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Employer Insights from South Yorkshire's Manufacturing Sector Research Report

September 2024

KNOWLEDGE AND SKILLS SERIES.

Contents

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Management summary - headlines

One of the features of the South Yorkshire Local Skills Improvement Plan (LSIP) is the development of a portfolio of knowledge and skills insights offering up to date intelligence on employer needs. This is a summary of findings from the first in a series of six employer insights undertaken as part of this work focusing on manufacturing business in South Yorkshire.

The sub-region clearly has a strong global reputation for advanced manufacturing and engineering built on an unparalleled industrial heritage. This report looks at skills now and in the future with a view to informing the valuable work of providers and those involved in the development and delivery of skills and training in South Yorkshire.

Manufacturing outlook and technology adoption

- The industry is changing. Automation and robotics are gradually playing an increasingly important part in the efficiency of the sector. AI is expected to follow suit but, South Yorkshire manufacturers claim, is yet to be fully understood and adopted.
- Putting people at the heart of their operations has had a positive effect on productivity for many larger firms. Smaller or family run enterprises reported a close-knit culture and good oversight of employee needs and their welfare. There was less clarity on how well leaders were equipped to sustain people-centred culture's during succession planning or rapid expansion.
- Against a backdrop of recruitment challenges, many growth plans are built on digital transformation, sustainability and technology adoption. Turnover and profit growth is unlikely to be matched by the same scale of workforce growth. New employees will be required to operate seamlessly with technology. The priorities are succession planning, inspiring and recruiting talent and upskilling existing staff to address emerging shortages (a result of ageing workforces).
- There is likely to be sustained demand and moderate growth for electrical and maintenance engineering apprentices. It was important trainees could apply their skills to the workplace.
- For some, technology is intertwined with virtually every element of production. Many have plans for further investment. Staff training is aligned with the implementation of new processes or technologies and working across supply chains. But technology awareness and adoption is low amongst parts of South Yorkshire's manufacturing base. For some there was a reticence to even consider change. Improving digital readiness would be a priority for this cohort.
- Firms are acutely aware of sustainability and the need to integrate it across their business and there is some exceptional good practice. But it can be implemented in a top-down manner with gaps in middle managers having the right resources and tools to inspire, challenge and support sustainability activities. There could perhaps be a more aligned and collective approach to clarifying the Net Zero skills offer from providers.
- Manufacturers have started the journey towards automation, but some owner managers need convincing of the adoption requirements and benefits. Advances in AI, automation and robotics will result in demand for more higher skilled roles. An example cited was change management to facilitate technology transitions.

- There would be an appetite for those at the start of the journey for advice on how best to deploy robotics, AI and data-based analytics, for instance through demonstrators or in-house pilots.

Manufacturing skills and talent pipeline

- Some employers were looking to take the first step with apprentices, several recruited an annual cohort and there were a handful of UK leading apprenticeship recruiters. Apprenticeships and degree apprenticeships offered structured training and paid, valuable hands-on experience. Awareness was good. Fit with the company important. They were used for technical and back-office roles. There was movement from the latter to the former. Fewer employers used apprenticeships to upskill existing employees, preferring internal training and promotion.
- Employers were keen to stimulate interest amongst young people of the opportunities in manufacturing and apprenticeships in particular and many had relationships with providers here.
- Machining and maintenance apprenticeships could offer new pathways to robotics roles.
- In recruitment, workplace fit, willingness to learn and work ethic were as important as experience. Providers could work with young people to support them in their early careers through interview skills and essential and soft skills including teamwork, creativity and communication.
- Hard to fill vacancies were common for more traditional roles and employers would like to see these roles promoted alongside more popular manufacturing positions. Against a back drop of competition and recognised provider trainer shortages, employers launched their own training, were recruiting internally to fill skills gaps and took novel approached to recruitment. Local providers could support the provision of tailored training and upskilling for employees.
- The research highlights that resistance to change is a common hurdle in building a high-performance culture. It required a multifaceted approach: clear communication, early involvement, practical training, and a culture of experimentation. For some manufacturers change was not only accepted but embraced as a pathway to growth and innovation.
- Career development processes amongst larger firms comprised internal training and CPD, grading of roles, and proactively seeking opportunities for staff to progress to management positions. For firms that lack the HR expertise and capacity, training on how to introduce these processes could help address elevate the employee experience.
- There was recognition that there had been an evolution in employee well-being post pandemic and the sector has been creative to support this shift with mental health and other support and flexible working patterns. Some smaller firms may be open to transferable good practice of wellbeing support mechanisms.

Recruiting employees of tomorrow and the skills for today's workforce

- The choice between internal and external training often depends on the specificity of the skills required, the availability of in-house expertise, and the company's strategic

goals. There is a tradition in engineering of using equipment manufacturers for some training. Some of these had sophisticated training centres offering seminars, knowledge transfer and testing facilities.

- Most companies adopt a hybrid approach, combining both internal and external resources to deliver comprehensive training programs. Typically, independent providers were drawn on for coaching and one-off training and larger employers gravitated towards mainstream providers (colleges and universities) for new recruits and apprenticeships. Some firms sourced their training from a trusted intermediary such as the local chamber of commerce.
- Middle leaders are crucial to manufacturing businesses, influencing both operations and employee development. High impact, targeted support and training is required to 'unlock' their skills. Some employers need help with tools to do this such as the development of personalised training programs, often more nuanced and industry-specific than those in classroom settings. Peer and sector networks, CPD embedded into processes and mentoring and coaching can be less intimidating, especially where there might be some resistance to change.
- Providers can best meet the needs of manufacturers with improved awareness of the provider offer, and highly relevant training attuned to business needs.
- There is an appetite for CPD on the latest tools and technologies reflecting a commitment to continuous learning. Formal training credentials are not universally required.
- There are three challenges identified by employers when it comes to training: scheduling, employee mindset and administrative burdens.
- Companies showed mixed sentiments in relation to emerging learning technologies like Virtual and Augmented Reality, and their openness to using immersive environments, highlighting a demand for flexible, customisable solutions that are easily integrated. Pilot programs or phased implementations can help them 'test the waters' without committing to full-scale deployment.

Employer engagement

- While many employers have networks and regular engagements with providers, there is a clear appetite for more engagement in learning and skills delivery and development.
- Businesses acknowledged the role that they could play in reducing socio-economic disparities and improving life chances by offering education, training and jobs for instance to those at risk of not engaging with the labour market. Local manufacturers have experience of liaising closely with local councils and Job Centre Plus to engage and support unemployed people into employment.
- Employers said working with local schools and partners was required to offer meaningful engagements to help spark an interest (such as career events and showcasing manufacturing workplace in situ, potentially through the use of AR/VR immersive environments).
- More support from teachers and parents would be welcomed to help young people in their future career choices, so the recruitment pool is not too narrow. Promoting resources to help businesses reach out to schools and colleges could facilitate better engagement between businesses and students.

- Placements and internships were welcomed to test prospective employees and employers were keen to form strong relationships with local education providers.
- There were examples of sectoral and supply chain collaborations around training and skills to share good practice, offer employee placements and network. This has benefits including efficiencies and knowledge sharing. Supporting businesses with similar requirements with access to training facilities would encourage more business collaboration on knowledge and learning.
- Employers were open to presentations on future skills and labour market developments. Funding towards skills development would be welcomed. There is receptiveness to speak to curriculum and course development leads, help with careers education and/or sit on employer provider panels. Employers are broadly happy to exhibit at events. More could offer guest lectures or masterclasses. Some would provide training materials and equipment, others need persuading. There is a desire to promote workplace well-being and achieve employer recognition.
- Awareness of skills bank is very high. There is reasonable knowledge of the local Apprenticeship Hub, but employers would like to hear more about the South Yorkshire Institute of Technology.

Preface

Local Skills Improvement Plans (LSIP) place employers at the heart of local skills systems. This requires direct and dynamic insights and intelligence. This report is part of a portfolio of knowledge and skills activities designed to articulate and elevate the employer voice including podcasts, skills zones and skills teach-ins.

