



Employer Insights from South Yorkshire's Construction Sector Research Report

December 2024



Contents

Management summary - headlines	i
Construction outlook and technology adoption	i
Construction skills and talent pipeline	ii
Training the employees of tomorrow and offering the skills for today	iii
Employer Engagement	iv
Preface	v
South Yorkshire LSIP background	v
The Construction Sector	v
Report purpose and approach	v
Report Contents	vi
Construction outlook and technology adoption	1
People centred businesses	1
Future business priorities	2
Future skills and qualifications	3
1.1.1 Future Skills and Qualifications	3
1.1.2 Digital Skills	4
1.1.3 Green Skills	5
Automation, AI and modern methods of construction	6
Construction skills and talent pipeline	7
Apprenticeships in the construction sector	7
2.1.1 Using apprenticeships	7
2.1.2 Barriers to apprenticeships	8
Recruitment and skills gaps	9
2.2.1 Effective change management strategies	9
2.2.2 Hard to fill vacancies	10
2.2.3 Recruitment processes	11
Staff development and career pathways	12
Flexible and hybrid working	12
Employee wellbeing and celebrating success	13
Training the employees of tomorrow and offering the skills for today	15
Training models and provider engagement	15
3.1.1 Training models	15
3.1.2 Communicating training requirements and skill needs	16
New and intermediate leadership	16
How training providers can meet firms needs	17
Upskilling	18
On the job training and VR/AR immersive environments	19

Employer Engagement	20
Talent Pipeline	20
4.1.1 Working with those further from the labour market.....	20
4.1.2 Inspiring the next generation.....	21
4.1.3 Partnering with education and skills providers.....	22
4.1.4 Sectoral and supply chain collaborations.....	22
Ongoing engagement.....	24

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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 second in a series of six employer insights undertaken as part of this work focusing on construction businesses in South Yorkshire.

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.

Construction outlook and technology adoption

- Employers are cultivating people-centred cultures through transparent and communicative working practices, flat management structures and 'hands on' leadership teams. Staff retention is harder without a culture first approach. There is persistent and latent demand for the provision of people-led leadership and management expertise.
- Predicting, assessing, and navigating future business priorities was a strategically necessary but difficult task given the sector's susceptibility to frequent policy, planning, legal and regulatory change. Larger firms have ambitious growth targets, for instance in response to housing growth and retrofit, while smaller companies are focusing on profitability and overcoming cost and supply chain pressures.
- Businesses are future-proofing themselves by adapting to net zero goals, digitisation/AI, and changing training needs. Skills shortages remain a significant challenge, requiring stronger collaboration with educational providers to address recruitment needs. Some have taken matters into their own hands, for instance through training hubs offering six-week blocks of on-site education. Others may need support such as incentivising smaller businesses and sole traders to take on apprentices.
- The UK's construction sector faces a significant challenge associated with an ageing workforce and replacement demand requirement. Locally this is manifesting itself in trades roles such as bricklayers, roofers and plasterers. Employers are attempting to bridge these skills gaps through diversifying their knowledge base and utilising apprenticeships with a focus on emerging technologies, sustainability, and social value, but further support is needed. Soft skills, such as communication and work attitude, are also emphasised, and many believe industry-specific skills can be taught in-house. Specific skill needs exist in administrative roles, including HR, marketing, and finance.
- Digitalisation is essential to support pressing demands. Many employers are embracing technology advancements and adoption. However, for fast growing firms, the integration of different unconnected data management systems remains a challenge. More seamless interoperability would reduce cost. There is a need to build in upskilling transition periods and embed training providers early on to mitigate any reticence or resistance.
- Sustainability is embedded within large parts of the sector, driven by policy, legislation, client expectations and a rise in the expectations of younger generations. Larger companies are improving their Environmental, Social and Governance (ESG) performance and have internal sustainability teams and managers. Construction processes are changing, and green skills are expected to become ingrained within all roles.

