIP FE providers in the region and those from outside the region who provide services into the region.
- Establish constructive individual dialogue with providers to validate and gain support for emerging NELSIP themes.
- Ensure all providers are briefed regularly and that they are not surprised by emerging LSIP themes/priorities drafted and communicated by the end of March.
- Recognise that phase 1 priorities will inform the concurrent LSIF funding bid process and support providers in that process.

Providers have been engaged extensively throughout the NELSIP process. Overall, there has been 320 direct instances of engagement through:

- Several NELSIP FE College Principal meetings, involving the AoC. These sessions focussed on the implications for the local FE providers, including LSIF funding alignment.
- The NEIoT lead Principal and CEO of Education Partnership North East were invited to serve on the NELSIP Project board to ensure that the provider perspective was considered.
- Individual meetings with FE college principals and their leadership team and some Independent Training Providers (ITPs) operating in the LSIP region. Used to understand the provider perspectives on LSIP opportunities/challenges, build trust and rapport, and recognition of key themes in advance of communication in March.
- Multiple Provider open forums/update – to provide open access to progress updates and provide anyone an opportunity to question and contribute to LSIP and emerging themes. This has included meetings to launch the NELSIP process (October), share draft priorities (March) and draft conclusions (May).
- Weekly open forums were organised with subject matter experts from Providers to seek detailed feedback on specific subjects, and to share experience and best practice. Subjects included - T Levels, Upskilling, Inclusive Learning, Foundation Skills, & Career Advice.
- Participation in the NE Health Skills Hub SDF programme Meeting to gain an appreciation and understanding of progress against the key programme deliverables.
- Input into Ofsted Reviews as part of DfE requirements.
- Support with review of FE accountability statements at the request of individual FE Colleges.
- Participation in Community Events and Employer events hosted by Colleges.
- Discussing draft LSIP Priorities at a Governors' Conference at the invitation of one College.
- Participation in school career and apprentice events.

Stage C – Addressing Learner Engagement

Insight into Learner Engagement was gained by conducting short on-line surveys at Careers Events and distributed to students at FE Colleges in the region.

The student poll was distributed to students by 8 FE Colleges from April 19-May 4, 2023. The primary target audience was 16-18 students studying in the five sector areas. The Poll captured student-level data on subject and level of study, but did not capture any personal data or seek to identify the place of study.

The student poll sought student feedback on questions relating to future career interests and work experience and 683 responses were received, 528 from the five target sectors:

1. Are you interested in working in a job connected to the subject you are studying when you finish at college?
2. Have you had any external work experience at the workplace of an employer in the subject area you are studying?
3. The Poll also presented Students with five statements and invited them to state how strongly they agreed or disagreed with the statements using a 10-point scale, ranging from Strongly Agree (10) to Strongly Disagree (0). These statements were:
    a. Qualifications in Maths & English will help me get a good job.
    b. Apprenticeships lead to well paid jobs.
    c. I would still apply for an apprenticeship if the pay was lower than I could earn in another job.
    d. I am interested in continuing to study at a higher level in the future.
    e. I feel well informed about my career options.

Findings

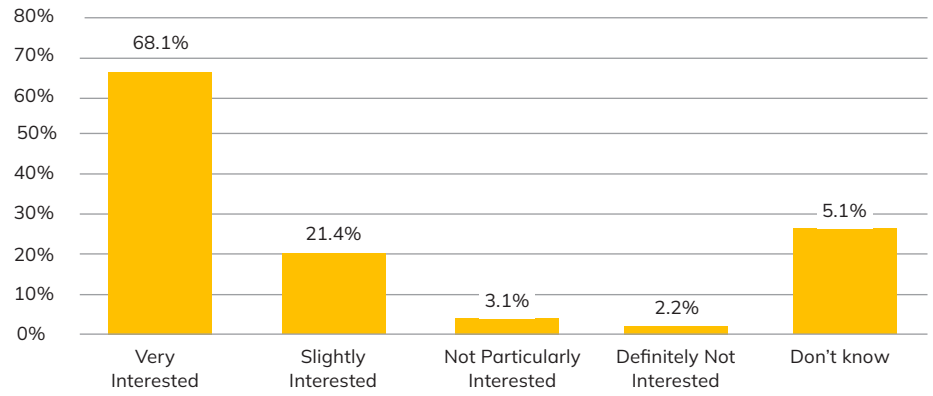
The results of the survey helped inform the considerations of the NELSIP project teams in several areas. This included:

- Identifying a potential disconnect between employers and many 16-18 learners – several employers indicated frustration at not being able to attract 16-18 learners into employment in their sector. A very high proportion of students reported that they were interested in working in sectors related to their studies – suggesting there is more scope for employers to connect with this group and provide pathways into employment.
- Highlighting that a large proportion of students remain unsure about whether qualifications in Maths & English will help them get a good job. Although motivation may be a factor for some of these learners who may be re-sitting exams, it highlights the importance of effective careers guidance which emphasises the importance of these qualifications.
- Illustrating the important part that work experience can play in informing career choices – those students who had work experience with an external employer in an area related to their subject of study were more likely to be interested in a career in that sector.
- Challenging a narrative about young people in the region lacking ambition – around half the students reported a strong interest in studying at a higher level in future. This also required a consideration about reasons why they might not remain in education at 18, including economic circumstances and the challenge of funding continued education.
- Highlighting that a large proportion of students are unclear whether apprenticeships lead to well paid jobs, illustrating that the common practice of employers offering apprenticeships on reduced pay rates was not attractive to many if they had the prospect of other jobs that would pay more. This feedback offered a potential explanation as to why some employers indicated they lacked sufficient suitable applicants for apprenticeships.
- Mixed responses on how well-informed students felt about their career options amplified the importance of good careers advice and guidance, and the importance of enabling this in schools prior to the age of 16.
- Responses from students on Digital/IT programmes were less favourable on most questions, including those relating to working in jobs connected to their subject of study, interest in studying at a higher level, apprenticeships, and career options. This may reflect uncertainty due to the emerging nature of careers in Digital/IT. This is a growing and strategically important area for Colleges and the local economy, and should be considered in more detail to identify opportunities for improving guidance available for students.

A very high proportion of students are interested in working in a job connected to their subject of study.

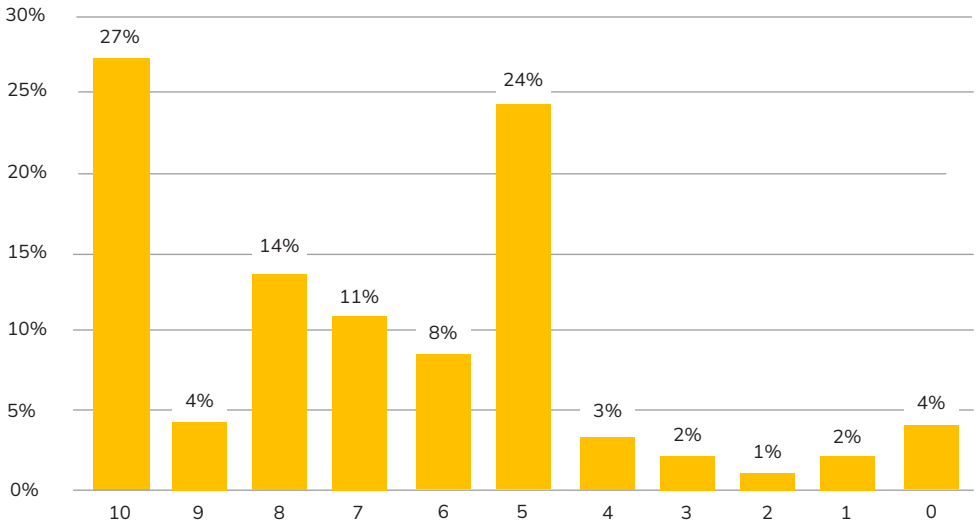
- 68% are Very Interested
- 90% are Very Interested or Slightly Interested
- Consistently strong interest across sectors – although weaker for IT/ Digital students

Are you interested in working in a job connected to the subject you are studying when you finish college?