South Yorkshire LSIP background

Doncaster Chamber is the Employer Representative Body (ERB) for the South Yorkshire LSIP. They are collaborating with the two other Chambers of Commerce in South Yorkshire (Sheffield, and Barnsley and Rotherham), as well as the South Yorkshire Mayoral Combined Authority, South Yorkshire College Group, universities, independent training providers and employers. The current LSIP was created in 2023 and runs until 2026, building on the 2021 South Yorkshire Trailblazer. LSIP is a strategic document concluding with 36 recommendations to improve understanding of employer needs and better align and inform the provider offer. These reflect the fact that employers, training and education providers have unique perspectives, but similar and complementary aims. This ensures post-16 education meets local employer priorities and demand.

Report purpose and approach

This report is the first in a series to gain employer knowledge and understanding of local skills priorities. This will ensure the LSIP continues to be evidence-based and actionable, and education and training is responsive to employer and local labour market needs. It will help inform and influence curriculum development and employer engagement.

This work has been a collective effort between South Yorkshire Chambers, employers and providers. They collectively road tested the employer questionnaire and told the research team what questions and issue they would find most useful. The concept behind this employer insights series was to interview up to 30 employers across the sub-region each quarter, nominated by the chamber, local authority partners and business support specialists. This quarter the insights of manufacturers was the focus. In future quarters the series of six reports is likely to include construction; transport and engineering; creative and digital futures; technology in business, finance and professional services; and technology and people development in customer facing industries (hospitality, tourism and sport). 27 employers listed in Annex one kindly contributed to this report during June to August 2025. They don’t represent the whole sector and can only offer a snapshot of their requirements. The findings should be read with this caveat in mind.

Report Contents

There are four key parts to this report. The first part (Outlook, Chapter 1) looks at future priorities in light of changes to manufacturing such as digitisation, decarbonisation and automation. Chapter 2 assesses current skills including apprenticeships, recruitment and skills gaps as well as the talent pipelines. Chapter 3 discusses training provision for both current and future employees. The final Chapter (4) reflects on employer engagement and collaboration and concludes with a summary of what more employers and providers might do to align, collaborate and work together.

Manufacturing outlook and technology adoption

South Yorkshire has a diverse and long-standing industrial heritage with a global reputation for technologically advanced manufacturing and engineering. It has a loyal, long-serving, but ageing workforce meaning new recruitment and upskilling remains an urgent priority. The industry is changing, and automation and robotics are gradually playing an increasingly important part in the efficiency of the sector. AI is expected to follow suit but, South Yorkshire manufacturers claim, is yet to be fully understood and adopted.

People centred businesses

How deeply do South Yorkshire manufacturing managers understand what their team members need to do their best work and feel they have a happy workplace culture? When asked ‘are you a people centred business?’ using a rating of one to ten, 80% of those who responded scored themselves seven or eight. No respondents scored themselves lower than a five or six out of ten.

“We're always looking at ways to improve the working life of our people, whether it's through incentives or pay reviews, [investment in] skills…. There's a good feeling about the management team and also the stability that we have as a group and investment we have made.”

Putting people at the heart of their operations and prioritising employee welfare and workforce training needs has had a positive effect on productivity for many. This was particularly the case for larger established firms, and this is a familiar theme of this first employer insights report. Smaller or family run enterprises reported a close-knit culture with long serving loyal employees. Owner managers claimed to have a good oversight of employee needs and their welfare. But many have an ageing workforce. It was unclear how well South Yorkshire manufacturing leaders were equipped to sustain people centred culture’s during succession planning or rapid expansion.

“There is a lot of work to be done to bring the company into the 21st century…it's kind of that mentality of we’ve always done it this way, so we have catered our employee offering to that. But as I keep saying to people, as these people retire, we are going to have to be a lot smarter, because the next generation that comes in will be different and want different things to what you guys are used to.”

As noted, the best examples of people centred activities were typically found in larger employers (see section 2.3 for examples). They had formalised appraisal and staff review processes, tested the temperature of their workforces through surveys and some had developed their own bespoke training platforms.

Major business priorities

Looking to the future it was quite a mixed picture in relation to growth priorities. Many respondents aspired to growth but found it hard to articulate their future business priorities against a backdrop of recruitment difficulties (see 2.2). In contrast market leaders were able to describe their business ambitions with enthusiasm and in some detail. These plans typically were built on digital transformation, embedding and scaling sustainability and

innovation as well as technology adoption. There was a general desire to improve efficiency through capital investment and new working practices and reap the resultant benefits (lower energy costs etc).

One firm was on track to achieve its 2028 vision to double turnover. This will increase its workforce by just 50% (from 1000 to some 1500) as the focus is on efficiency of production. Each department has a five-year plan informing development, investment and recruitment activities. It has practical steps to achieve efficiencies through digital transformation and investment in new technologies. The firm has sustainability priorities including succession planning and learning and development activities. Much of the new growth will come from new markets and products. One Rotherham-based company is on target to achieve global net zero greenhouse gas emissions across all its locations worldwide by 2029.

"So [in terms of innovation] one of the targets we've set ourselves is that 20% of our profit has to come from products developed in the last five years."

Several businesses are looking to invest in systems and sales to ensure they could meet their growth ambitions. Investment in customer relationship management systems to better manage, organize, and track their inventory, products and sales pipeline was mentioned by a couple of respondents. Investment however needs to be balanced with growth, some firms want to become leaner and increase their efficiencies and are looking to digital and automation to drive this. The implication is that turnover and profit growth will not be matched by similar levels of workforce growth and new employees will be required to operate seamlessly with new technologies.

"Obviously you want to recruit more people but if you can't then you have to be internally lean. So you have to have automations and improvements in the business where you're just streamlining yourself, so you're cutting internal costs, so you're not having to charge the customer more."

Most firms, especially SMEs, have long-serving experienced employees, often in niche roles that will be retiring in the next 5 years. The focus here has shifted to succession planning, recruiting new talent where possible and upskilling existing staff to address inevitable shortages. Short term recruitment figures will be small with an aim for more significant numbers over the next 5-10 years. An immediate priority is to inspire the next generation (this is discussed in section 4.1.2). Local manufacturers found it hard to attract talent to roles that are historically not always attractive or enticing. Some employers feel this has been exacerbated by the growth of an 'on demand' society and greater, sometimes more unrealistic, expectations of job roles and salaries from a younger workforce.

"Succession planning- we've got some really long serving employees that have been in the business 30 years, plus, a lot of skill sets there. How do we then close the gap so those people can leave, and business operations wouldn't fail."

Future skills and qualifications

Firms were asked what future skills are important for their workforce and how might this affect their investment in skills and their requirements of providers.

1.1.1 Future Skills and Qualifications

Generic skills such as IT proficiency or basic digital skills were referenced. Apprenticeships and technical qualifications were commonly used for back-office functions like business administration, finance, sales and marketing. Largely due to ageing workforces, there is a need to backfill niche roles such as diecasters and injection moulders as existing staff retire. Some felt there was a scarcity of tailored provision available within broader curricula offers to fill these more traditional skills gaps that aligned with the niche roles manufacturers sought to fill.

"Right now, there's a dearth [of traditional skills], you cannot get young or even seasoned professionals in the industry, it's a question of availability of skills."

"We tried enrolling [an employee] through our local College on a course but, they'd actually shelved all the courses, and there was redoing of all the curriculum."

For many it was early days for T levels. Some employers were open to the idea but had not yet committed or been persuaded. One had been involved in co-designing a fabrication welding T-level offer with a local college and was looking forward to its launch. While some more technical roles such as fitters or welders often required an associated qualification, firms stressed the value of soft skills and positive attitudes and a willingness to work for entry level and shop floor roles. These essential and soft skills are important for those in early careers and include teamwork, creativity and communication. Experience was helpful. There was some movement between companies for these positions.