- Companies are thinking about biodiversity in conservation and construction, materials used and resources to sustain buildings in use and their effects e.g. on pollution. In response there is a demand to reform sustainability related apprenticeship offers for instance around retrofit advice, installation and co-ordination and smaller businesses would welcome support to encourage associated upskilling. Green technologies require expertise in installation and maintenance, for solar panels, air-source heat pumps, and timber-frame designs for example.
- Technologies like automated road-painting systems and AI-assisted digging equipment with hazard-detection cameras are being piloted. They enhance precision and safety, but require skilled operatives. AI and automation are revolutionising back-office processes (bid writing, cost estimation, and project planning). AI specialists, data analysts, and sustainability advisors are more common. There is still some way to go before AI and automation fully transform the sector, but companies are exploring how they can streamline operations and improve accuracy, freeing up staff for strategic and creative tasks. There are still some resistant to change, perceiving automation/AI as costly or complex.

Construction skills and talent pipeline

- Apprenticeships address immediate and long-term skills needs, offering tailored training and practical experience, whilst supporting business growth and future resilience. Many firms prefer apprenticeships over other recruitment options; they provide on-the-job training and career progression potential. Despite challenges, like finding suitable training providers and integrating apprentices into smaller teams, businesses are optimistic about expanding apprenticeships. Over the next three to five years, the volume and type of apprenticeships are expected to evolve in response to several drivers including demand for specialised skills in sustainable construction, green technologies, and digital design.
- Employers would like to see increased publicity of apprenticeships to improve awareness particularly for women in senior or on-site roles. They would welcome information on how to effectively support apprentices. SMEs face challenges in matching skills needs with available training providers and the time and cost burdens of hiring apprentices without additional funding or support. Against the alternatives, apprenticeships offer entrants an affordable credible option with good prospects.
- Securing employee buy-in for change requires a considered approach, particularly in larger firms due to the scale of operations and an inability to adapt training with agility. Smaller firms, however, benefitted from a close-knit culture and the ability to provide tailored support. Success in both contexts relies on effective transition and change management systems; clear, transparent communication, gradual implementation, and engaging employees in the process to build trust in new ways of working.
- Specialist roles, skilled trades and project managers are among the most difficult to fill. Smaller firms face additional recruitment hurdles, often losing out to larger companies with deeper pockets and stronger brands. Employers are responding in various ways, utilising apprenticeships, partnerships with education providers and increasing online visibility of roles. The perception of construction within younger generations remains a barrier and further collaboration to reshape narratives is a priority.
- Employers prioritised efficient recruitment processes and focused on reducing the time between the application and outcome stages. Businesses valued the opportunity to introduce prospective recruits to their teams in an attempt to determine whether

applicants were the ‘right fit’ and offer them insight into company culture. Fluctuating workforce requirements has resulted in the extensive use of specialist recruitment agencies.

- Firms have diverse approaches to staff development, from formal career maps and progression frameworks to more informal, progression models. Career development occurs through goal setting, personal development plans, and performance-led cultures.
- Construction necessitates on site working for manual roles however for office-based staff there is an increased demand for hybrid/flexible working patterns. Where hybrid working was not possible, some companies offer in-kind benefits or flexible working practices. Employers who were more resistant to hybrid working felt cultivating good workplace cultures and teamwork was a challenge when staff were not on-site, and it was harder to ensure any training offered was effective.
- Knowledge exchange or good practice between large and small firms on staff development and hybrid working approaches could overcome or mitigate many reservations.
- Given construction workers have a proportionately high suicide risk, it is not surprising that mental health is a prominent issue recognised by local employers. Measures initiated include mental health first aid training, private healthcare packages and support lines. Larger firms had more developed wellbeing measures, such as employee councils and benefits packages, smaller firms focus on social events and recognition. All firms recognise celebrating team successes, larger firms had reward schemes and publicised achievements.