Around one-third of students very strongly agree that qualifications in Maths & English will help them get a good job,

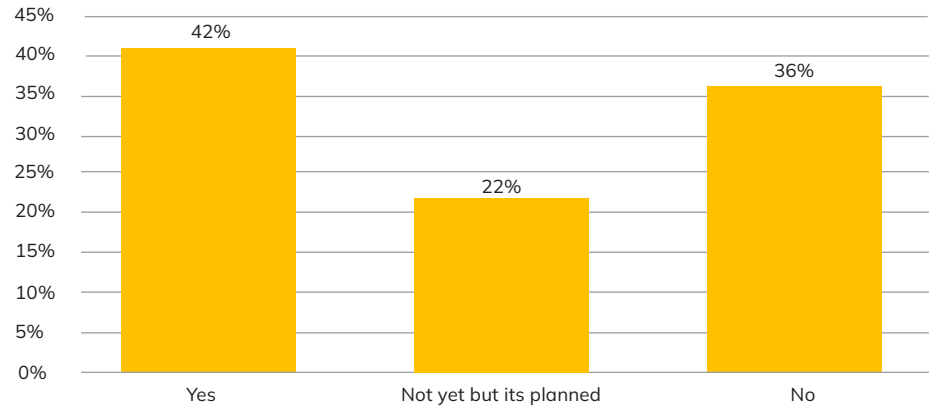
Qualifications in Maths & English will help me get a good job



Less than half students have had external work-experience at the workplace of an employer in the subject area they are studying.

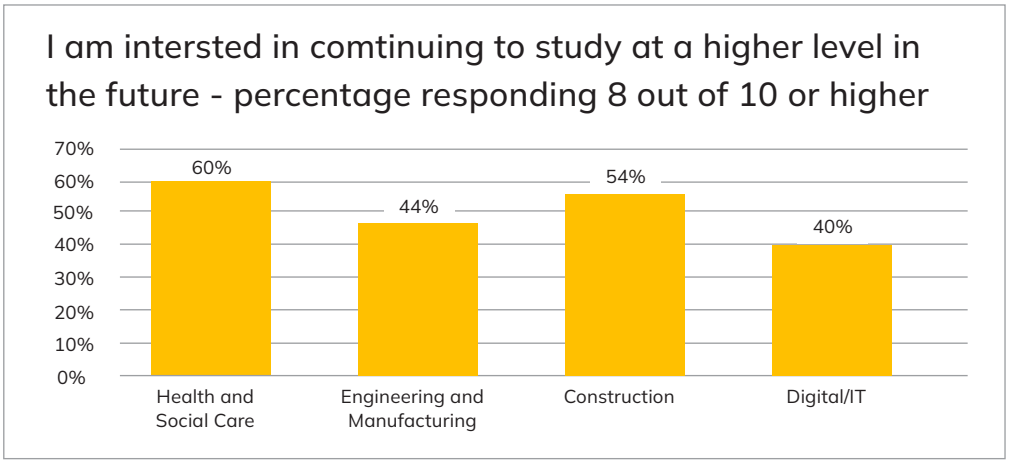
- 36% either hadn't had work experience or weren't aware that a placement was planned.
- Critically – students who had work experience in the subject area they were studying were more likely to be very interested in getting a job in that sector.

Have you had any external work experience at the workplace of an employer in the subject area you are studying?