"We don't really require any skills other than we want them to turn up to work and just want to work. Everyone deserves a chance."

"Formal qualifications are not required for entry level roles…we look at track record and abilities."

"T levels is something that we've looked at. We haven't trialled it yet. I think we were a bit late to the game this year by the time that we got around to it, but we've looked at it for our IT team, and it is something that we'll be thinking about next year."

One firm was using apprenticeships and higher degree apprenticeships for the existing workforce and saw product design and development engineers as important for the future. Another used apprenticeships for basic machine operations. Engineering apprentices were the most common requirements, and one firm has just brought in two for its maintenance team where an understanding of electrical and mechanical work was required. It was important that apprentices could apply their skills to the workplace (one plant required a 'coded' welder certified to meet specific industry standards or codes through training and testing). For CNC shops typically an NVQL3 was required. One respondent mentioned the importance of having the right machinery and another preferred new recruits to demonstrate their commitment with six months in assembly, "then we would look to put them onto apprenticeships".

"So the big push for us is internal development and using the apprenticeships and higher degree apprenticeships to really upskill our teams over the next two to three years."

"We need to have apprentices trained at places with similar machinery to ours (state of the art kit), because there is no point if providers have got antiquated machinery as any practical

training on that is completely useless. It's a real problem in the FE sector which has had a lack of investment for a while."

Some firms used a mix and match approach training up staff internally for the mechanical workshop "using the existing employees and letting them pass their knowledge down" and recruiting experienced staff for more high-risk roles such as anodising (precision coating and surface treatment techniques).

"The skills aren't as important because we teach those, so we need to have the behaviours that allow us to teach those skills."

Employers generally feel well equipped to train new starters in house for instance in relation to HR and health and safety. Many have well-established links with local higher and further education providers for skills graduates from engineering disciplines.

1.1.2 Digital Skills

Globally, the World Economic Forum estimates that 14% of workers in advanced manufacturing are at risk of displacement owing to technological automation and augmentation. The top four emerging job roles in the UK are being driven by skills relating to digitalisation and AI[1]. While all manufacturing firms were acutely aware of digitisation in manufacturing there was less consensus in relation to what this may mean for workforce skills.

For some, technology is intertwined with virtually every element of their production with plans for further investment. In these instances., where technology is already embedded, their staff training is directed towards ongoing upskilling of staff to align with the implementation of new processes or technologies. Large companies have supported their enterprise-wide digital transformation agenda with initiatives to encourage collaboration with smaller firms and their supply chains.

"We're working with the technology day in day out, so there is a constant upskilling requirement, often without probably realising you're doing it because it's just so natural. The more technology advances, the more you have to understand the digital side and the software side of the operation."

More traditional firms tended to adopt a 'business as usual' approach, with operations and business processes that have not changed much in years and predictable long-run production lines manufacturing identical products with little or no scope to easily change. Here, outdated infrastructure and equipment and a lack of investment in new machinery and new productivity-enhancing digital technologies can act as a drag on competitiveness. The adoption of new ways of working are low amongst parts of South Yorkshire's advanced manufacturing business base. There was a reticence in some firms with older workforces to even consider change. Improving digital readiness would be a priority for this cohort of firms. Younger employees were typically much more digitally savvy.

[1] World Economic Forum (October 2020). The Future of Jobs Report the UK's top four emerging job roles: data analysts and scientists; AI and machine learning specialists; big data specialists; and Internet of Things specialists.

The interviews found limited absorptive capacity within some business leaders to adopt new technologies and ways of working, with a minimum level of technical skills needed to be able to implement, for example, digital manufacturing approaches.

Reference was made by several firms on the need to prioritise digital upskilling for team leaders/supervisors or back-office staff rather than the shop floor or wider workforce.

1.1.3 Green Skills

Attitudes to sustainability followed a similar pattern. It is affecting a number of business areas from energy and waste to supply chains and procurement as well as legislative compliance. Firms are acutely aware of sustainability and the need to integrate it within their business. There is exceptionally good practice within the sub-region. This includes the engagement with sustainability CPD and ISO courses. One firm has an initiative encouraging staff to engage with and submit ideas for green projects.

Despite these cases of best practice, the majority of firms more often adopt an 'infrastructure over ideology' attitude to sustainability and green skills. Sustainability practices are generally viewed as changes delivered at the top level by directors or senior staff in the form of policy or the adoption of green business processes. One firm is recruiting a sustainability manager to effect change. There is an increasing requirement to understand emissions within the business (emissions, energy or fleet management for instance).

Whilst some firms do engage with green and climate related CPD courses these are more commonly at a managerial level and there is no specific requirement or focus for employees to hold green skills or attitudes. In some instances, in larger firms, this is a product of having dedicated departments or individuals who lead on sustainability measures, so it is deemed unnecessary for the wider workforce.

"From a staff point of view I [the director] normally deal with that, it's more built into the infrastructure, rather than there needing to be any training it's all down to me to look at things like renewables, and new technologies coming through from early stages to see if they apply to our industry."

Larger firms adopt very different solutions to effect meaningful change, for instance reflecting more complex supply chain infrastructure and sustainability co-ordinators (implementing carbon and energy measures corporately). Smaller firms in contrast may need to be convinced of the commercial case for implementing sustainability practices. This would elevate their consciousness of what green skills might achieve. Middle manager level sustainability training might be the most impactful as they are at the front line of company policy and operations, reflecting their complex and multifaceted roles and giving them the right resources and tools to inspire, challenge and support sustainability activities. Leaders just beginning on that journey are conscious of its importance.

"I think it's important to filter down to management and employee level as well, because recently, we've just purchased a significant amount of equipment so there's a massive energy saving option for us there and the people who are purchasing the equipment have got to understand how important that is."

"It's certainly a consideration for my area of the business, focusing upon social value, ESG, that side of things. It's probably something that's going to be in my remit within the next year

to 18 months, I would have thought, and particularly other senior leaders within the business they need to have an awareness of those types of things as well."

Automation, robotics and AI

There is perhaps some way to go before we see humans and robots interacting seamlessly on most of South Yorkshire's production lines and factory floors. That said many companies have started the journey towards automation with robotics being introduced for routine tasks including assembly, shipping, handling raw material and product packing.

"We have robots doing various jobs and picking up things and stuff like that. It's the role of the production operatives to make sure the line is running smoothly and that they're getting the most out of it, and the engineers to make sure that the automated robots are running…so there's two main skill sets."

Current and future investment is being made in automation and updating current business processes to remain competitive. It is reducing production times and enhancing quality and outputs adding power and precision. Some firms remain to be convinced of the return on investment and are put off by the capital costs. Others felt their products weren't suitable for automation and there perhaps could be more understanding of adoption requirements and benefits for more sceptical employers.

"Robotics can be great, but robotic arms are not as robust as humans, you can't make it have a human's natural force. If you're working in a forge, you can feel the vibrations when the blows happen, if it sticks or pulls up, you can identify all of that. A robotic arm is really rigid, you can't necessarily teach it that. If we can improve the hardware and AI can then start to make robots more human, then maybe."

There would perhaps be demand for understanding how companies make the most of robotic investments as technology improves (e.g. off-site programming). They'd like to understand what soft (and technical) skills humans need to interact with machinery and newer technologies. Effective change management is required within team leader and supervisor roles to get the best out of teams and facilitate technology transitions. This requires good communication, stakeholder involvement, appropriate transparency, and incentivisation to navigate the complexities of change.

"You always need soft skills. They're very important. You can't rely on technology 24/7, the technology hasn't got the experience. What you put in is the information you get out of it. The managers and supervisors need the soft skills so they can get the best out of people. Managers know how to adjust to get the best out of different people. People are motivated by different things."