Training the employees of tomorrow and offering the skills for today

- Construction companies use a mix of training models, with mandatory courses like health and safety typically delivered by external providers and soft skills and leadership training handled internally. Technical or specialised training is typically outsourced. Smaller businesses offer more bespoke training to suit individual needs. Digital platforms are increasingly used for routine and self-paced learning.
- Firms work closely with trusted training providers to meet their skill needs, focusing on solutions that match compliance rules and business goals. Regular reviews ensure training meets high standards, follows frameworks and take full advantage of grants and levies. Businesses value providers who balance quality with cost efficiency and understand their specific needs.
- The continued development of new and intermediate leaders is paramount due to the role they play in managing complex project and multidisciplinary teams within set parameters (time, budget and quality). They need to be able to solve problems, make decisions and motivate and direct their teams. Mentoring is a key element of leadership development. Reverse mentoring is gaining popularity, ensuring leaders are paired with recent recruits to learn from each other. Structured leadership pathways offer a clear framework for personal development at different stages of a leader’s career to help deal with the challenges of today and tomorrow (net zero, diversity, digitisation).
- The sector faces challenges in equipping its workforce with relevant skills, emphasising the need for tailored, practical training that aligns with business needs. Businesses prefer flexible, modular training formats, such as virtual sessions or short courses that minimize disruption while fostering skill development. There is a demand for trainers with real-

world experience, improved visibility of training options, and accessible government-backed schemes to facilitate effective and efficient workforce development.

- The construction industry is increasingly focusing on upskilling and continuous professional development (CPD) to address challenges like sustainability, regulatory compliance, and digitalisation, with leading companies setting the standard. It is typically centred on practical, business-critical skills, and companies are integrating it into appraisals and development plans to overcome any cultural resistance. By aligning CPD with industry frameworks and committing to long-term investment in training, companies can futureproof their workforce and stay competitive.
- AR and VR are starting to transform construction training offering risk-free, hands-on experiences such as virtual site walk-throughs and drills that improve safety, engagement, and skill development. However, the high costs and practicality concerns limit widespread adoption, especially for smaller firms, though these technologies are seen as valuable for visualising complex structures and enhancing operations. Showcasing projects through virtual simulations, such as sustainable buildings or architectural designs, highlights the creative potential of construction. These tools align with the digital expectations of younger workers, positioning the industry as both modern and exciting.

Employer Engagement

- The sector shows a real openness to working with groups further removed from the labour market, most commonly with prison leavers and veterans typically on work readiness initiatives, rather than direct recruitment. Greater awareness and publicity of these activities is required.
- Industry-wide skills shortages mean recruitment practices have shifted to prioritise attitudes over qualifications. To offset this open approach employers would welcome resources and support to help them effectively engage and support those furthest from the labour market ensuring smooth workplace transitions.
- Employers face challenges in attracting those leaving education due to an overreliance on family/industry connections and negative perceptions of the work. They would be receptive to advice on better understanding and, relating and responding to, young people's motivations. Engaging them early, particularly through interactive and relatable experiences, and involving parents, teachers, and education institutions in promoting diverse career pathways will improve the volume of recruits. Businesses emphasised the importance of encouraging women promoting construction career pathways/roles.
- Employers have existing and strong relationships with training providers. They highlighted the importance of collaborating with education and skills providers to increase the visibility of career opportunities and build on existing local good practice. Firms would be open to collaborating further on future course and curriculum design. To prepare students for the world of work construction courses should not be too theoretical and instead build in hands-on practical elements.
- Sectoral and supply chain collaborations around training/skills development are commonplace with little reticence around engaging with competitors or others in the sector. Formal interactions came in the form of supplier drop-in days and forums and informal interactions including knowledge sharing and capacity building sessions with smaller sub-contractors. Further opportunities to engage in local networks would be well received.

Preface

Local Skills Improvement Plans (LSIP) place employers at the heart of local skills systems to help support and drive change. This change 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 2025, 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. The Government's English Devolution white paper confirms that mayors will be given "joint ownership" of LSIPs alongside ERBs¹.

The Construction Sector

The construction sector reaches every corner of the UK, impacting all of our lives; from homes, schools and hospitals to offices, factories, and transport and energy infrastructure. Its changing at a fast pace with digitisation, offsite manufacturing technologies and greater emphasis on whole life asset performance. The sectors structure and volatile nature makes it a complex and multi-faceted industry², encompassing (a) contracting services, product manufacturing and professional services (b) the planning, design, financing, construction, renovation, and maintenance of buildings, infrastructure, and various civil engineering projects and (c) a complex supply chain involving the strategic coordination of materials, services, and information flow between construction subcontractors and suppliers to main contractors and project managers.