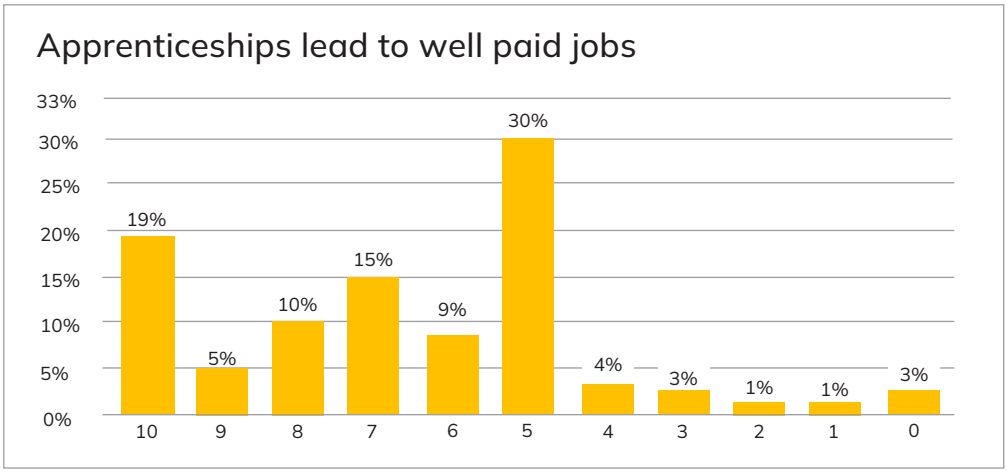
A high proportion of students are interested in studying at a higher level in future.

- 47% of students responded 8 out of 10 or higher.
- More than half Level 1 students responded 8 out of 10 or higher.
- Variation between subjects from high of 60% of Health & Social Care students. responding 8 or higher, and low of 40% for IT/Digital.

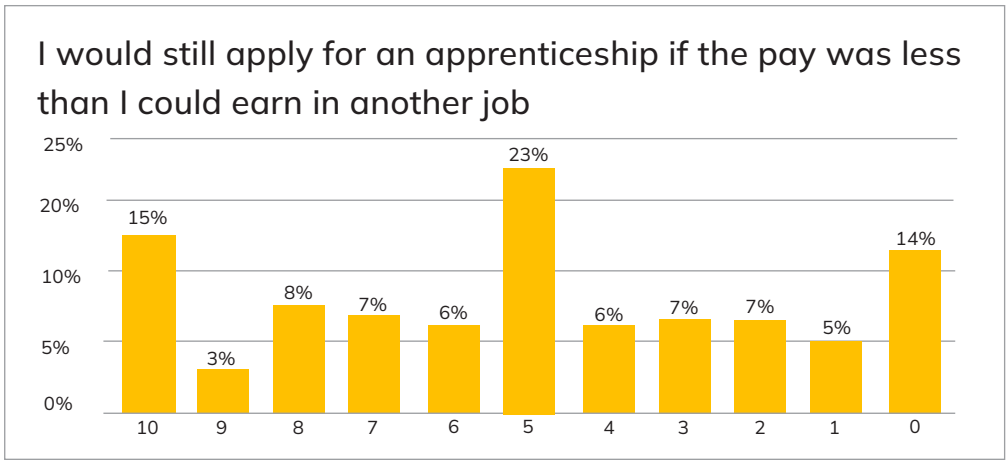


Students generally are more likely to think that apprenticeships lead to well paid jobs, but a large proportion aren't sure.

Responses vary significantly between sectors – students in Construction and Engineering & Manufacturing are much more likely to associate apprenticeships with well-paid jobs than Health or Digital.