Inroads to AI are at a very early stage for South Yorkshire's manufacturers, some have used it for tenders and others are considering it for marketing and other routine tasks. While cautious, businesses are open to its future use and have identified how it could be incorporated within their activities but feel it is not yet developed enough to be adopted wholesale. More sophisticated use of AI is in its infancy but there appears to be a desire to learn more, for instance about the use of machine learning (ML) solutions to optimize manufacturing processes with improved data analysis and decision-making. One key benefit could be in better predictive maintenance.

“AI is coming. There is an awful lot that AI can do in our industry. But it's only starting to scratch the surface. The limitations are based on the innovative perspective of the end users or the applicators.”

“It's interesting because machine learning can, I think, be used, for quality assessment, where you can use cameras to look at a finished component or product to decide whether it's acceptable or not.”

There is an acceptance that advances in AI, automation and robotics will allow workers to be redeployed in higher skilled roles.

“It's about upskilling people and moving on to more skilled tasks. Rather than removing people from the operation, it's giving them the opportunity to do more interesting work and more value adding tasks. It’s a misconception with automation that you remove the person, you don't, you upskill the person.”

“The return on investment is where you've removed them from doing the boring, mundane stuff, and you've got the operator who's now not just picking stuff and putting in bins, they're now having to look at the product and think about it and what do I do with it? You're upskilling the internal team, and that helps with the retention as well.”

Manufacturing skills and talent pipeline

Building a strong, talent pipeline of existing employees and new recruits was a key priority for success for the South Yorkshire manufacturers consulted.

Apprenticeships in the manufacturing sector

1.1.4 Using apprenticeships

Apprenticeships were perceived as offering structured training and paid, valuable hands-on experience. Trainees learnt niche skills in the workplace and business specialisms. A number of employers were looking to take the first step with apprentices, several who recruited a cohort each year and a handful of serial apprenticeship recruiters. The key challenge was finding the right fit with the company (this is discussed in the next section).

Employers were aware that FE and independent providers offered engineering operative, maintenance engineering[2] and operations and machining technician roles. The AMRC and Sheffield Hallam University were also mentioned though the Institute of Technology did not seem to be that well known yet (this is discussed in Section 3.3). The provision of degree apprenticeships locally was seen as a key strength for manufacturing businesses[3]. Colleges outside of South Yorkshire were occasionally used by local employers to deliver specialist courses that are not offered locally.

Areas such as injection moulding and the maintenance of mechatronics might not neatly align with more standardised training courses, meaning that hands-on, on-site apprenticeships were vital to meet the specific skills needs of some companies.

"We're desperately trying to recruit polymer apprenticeships for the injection moulding, but in this area of the country, no one delivers it, so we're having to work with [X] college to try and see if we can deliver it in house, or on site".

Typically, employers use apprenticeships to bring in younger people, often those who have just finished formal education. Fewer employers discussed the use of apprenticeships to upskill existing employees, preferring other methods of internal training and promotion. Employers were keen to engage with and provide opportunities to local young people and many had existing relationships with local providers to help with recruitment. Apprenticeships were used as part of succession planning to improve continuity and retention.

"We decided we just wanted to help some young people out, offer them a qualification and give them a bit of experience".

"We have directly gone to local schools and asked them [to promote apprenticeships]. We've had two or three successful apprenticeships from work experience working with local schools."

[2] An example was cited at the Sheffield College here.
[3] Sheffield Hallam hosts the widest portfolio of degree apprenticeship courses in the country, the AMRC work with over 450 employers in the sub-region to deliver apprenticeship training at a variety of levels and in a variety of disciplines.

"I really like apprenticeships. I am a big advocate for apprenticeships. I think it is the way that we want to be going as a business, if we can get them right and the right skill sets, then they absolutely are crucial to what we're doing".

"We've got some really talented fabricators and fitters and welders, but they're older [employees]. So bringing the younger blood in to build that up, is really important to us and teaching them what we do".

South Yorkshire based manufacturers also use apprenticeships to help them address office-based skills gaps including in administration, sales, HR, finance, and IT (software development). Office-based and digital apprenticeships are growing in popularity. One employer is developing a digital roadmap, to help them to prepare new roles, including apprenticeships, that do not yet exist but will be created as technology and AI becomes embedded in operations. Machining and maintenance apprenticeships would offer a pathway, with some upskilling, to roles involving robotics. However, it was acknowledged remote working was making wholly office-based apprenticeships more challenging practically.

"We want to use the apprenticeships to develop an internal pathway for people to move into our sales teams and be area sales managers, or whatever it might be".

Some larger South Yorkshire employers consulted were amongst the top UK apprentice employers in the manufacturing sector. Another had 23 apprenticeship pathways from engineering to administration. Apprentice graduates tended to specialise after they had been with the company some time and there were examples of people moving into technical pathways from other apprenticeships.

1.1.5 Barriers to apprenticeships

Some employers felt young people and parents had negative perceptions of working in manufacturing and apprenticeships still didn't have sufficient parity of esteem with some academic routes. Employers wanted this unhelpful stigma addressed and to support a positive narrative around apprenticeships to stimulate more interest.

"I think there's a really important point made here about how we raise the profile of apprenticeships, and it's not something that's seen as an underachieving environment. … This is a culture of achievement, excellence, getting the best out of people".

Some employers would like their apprentices to have more realistic wage and role expectations; learning to undertake core tasks prior to adopting senior responsibilities. There were examples of apprentices struggling with hands on roles moving from the classroom to the shop floor.

"It's just that expectation of the apprentice of what they're going to get from the employment, I think that they're expecting a lot more in terms of remuneration".

As taking on an apprentice is a commitment, especially for small organisations, many wanted to be able to retain trainees following the end of their apprenticeship. This same level of commitment was expected from the apprentice, with the employers expressing the hope that an apprentice would choose to stay on in employment. Employers without capacity to retain apprentices said they were less inclined to take one on.

“For us, we need an apprentice that comes in and looks forward and has an interest in what we do and sees a path to the future. Trying to find that person is quite difficult, but having an apprenticeship for a limited period of time isn't really of interest to us”.

Recruitment and skills gaps

1.1.6 Resistance to change

The research highlights that resistance to change is a common hurdle in building a high-performance culture, often rooted in fear of the unknown, fear of failure, and/or fear of job security. As one contributor noted, "people think [automation] is going to take their jobs ultimately." This anxiety can be amplified by unclear communication and a lack of understanding about the benefits of change. Employees need to understand not just what is happening, but why it is happening and how it will benefit both them and the organisation.

"We involve everyone from the users all the way up to directors... this is why we're doing it, and this is the benefit.”

This sense of inclusion can be fostered through good practice like change committees and pilot programs, which allow employees to see the benefits of change first hand and contribute their insights.

Manufacturers were keen to emphasise that practical, hands-on learning was far more effective in reducing resistance. Instead of relying solely on classroom sessions, integrating training into daily tasks and creating mentorship opportunities can help employees feel more competent and less resistant.

"70% of learning comes from having a go and failing and doing something, trying it out, and learning from that."

One company used signs to challenge complacency, such as, "we don’t always do it that way, because that’s the way it’s always been done." Some leaders claimed they were open to change and view experimentation as valuable and setting a positive example. Personalised support can be used to help those more resistant make a transition to new ways of working. One-on-one conversations were used to reveal specific concerns like lack of confidence or external factors. Gradual implementation of changes allows employees to adapt at their own pace.

Managers felt that overcoming resistance to change required a multifaceted approach: clear communication, early involvement, practical training, and a culture of experimentation. By addressing resistance head-on with these strategies, manufacturing companies had been able to foster a high-performance culture where change is not only accepted but embraced as a pathway to growth and innovation.

1.1.7 Hard to fill vacancies

In manufacturing, hard to fill vacancies were common for more traditional roles such as diecasters, machinists, maintenance electricians and toolmakers. Employers would like to see these positions promoted alongside more popular manufacturing roles such as engineers or data scientists. Some employers have taken to launching their own training courses to fill skills gaps and raise awareness of certain hard to fill roles. Employers were equally acutely aware of trainer shortages in the provider base.