Report purpose and approach

This report is the second 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. The first report on Manufacturing can be found [here](#).

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 issues they would find most useful. The concept behind this employer insights series was to interview up to 30 employers across the sub-region per sector, nominated by the chamber, local authority partners and business support specialists.

¹ See FE week [here](#)

² The Chartered Institute of Building, [The Real Face of Construction](#), 2023

This quarter the insights of construction firms were the focus. In future the series of six reports is likely to include 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). 23 employers listed in Annex one kindly contributed to this report during August to November 2024. 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 construction such as digitisation, decarbonisation and automation including the adoption of modern methods of construction. 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.

Construction outlook and technology adoption

South Yorkshire's construction firms place emphasis on strong team cultures through transparent and communicative working practices, flat management structures and 'hands on' leadership teams. Employers offered career progression pathways, personal development plans and wellbeing initiatives. The sector is planning for growth, for instance in housing with recruitment, whilst tackling the challenges associated with replacement demand through an ageing workforce. Sustainability and green skills are increasingly important such as within the retrofit market. Although AI and automation are transforming office functions, on and off-site applications remain limited.

People centred businesses

How deeply do South Yorkshire construction 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 10, 90% of those who responded scored themselves an eight or higher. Only two respondents scored themselves lower, citing 5 and 6.

People development and prioritising employee welfare were considered key elements of effective business operations by all construction firms consulted. They continually seek to recognise the contribution of their workforce.

"It's kind of our only asset. We don't own loads of buildings, equipment, or material. Our people are our asset".

Construction firms generally reported low staff turnover and smaller family run enterprises typically had long serving employees. The typical construction business relies on team working and, in smaller supply chains, strong personal connections. To this end employers cultivate strong people centred cultures and environments making employees feel comfortable in their role and the workplace. This was achieved through transparent and communicative working practices, flat management structures and 'hands on' leadership teams.

Employers offered career progression pathways, personal development plans and wellbeing initiatives (these are covered [later](#)). The industry has changed somewhat over time. Previously staff retention was much harder in the absence of positive workplace cultures and practices. The analysis points to a potential latent demand for the provision of people led leadership and management skills.

"When I started in construction, it was a much more macho, aggressive sort of industry, and that just does not work now in the world we live in, people centric practices are absolutely vital. That's how you retain your employees. The world's moving rapidly, the way we communicate and operate is so different....we get far more out of people by treating them right".

Future business priorities

Assessing future business priorities was commonly accepted as a difficult task given the sector's susceptibility to frequent policy, planning, legal and regulatory change. Navigating and predicting these challenges is a strategic necessity. There was however a positive expectation of growth amongst the firms' consulted, in part due to optimism around the new governments plans for the housing sector. For smaller firms' growth expectations were more moderate. One firm was focusing on profit levels; it had struggled due to challenges around the legacy of the pandemic and inflation.

Larger and more established construction firms typically had more ambitious growth plans. One employer aims to double their turnover to between £70-100m and another has set a target to almost double the number of homes built per year from 1,800 to 3,000. This firm is adopting innovative training processes to meet this ambition, address skills needs and improve completion rates. Trade apprentices, traditionally trained through colleges, are now being enrolled via training hubs for six-week blocks of on-site education providing the hands-on experience to start the role immediately.

"We've moved to working with training hubs... they're going into site-based environments for a block period, like a six-week period to start off with...they learn so many skills that they can immediately bring back to site".

Several of South Yorkshire's construction businesses were taking a proactive stance to future proofing their businesses. The increasing importance of the net zero agenda (discussed [here](#)) and the digitisation of the sector ([here](#)), including the integration of AI ([here](#)), is leading firms to forward plan for future skills requirements. For two businesses, part of this transition centred on a move into the retrofit market, building capacity and retraining employees to meet this need. This work involves improving energy, structural integrity and other building modifications. Other employers were building their senior teams to achieve growth, including the hiring of a financial director and utilising training for emerging leaders to help realise long term operational goals.

"In the next 10 years, the focus still is a lot on the climate crisis, there's already been talk about, how do we upskill the current workforce? AI is also big; we're being proactive to try and understand how we can use that to provide better services to our clients and understand how we can use these opportunities to upskill our staff to use AI to be able to do their jobs much more efficiently".