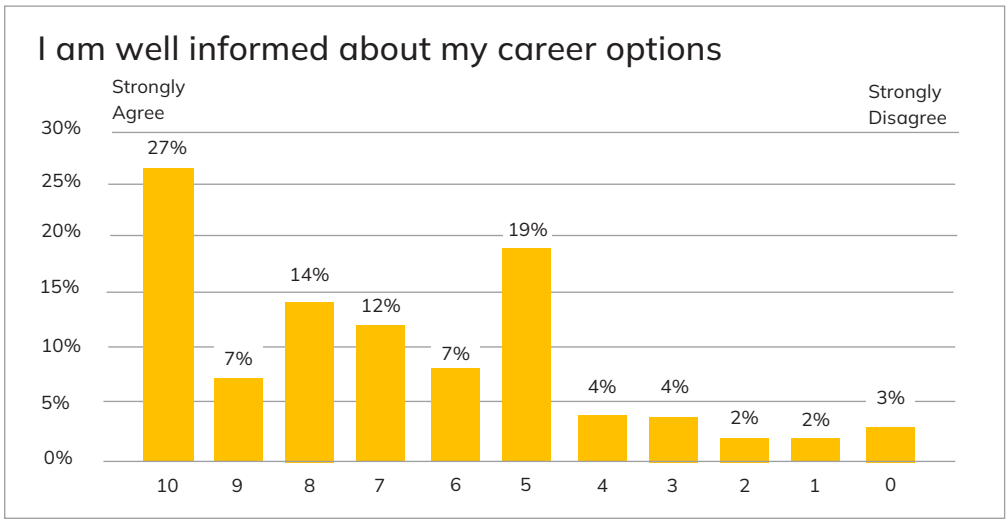


A large proportion of students will be put-off applying for apprenticeships if they pay less than they could earn in another job - 62% responded 5 or below when asked if they would still apply.



Around a half of students feel well informed about their career options

Little variation in responses by level of study – Level 1 has highest proportion responding 8 out of 10 or higher (51%), Level 2 (46%), Level 3 (47%). However, a large proportion of Digital/IT student don't feel well informed – only 39% responded 8 out of 10 or higher versus Construction where 57% responded 8 or higher



Stakeholder Engagement

MCA Engagement

The North East LSIP region is not currently part of a Mayoral Combined Authority. In December 2022 a Devolution Deal was agreed to progress to establish a new North East Mayoral Combined Authority (NEMCA) from May 2024, which would incorporate the broader North East region, combining the NELSIP region South of the Tyne with the existing North of Tyne Combined Authority. The Devolution Deal stated that, "DfE will look to align the LSIP specified area to the new MCA area, within the first year of the MCA receiving AEB funding."

In anticipation of the North East MCA, portfolio leads have now been identified to support the transition to the new MCA. The portfolio lead for skills has been a member of the NELSIP Project Board and has therefore been closely involved in the governance of NELSIP development. The NELSIP project team met with the NEMCA portfolio lead for Skills and the North of Tyne skills lead during May 2023 and shared the draft NELSIP priorities. The draft priorities were well received, and it was agreed that further dialogue should continue to ensure alignment and integration with any MCA work-stream on skills.

North East LEP

The NELSIP Project team has maintained close contact with the North East LEP through the development of the NELSIP. This included initial consultation on the NELSIP scope and proposed focus on high-impact sectors and on NELSIP governance arrangements. NELSIP updates have been provided at all NELEP Skills Advisory Panel (SAP) meetings, and the Chair of the SAP has been a member of the NELSIP Project Board. Draft NELSIP priorities have been shared and discussed with the NELEP Skills Director.

Local Authorities

Engagement with skills leads from Local Authorities in the NELSIP region has been ongoing throughout NELSIP development. Representatives have attended Provider meetings and open-forums, and they have been represented on the NELSIP Programme Board.

DWP/CEIAG Providers

The NELSIP Project team met with a local DWP representative and hosted an open forum on Careers Advice & Guidance. Several consistent themes arise from these discussions.

- Digital skills are increasingly a barrier to employment especially in those that have been out of employment in the long term and are over 50. Simple tasks like compiling a CV on a PC or submitting a CV online prevent candidates applying for jobs without support.
- Individuals that have been economically inactive in the long term present complex problems that are not immediately apparent and typically require cross disciplinary support, often involving GP services to enable transition back to work.
- The employability gap is increasing between employer candidate needs and those presenting themselves to Job Centre Plus seeking work.
- Schools are critical in providing pupils access to insights into the employment market and helping them understand the importance of attaining qualifications for employment, and in ensuring pupils are appropriately informed of all education and training options open to them, especially vocational training. High performing schools against OFSTED standards often exclusively focus on higher education opportunities, whereas some poor performing schools fail to provide a basic understanding of work to adequately prepare pupils for employment.
- Work coaches in the employment service require upskilling to enable them to provide greater support. Employability support is more complex with the hard to employ, to make them 'job ready'. This group of individuals also includes young people who have withdrawn from education prior to 18 and present themselves at a time when they are first eligible for benefits.

NELSIP
North East Local Skills Improvement Plan

Funded by UK Government

delivered by the NORTH EAST AUTOMOTIVE ALLIANCE

nelsip.com | **E** info@nelsip.com | June 2023