"So, the forging and the die casting and things - there is not a lot of people lining up to be a diecasters because it's not advertised. People want to be engineers because that's the cool thing to do".

"Typical vacancies that I look for are toolmaking positions, mechanical maintenance engineers or general machinists and we got many of these. I've just filled them all and it wasn't easy".

Some companies recruit internally as opposed to hiring new talent to fill skills gaps. Finding somebody externally who can fit within the company culture and contribute to very specific tasks involving complex machinery can be incredibly difficult. Training people who already have a good knowledge of the company who can then specialise was deemed to be a more effective way of filling skills vacancies for some companies. Therefore, local providers could support the provision of tailored training and upskilling programmes for employees to help them progress within their companies.

"My vision is that everybody comes into the business as a production operative, and then from there, once they've got a good basis of the knowledge of the business, they can specialise".

The challenge of hard to fill vacancies are intensified by a competitive market with multiple businesses seeking to fill the same skills gap, with larger organisations able to attract talent through higher salaries. However, some companies stated that salaries are no longer sufficient to attract people to the hard to fill vacancies. Instead, potential employees look for other perks such as a company sickness and healthcare plan (as promoted by the Chamber of Commerce), access to a mental health helpline, and a decent work-life balance. This is discussed further in a subsequent section (2.5). Others took novel approaches to promotion. One firm had open days where they felt speaking to parents and guardians was as important as the prospective trainees.

"Our novel approach is to actually launch some welding training courses, the first of which we've put on a banner outside our building asking people to come and have a go at welding and pay to come on one of our very short courses. So some of my staff are going to do all the training and hopefully identify some particular people we might want to offer jobs to."

1.1.8 Recruitment processes

For many, the hiring process was described as being informal, with more emphasis placed on culture and work ethic than on experience and CVs. Being able to learn more about the candidate, their personal circumstances, their ambitions within the company and their willingness to work are regarded as being more important than being technically excellent in the role (with the belief that skills can be taught but attitude cannot). For more immediately technical roles, companies will sometimes require the interviewee to undertake a technical test, such as building a section of machinery during the interview. Local education providers could work with young people to support them to prepare for this section of the interview by offering interview skills sessions for hands-on interviews.

"I don't even call it an interview, because I think it's off-putting. So, you might have someone that's not been in a job for so many years, because I don't know, their parents passed away, or they've just not had to work ... I want to get to know what the skills are, what they've done before. If I'm completely honest, I don't interview. I just have a chat".

Organisations acknowledged the importance of employer flexibility alongside the need for employees to meet company requirements. For example, a factory tour can help potential workers understand their role within the company. Some firms stated that at a more senior level, interviews will involve a number of current employees as a way of introducing the interviewee to their potential new colleagues, giving the employer a better understanding of how the interviewee might fit into the company.

Some companies resorted to recruitment agencies to help fill vacancies on a 'no fill no charge' basis. Whilst roles were initially offered on a temporary basis, the contract was extended if the new employee developed the right skills and attitude quickly. Recruitment agencies were sometimes able to help firms find suitable candidates to fill skills gaps quickly for instance for middle level senior and manager roles though this did come at a price.

Staff development and pathways

South Yorkshire's (SY's) larger manufacturing firms have structured, effective, and unique inductions, appraisals and career planning frameworks in place and many take pride in their staff development processes. Larger firms often have their own tailored approach to inductions and appraisals with formal systems in place.

"We have dynamic monthly appraisals, compared to typical annual appraisals where you don't tend to get much value out of it, by having monthly meetings, we're catching problems quicker".

"We have an induction which incorporates the company values".

Career development processes amongst larger firms comprised internal training, grading of roles, and proactively seeking opportunities for staff to progress to management positions. Firms are providing operational and factory floor staff with the opportunities to upskill and fill leadership roles or providing apprentices with career pathways. One firm noted the use of internal '*CPD, training courses and talent management'* for example a '*young talent course to elevate them'* and management courses for those who *"want to be successful in their role and add value to the business".* Another uses a "*skills matrix system, which is embedded in the quality system*", allowing employees to be continually assessed and encouraged to pursue further training. This internal model ensures that training is closely aligned with the company's operational standards and goals.

For smaller firms in some cases inductions and appraisals are a future business priority, due to the lack of capacity or senior expertise to deliver HR systems. For firms that lack the HR expertise and capacity, training on how to introduce these processes could help address these challenges. In smaller firms, often more informal processes are at play for example natural progression. As one firm cited *"we haven't got a defined structure in place, promotions are kind of on an ad hoc basis".*

Flexible and hybrid working

Many employers consulted are adopting flexible working patterns where it was practicable within the constraints of the shop floor, though they recognised that it was important to create the right conditions for employee well-being. For example shop floor workers were

sometimes offered flexible shift patterns, time off for appointments, childcare, and in some cases the ability to accrue hours.

"If people want to change their hours to work around school and things like that, we do that with everybody".

Clearly hybrid working is less common amongst manufacturing firms where production and operations staff are needed on the factory floor. For office staff it is becoming increasingly common and, in some cases, expected by staff. One firm highlighted the challenge that this brings.

"It's hard because having that people focused culture, where you've got an operations team who need to be here all the time, and then you've got office staff who don't, we need to balance both".

Most consultees felt that a degree of flexibility helped with staff attraction and retention. One firm noted *"it can be a deal breaker"*. The benefits could perhaps be conveyed to those more resistant to flexible working.

Employee wellbeing and celebrating success

There was recognition that there had been an evolution in employee well-being post pandemic and the manufacturing sector needed to be creative to support this shift. SY's large manufacturers are adopting positive changes in relation to employee wellbeing, while some smaller firms were further behind. Awareness and support for employee mental health and wellbeing was more commonplace and typically supported through mental health first aid training. One firm recognised Industry 5.0 and the role that it will play in supporting employee welfare, creating working environments that are safe, healthy, and fulfilling, while also creating opportunities for workers to learn and develop new skills.

"Our culture is around supporting mental health and making sure that managers have the ability to spot those signs in terms of wellbeing."

The consultees each brought a unique approach to supporting employee wellbeing, with indirect support mechanisms such as:

- Cycle to work schemes.
- Discounted gym memberships.
- Wellbeing seminars covering topics such as nutrition, back care and posture.
- Same day GP appointments.

For some firms, particularly the smaller ones, there is a gap in understanding of what wellbeing support mechanisms to provide their employees and may be open to examples of transferable good practice from elsewhere. Not all firms had thought explicitly about celebrating success and recognised the importance of doing more, *"we're not good at celebrating success".* Some firms marked business milestones, employee accomplishments, and successful business or individual performance or offered financial incentives. Employee generated ideas were well received.

Training the employees of tomorrow and offering the skills for today

Consultees used a variety of training models from fully developed internal programs to those incorporating significant external input. Middle leaders play a key role and require access to the right, high impact support to 'unlock' their leadership and management potential. Most businesses consulted prioritise long-term relationships with providers or trusted intermediaries who understand their specific needs.

Improvements to bite sized learning, awareness and relevance would sharpen the provider offer from the employer perspective. Other barriers to training are: scheduling, employee mindset, and administration. Mixed sentiments to immersive learning mean the benefits are partially understood. Smaller employers will require flexible, tailored, cost effective solutions to encourage adoption.

Training models and provider engagement

1.1.9 Training models

It is not surprising that many businesses rely heavily on internally led and delivered training, particularly when a deep understanding of company's specific processes and operating procedures is required. In smaller firms and family businesses there was a tendency to keep things in-house. In some instances, employers felt their processes were so unique that external providers couldn't cater to their needs. The choice between internal and external training often depends on the specificity of the skills required, the availability of in-house expertise, and the strategic goals of the organisation.

"Those skill sectors are very rare, the kind of people who know enough about it-we know more".

"I'd say it is all in house training. I wouldn't even know where to find, something like, an anodizing trainer".