There was an acknowledgment that skills shortages do pose a challenge to firms' growths plans as they create uncertainty around talent pools. Strengthening relationships with education and training providers to articulate skills needs and help inform any apprenticeship reform will help mitigate this challenge and strengthen recruitment pipelines. For instance there have been calls to simplify the process to incentivise smaller businesses and sole traders to take on apprentices. This would unlock some latent demand at the smaller end of the sector.

"We know the more operational side is probably the hardest part of the business to recruit into at the moment, we're going to have to continue to work hard to make sure we've got the right skills in place to deliver on future contracts ... it would be really difficult to put a number on it, it's a sector that's quite influenced by what's happening politically".

"It's all about people. We need to grow and train more people, but we can't get hold of them quickly enough".

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

The UK's construction sector faces a significant challenge associated with an ageing workforce. With a substantial surge in employment among individuals aged 50-64, the sector is poised to lose approximately 500,000 workers (a quarter of its workforce) within the next 10-15 years³. This challenge is felt by South Yorkshire firms, notably in relation to standard trades roles such as bricklayers, roofers and plasterers.

Employers are attempting to bridge these skills gaps through diversifying their knowledge base and utilising apprenticeships, but further support is needed in this area.

“Across the whole industry we're seeing a little bit of an advancing cliff edge with very experienced people preparing themselves for retirement - and whilst there's some really talented young people coming through, it's maybe not as many as there were historically”.

“Bricklaying, roofing, plastering; ... the trade skill sets. There are huge gaps there. The average age of a bricklayer is probably in the late 40s. We're starting to inject some young, early talent into that space by bringing on apprenticeships but we're scratching the surface. It needs to be done at pace and at a huge scale”.

For the most part skills and qualifications needs across the sector are largely aligned with firms' priorities to future proof their business (see previous section). Skills needs focus on keeping pace with industry changes, including the integration of emerging technologies, sustainability and social value into business practices.

“It's going to be people that have digital skills, who are able to leverage, AI, digital tools, but also who are problem solvers. A lot of the issues that we're going to be coming across are not things that we've really thought about yet or it's things that are going to need a holistic perspective”.

“There's always a hot topic that comes every couple of years. So it was it was health and safety. Then it turned into digitisation. Now sustainability”.

Emphasis was also placed on soft skills and communication and the importance of communication, attitudes to work and enthusiasm. Businesses often had robust training models and felt most industry specific skills could be taught in house.

“We want people with the right attitude, as much as the skills, knowledge and experience. I do believe that you can train people to do a job, but you can't train somebody to care about a customer”.

For those employers that did require specific skills, the most commonly cited related to administrative roles such as HR and marketing. One employer needed a financial director to strengthen business resilience, processes and capacity.

³ The Growth Idea, [11 UK Construction Industry Statistics For 2024](#), 2024

1.1.2 Digital Skills

The Royal Institution of Chartered Surveyors 'Digitalisation in Construction' Report' (2024)⁴ highlighted that *"with pressing demands from the climate crisis, housing affordability, inefficiency in existing assets, infrastructure shortages and a need for better social outcomes, digitalisation is essential for the construction sector"*. South Yorkshire's construction sector, seen in parts as a traditionally 'analogue' industry, is experiencing a shift into a digital era in certain areas. For the most part employers are embracing advancements in technology and seeking to adopt proactive approaches to the integration of technology. Some examples mentioned included the use of building integration modelling and AutoCAD, on-site facial and fingerprint recognition scanning for data collection and the digitisation of CRM processes into online platforms. The use of iPads has become commonplace on site for data capture and surveying.

For some firms a challenge exists in ensuring the smooth roll out of new processes and smaller businesses in particular may benefit from support. Digital adoption is easier for larger firms with dedicated IT departments. A key technological challenge for growing construction firms is the integration of various data management systems used across different phases of construction projects. With a multitude of platforms and software solutions available, ensuring more seamless interoperability would improve productivity, efficiency and quality as well as reducing cost.