"We have a plethora of training modules that align to our leadership competencies. So through the Personal Development Planning process, people can select emotional intelligence training, conflict management, these kind of short courses to start to build together a bit of a jigsaw so that they've got the right skill sets".

It is common practice for manufacturing businesses to outsource specialised training to external providers where there are knowledge gaps. For instance, many companies rely on external providers for training on specific machinery or brought in specialists such as health and safety. There is a tradition in engineering of using equipment manufacturers for training. For example, one company used a global injection moulding manufacturer which offered hybrid options for new recruits teaching the functions, operation, optimisation and maintenance of injection moulding machines and robots. Some equipment manufacturers have sophisticated training and development centres offering seminars, knowledge transfer and testing facilities.

“Our maintenance teams are going to Germany in October for two weeks. To be trained by Frech, the die casting machine suppliers on the latest techniques, very much focused, specific vocational stuff.”

Typically, independent providers were drawn on for coaching and one-off training and larger employers gravitated towards mainstream providers (colleges and universities) for new recruits and apprenticeships. Some firms sourced their training from a trusted intermediary such as the local chamber of commerce. Examples included leadership and management courses, such as lean manufacturing/six sigma, boot camps for the shift leaders, and project management courses.

Most companies adopt a hybrid approach, combining both internal and external resources to deliver comprehensive training programs. For example, one company uses an online platform for mandatory training modules, such as health and safety and induction, which are then complemented by group sessions conducted by external trainers. Another company described how they use both internal specialists and external experts, particularly for leadership training, where "the exec team are all part of building and developing the training" but external specialists may be brought in as the program evolves.

In another instance, a company ensures that their apprentices receive foundational training externally at training institutions, after which they return to the company for further internal training and integration, which is typically characterised by shadowing jobs across several departments. This blend allows the company to leverage external expertise while maintaining control over the application and continuation of the training within their specific operational context.

1.1.10 Communicating training requirements and skill needs

Most businesses consulted prioritise long-term relationships with providers or trusted intermediaries who understand their specific needs. This avoided the complexities of tendering, allowed for clear communication and the development of tailored training solutions.

"We don't *go out to tender... if they're good, we use them again; if not, we don't."*

This relationship-based strategy is especially important for businesses with unique cultures or specialised needs, where finding the right fit can be challenging.

As noted beyond traditional training providers, businesses also collaborate with trusted intermediaries such as industry bodies, sector fora, and other organisations to enhance their training programs. For instance, a company works with the Chamber of Commerce to vet providers and ensure they meet standards. Others collaborate with universities for market research and R&D, accessing specialised knowledge and resources.

While strong provider relationships are crucial, businesses also emphasise the importance of reviewing training effectiveness. Feedback mechanisms play a key role in this process and helps identify areas for improvement. "We send feedback forms to get that information." If training falls short, businesses proactively address issues with providers.

Middle leaders

The role of the middle leaders is a complex one and multifaceted. Middle leaders are crucial to the success of manufacturing businesses, influencing both operations and employee development. They were described as the engine of the business with a wide variety of technical skills contributing to the businesses success. Some will be young high performers; others will bring more experience. In order to thrive businesses recognised they needed to fully engage middle leaders and 'unlock' their skills with high impact, targeted support and training. Some have the right resources and tools to inspire, challenge and support its middle leaders and some used peer networks, sector alliances, mentoring, and coaching.

Personalising training programs with company-specific content is one strategy. For example, one company incorporates its own financial data into leadership courses, making the learning experience more relevant and immediately applicable. This approach enhances engagement and ensures that new skills directly improve workplace performance.

Furthermore, peer-to-peer mentoring and networking opportunities also emerged as valuable tools for developing middle leaders. Many respondents advocated for these methods.

"Networking and *mentoring in areas like people management and lean management would be really beneficial."*

These initiatives offer a practical way for middle leaders to learn from their peers, gaining insights that are often more nuanced and industry-specific than those available in traditional classroom settings.

Also noteworthy is that engaging long-serving middle leaders in formal training is challenging due to their resistance to traditional methods and reliance on experience. As one interviewee noted, "getting the older workforce to engage in training is difficult—they don't see the need." To address this, businesses can consider alternative approaches like on-the-job coaching or informal sessions, which are less intimidating and more relevant to daily tasks. Integrating CPD into existing processes can help overcome resistance and support ongoing development for all employees.

One market leading employee-owned manufacturer invested significantly in leadership behaviours through an intensive bootcamp with an individual leadership plan focusing on behaviours such as personal energy and inspiring people around you and effective execution. They have a 360-feedback process that provides a good understand of any gaps to inform subsequent content (last year it was decision making).

"We've done a lot of work around our leadership behaviours and using that as a starting point. We've defined what we expect of leaders and the idea being that if leaders can display these behaviours, it doesn't matter what role they're in, they will still be a good leader, and the vision is to eventually be able to drop leaders from any site and put them in any position and have that constant rotation".

How training providers can meet firms needs

This sub section examines what training providers can do to meet the needs of manufacturing businesses in terms of content, awareness and relevance.

Businesses expressed a need for more accessible and customised training options, especially those that can be tailored to small businesses with limited budgets ("we're a small company without loads of money to spend"). Providers could consider offering more modular training programs or scalable solutions that allow businesses to pick and choose the elements most relevant to their needs, making training more accessible and affordable.

There is a strong call for improving awareness and the perception of available training programs, particularly in regions where businesses feel disconnected from local educational institutions. As one interviewee noted, "I'd love to hear from Sheffield, or Leeds, on what's missing in Doncaster," suggesting that local training providers need to better communicate their offerings and relevance to nearby businesses. Creating a regional database or hub that details available training programs could help bridge this gap, making it easier for businesses to find the training they need close to home.

For businesses to invest in training, they need confidence in the return on that investment.

"If the colleges are teaching stuff that isn't in alignment with what I'm trying to do, then I'm not going to invest."

Training providers must, therefore, align their programs with the strategic goals of the businesses they serve. This alignment would ensure that the training is relevant. As noted earlier, the relationship between training providers and businesses needs to be more collaborative, with providers taking a proactive approach in understanding the specific needs of the industries they serve.

"Training providers really need to be able to get out into industry and recognise what industry is doing, where they are and who they are."

A practical solution could involve providers developing a deeper connection with local businesses through regular engagement and tailored programs, ensuring that training offerings are relevant and valuable.

Upskilling

The research highlights that manufacturing businesses need CPD programs that are closely aligned with the specific requirements of different roles within the business. For example, in businesses where technology is advancing rapidly, there is a clear need for specialised training. One company, for instance, invests in external training for their engineers, sending them off-site for courses in automation and manufacturing programming skills. This targeted approach ensures that their technical staff remain proficient with the latest tools and technologies, directly benefiting the company's operational capabilities. Some roles have mandatory qualification entry requirements (electrical engineering is an obvious example). Others with more routine operative positions prioritised practical experience and internal training, reflecting a culture that values hands-on learning and promotion from within.

"We're very dubious about putting an advert in the paper and asking for people that are technically qualified... they've got a piece of paper, but how do they perform on site?".

Other businesses balance formal education with ongoing training, recognising the need for employees to stay updated with industry developments. One interviewee mentioned the

importance of bite sized management training and AI knowledge, saying, "management training would be a good one. I think things like AI are another good example." This reflects a commitment to continuous learning, even if initial credentials are not required. One company was developing their own CPD and offered informal training on the job.

Training challenges and lessons for the future

There are three core challenges identified by employers when it comes to training: scheduling, employee mindset (see section 2.2.1), and administrative burdens. One of the main hurdles is fitting training into the busy schedules of factory floor workers.

"The issue that we kind of experience for that is actually making sure that the managers allocate time for training, like each month or whatever, because obviously they're busy on the factory, doing the manufacturing side of it."

Successful businesses have been able to navigate this challenge by structuring group training sessions that align with shift patterns, minimising disruption. Others offer multiple session times or integrate training into shift transitions to ensure that all workers, regardless of their shift, have equal access to learning opportunities.

Employee engagement with training varies, with some showing more enthusiasm than others. "I think it all comes back to the person." Some businesses had been able to foster a culture of continuous learning by developing motivational strategies, showcasing success stories, and demonstrating the tangible benefits of training. It is fair to say that it is a mixed picture in relation to continuous learning.

Accessing training funding was, some perceived, complicated by bureaucracy. "The most important resource you have is time." Lengthy paperwork can deter businesses from pursuing training opportunities. Streamlined administrative processes would be welcomed plus support in navigating funding applications. This would make it easier for businesses to engage in training.

On the job training and VR/AR immersive environments

Companies showed mixed sentiments in relation to emerging learning technologies like Virtual Reality (VR) and Augmented Reality (AR), and their openness to using immersive environments. Some companies saw great potential, for instance using VR for operator training and AR for interactive on-the-job safety information. Others are more cautious, finding VR either unnecessary, or impractical for their needs. This highlights the demand for flexible, customisable solutions that are easily integrated.

"By offering customisable packages, we allow businesses to select elements that fit their immediate needs, reducing time and costs".

Further, some consultees are uncertain about the return on investment (ROI) from using VR/AR in training. "The initial investment is significant, and without clear evidence of ROI, it's challenging to convince leadership to move forward." To justify the cost, businesses need clear, demonstrable ROI. For smaller businesses, the high upfront cost may be difficult to

absorb. Pilot programs or phased implementations can help them test the waters without committing to full-scale deployment.

"We start with pilot programs, which helps businesses understand the value before they fully commit."

Employer Engagement

This final chapter looks at how the South Yorkshire manufacturers consulted are inspiring the next generation and working with those further from the labour market. It considers how they are partnering with providers and what more could be done. It concludes by showing there is a clear appetite for more engagement in learning and skills delivery and development.

Talent Pipeline

1.1.11 Working with those further from the labour market

There is some evidence of local manufacturers liaising closely with the council and Job Centre Plus (JCP) to engage unemployed people and develop a better understanding of how to support them into employment. This would ensure people with relevant skills, experience or ambitions can be matched directly to vacancies. Advertising directly through JCP is free of charge, making it an accessible and cost-effective recruitment method for some employers. Some companies have been engaging with the Pathways to Work Commission in Barnsley and attending the associated meetings to implement best practice for recruitment of people who face barriers to labour market engagement.

Some companies also highlighted the importance of connecting with those who might be at risk of not engaging in the labour market before they are of working age. Working with schools to educate children about manufacturing and hosting career events for young people were both important methods of engagement. Some companies prioritised working with local schools that are least likely to be given opportunities for engagement with the aim of levelling the playing field for when the younger people begin to consider moving into employment. The “See it be it campaign” in Sheffield was one such example which sought to bring the world of work to life for young people.

“We've identified schools within the local area that potentially don't get the opportunities that they should, and we have prioritized them for career events, work placements and things like that, to make sure that we're giving those opportunities to the local community who need it the most”.

Employers did not think incentives were required to encourage people into manufacturing and felt happy to recruit based on individual merit.

“I want the best candidate. I don't care what age they are, what background they have, as long as they've got the right skills and the right attitude, then we can do something with people and their potential”.

1.1.12 Inspiring the next generation

Introducing young people to manufacturing helped spark an interest in the sector. Having support from the teachers on this was said to be important; they have a greater understanding of how to relate to younger children and keep them engaged. Having further backing from parents was deemed important too, with employers acknowledging the huge influence that parents and guardians have over the career path their child takes. If children are inspired and supported at a young age, they may be more likely to pursue opportunities

in the sector at college, which in turn could be used to help to build and strengthen relationships between South Yorkshire businesses and local providers.

"I think the school element is important because that's where you're really whetting people's appetite. They don't really necessarily know what they want to do, but you're giving them the knowledge aren't you".

Whilst going into schools is certainly important, showcasing manufacturing workplace in situ was thought to be equally, if not more valuable. This could involve schoolchildren visiting a company site or companies embracing advances in VR creating immersive and interactive classroom experiences for children. This can give young people the opportunity to engage with people already working in the sector, who can answer their questions, share their experiences and pique their interest.

"This year, just to give the kids a bit of an insight, we produced some videos through a VR headset. … and it was all filmed in a VR way, so the kids could look around in the factory … it's just giving the children the insight as to what it would actually be like in that environment, which obviously they'd never really been exposed to before".

Sharing experiences can also inspire people to enter the sector. They can help young people to understand what routes they can take into the industry, the issues they might encounter and how to overcome them, and the day-to-day realities of work in the sector. Through listening to a variety of experiences, young people may be better able to appreciate the lack of a linear path, or 'right' way to engage in the sector, giving them more confidence and resilience when pursuing their career.

1.1.13 Partnering with education and skills providers

Some businesses offered yearlong placements and supported internships for university students, with opportunities for post placement employment positions. These organisations use the University of Sheffield and Sheffield Hallam University to advertise roles and are receptive to the universities suggesting interview candidates. These relationships were spoken about positively, with one business stating that they have taken on four or five university students within their company to fill technical roles. They also intend to continue to work with the university to fill vacancies and provide future placement opportunities. Some employers stated that the universities could offer more practical skills on the use specific tools or machinery as sometimes knowledge in their area was felt to be lacking.

"We would write to the different departments and say, 'if they've got a placement to fulfil this area for a year, then we'll be quite happy to interview them'".

Engaging with education providers, especially in South Yorkshire was seen to be incredibly important to businesses given the region's emphasis on pride of place initiatives (such as the Pathways to Work Commission, See it Be it, Local Authority's economic and local plan processes). Businesses acknowledged the role that they could play in reducing socio-economic disparities and improving life chances by offering education, training and jobs.

"I do sense in South Yorkshire and in Sheffield in particular, through initiatives like See it, Be it - the pride of place - there is a big drive to get a bigger community of businesses going into schools".

Receiving feedback from those not yet engaged in the sector was highlighted as being incredibly important. Employers were keen to form strong relationships with local education providers to discuss student feedback and interest to help them to attract new people into the sector through more tailored opportunities. Promoting resources to help businesses reach out to schools and colleges could facilitate better engagement between businesses and students.

"My main issue is universities and colleges not feeding back what the students are telling them… all we want is to see if they want to work for us, but we just don't seem to get the information back".

1.1.14 Sectoral and supply chain collaborations

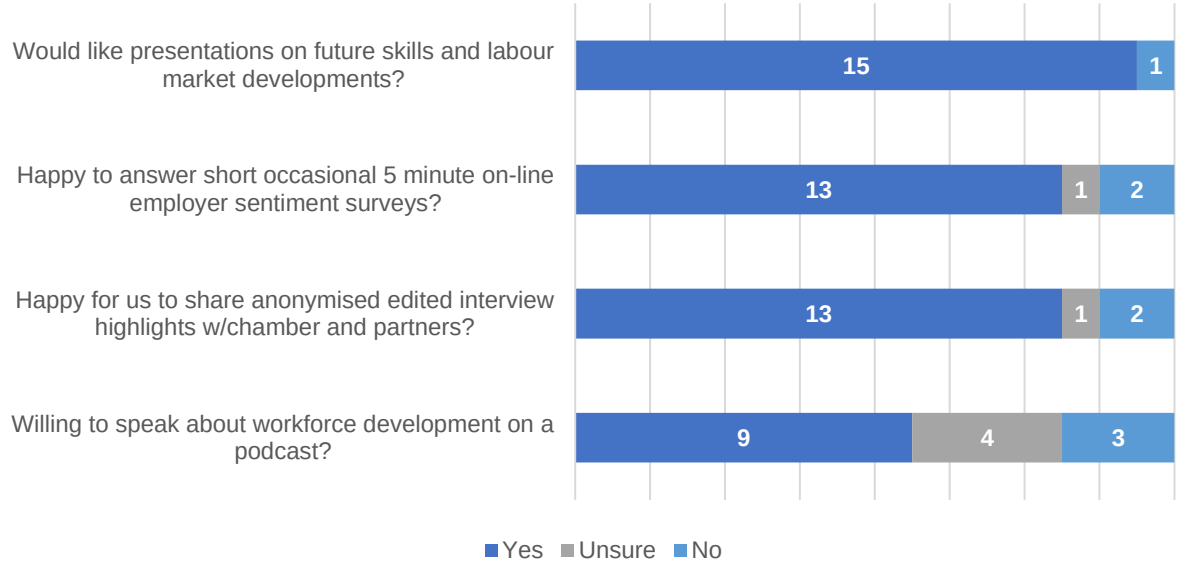
Sectoral and supply chain collaborations around training and skills development were used by some South Yorkshire manufacturers. One company was hoping to swap employees with a partner company doing very similar work to broaden their knowledge and understand their approach to manufacturing. Forging relationships can facilitate the sharing of good practice, making individual businesses more efficient, competitive, and knowledgeable. However, physical meetings can be difficult to arrange due to travel and schedules. Thus, access to groups such as the Cast Metal Federation are valuable as they help businesses to build a network and access training without requiring frequent, in-person meetings.

"We work very closely with other manufacturing organisations in the local area. If ever we have challenges, we often speak to them and see what they're doing … and one thing that we are looking at is … sending some of our teams to different sites for six months or so, and then swap to build that knowledge sharing".

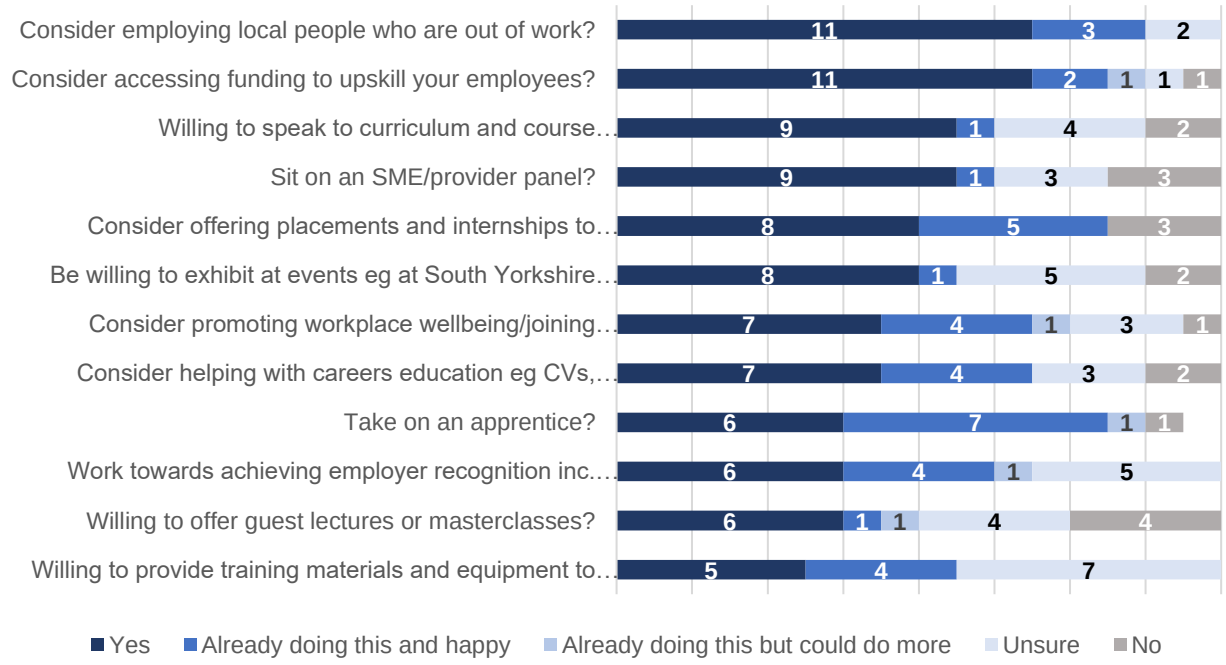
In the instance that multiple organisations have similar training needs, supporting businesses to open and/or access a training studio which partners with others in the industry could facilitate more frequent collaboration and foster better inter-sectoral collaboration.

Ongoing engagement

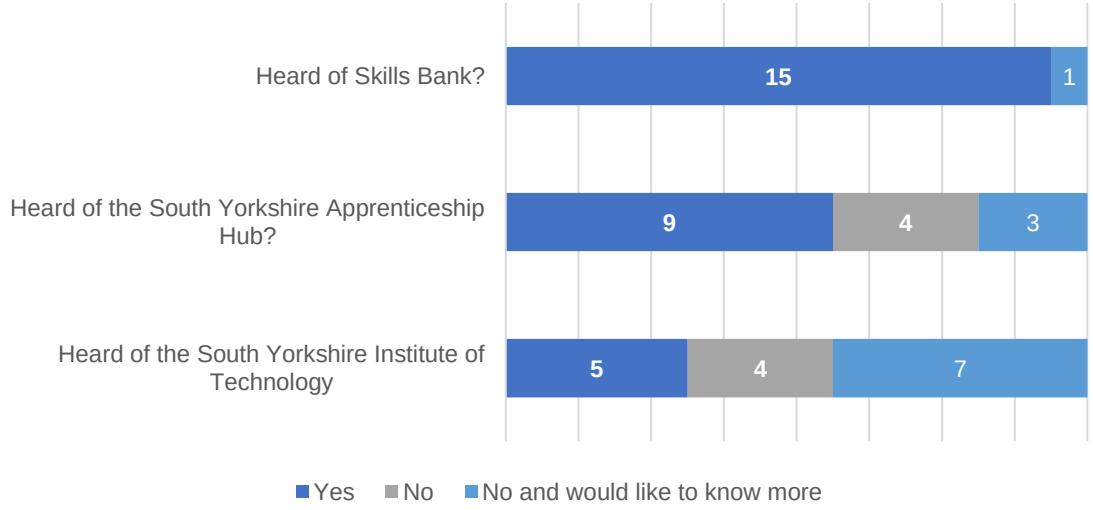
Employers were asked to fill in some supplementary questions to gauge their interest in further engagement in training and skills. Those that answered seemed open to presentations on future skills and labour market developments and to answer occasional sentiment surveys and most would share interview highlights. Whilst not everyone feels comfortable about participating in podcasts many do.



The research indicates that employers are, on the whole, very willing to consider employing people out of work and offer apprenticeships, placements and internships (several do already). Funding for skills would be welcomed and there is real openness to speak to curriculum and course development leads, help with careers education and/or sit on employer provider panels. They are broadly happy to exhibit at events. It appears more employers could offer guest lectures or masterclasses. Some would provide training materials and equipment, but others would need persuading. There is a desire to promote more workplace well-being and achieve employer recognition (for instance signing up to be a disability confident employer or an armed forces covenant employer for service leavers or veterans).



The survey tested employer awareness of key strategic skills investments. Awareness of the employer training fund skills bank is exceptionally high and there is reasonable knowledge of the South Yorkshire Apprenticeship Hub. Employers would really like to hear more about the South Yorkshire Institute of Technology.



Appendix One: Consultees

- Aalberts Integrated Piping Solutions.
- AESSEAL.
- Agemaspark.
- AW Aluminium.
- Bekaert.
- Berjen.
- Certa Precision Engineering.
- Cobra Sport.
- Coster Ltd.
- Don Valley Engineering.
- Doncaster Cables.
- Footprint Tools.
- Fosters Bakery.
- Four Jaw.
- Gripple.
- Hallam Castings.
- King Asia Foods.
- Lightmain.
- Naylors.
- Richards Apex Europe.
- SBD Apparel Ltd.
- Secure Power.
- SharkEye Wheel.
- Swann-Morton.
- Watsons Anodising.
- Windowcharm.
- Wolf Components.

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