"Where we still need to improve is around isolated apps. You use this app for that, and this for that, and there's no synergies between them, or it's only one part of the process that's automated, not the entire space. What we're trying to understand is, how do we do this at scale, how do we automate this if we're doing 300 energy audits? We have an app for it, but we're still having to do everything else manually...the tools don't speak to each other, so it's finding that integration of the existing tools on a digital platform that's seamless".

Businesses cited a need to build in transition periods and embed training providers early on when upskilling staff to mitigate any reticence or resistance to change. New career employees are typically perceived to be more technologically savvy and the skills they bring will contribute to an organic digitalisation of business practices.

"We are getting younger people coming through who are more tech savvy and very comfortable using technology. A lot of the challenge and resistance to it comes from the people that are longer in the tooth, aren't as comfortable with it".

"Over time, generationally, children in schools are becoming more used to technology, and they are using it more and more, I think naturally, organically, it will happen. It is a challenge to accelerate that with an existing workforce sometimes, because there is resistance or lack of confidence with technology, particularly and if you don't use it all the time".

There is scope to ensure ease of access to support from providers to help embed change. As highlighted [earlier within this report](#), construction firms' future priorities largely centre on future proofing their business and improving the sustainability of their operations. As noted within the Digitalisation in Construction report 'easier, more accessible tools, combined with education and a clear return on investment could boost [tech] adoption in areas like carbon calculations, ESG and social value'.

⁴ Royal Institution of Chartered Surveyors, [Digitalisation in construction](#), 2024

1.1.3 Green Skills

Sustainability has become embedded within the activities of the construction sector in recent years and awareness is high. This change has been driven by policy and legislation as well as client expectations. Construction businesses are more commonly mandated through procurement to evidence sustainable ways of working. They are thinking about biodiversity in conservation and construction (e.g. roofs, walls, landscape), materials used (sourcing, assembly, disposal) and resources to sustain buildings in use (energy, water etc) and their effects e.g. on pollution.

Employers are also seeing a rise in the expectations of younger generations when it comes to attitudes to net zero.

“In a really positive way, I don't think it's that we expect it of them. I think it's that they expect it of us. That's why we get asked at job interviews about our climate aspirations”.

Larger companies are taking a proactive approach to improving their Environmental, Social and Governance (ESG) performance. Businesses hold ISO accreditations and utilise CPD and training modules for new staff, delivered internally and externally through partnerships with organisations such as the retrofit academy. One employer has developed a retrofit career plan with aligned qualifications from level two to level five. Larger organisations have internal sustainability teams and managers who embed sustainable values within the business and ‘sustainability champions’ who monitor paper usage, recycling and travel times.

Construction processes are also changing. The impact of the sector on the environment is at the forefront of activity and there is an increased focus on development life cycles in how buildings and materials are disposed of. Modern methods of construction are more widely being adopted and have a number of green benefits including reduced waste and embodied carbon as well as sustainable materials and energy systems.

“Everyone's looking at the life cycle of buildings now; how we will dismantle and dispose of it after it's built. Are we using modern methods of construction, i.e., prefabrication? Are we using things like the green guide for building materials, which looks at sustainable sourcing and logistics for instance. It's fundamental to what we do”.

Employers acknowledged that green skills will soon become ingrained in all roles, negating the need for specific sustainability departments or teams.

“The next big push for us is, rather than deeming some jobs as green and some others as not, is embedding climate related objectives within every single job and everything we do”.

There is demand for reform to sustainability related apprenticeship offers with new offers required for instance around retrofit advice, installation and co-ordination. Businesses found there is an absence of suitable green apprenticeships and smaller businesses in particular would welcome support to encourage associated upskilling.

“Something that the Chamber could really be proactive on, is campaigning for, apprenticeship courses and recognizing, alongside general skills shortages, there are specific areas in green skills in retrofit specifically, where there is a dearth of opportunity for training, and external apprenticeships”.

“There's clearly a need for us to rethink and reform our apprenticeship offer nationally, and whether that is through green bolt-ons for courses like, bolt-ons for plumbing and electrical apprentices around some of these green skills products”.

Automation, AI and modern methods of construction

There is still a long way to go before AI and automation fully transform the construction sector, but the journey has undoubtedly begun for South Yorkshire's construction companies. While robots and AI tools are unlikely to replace skilled tradespeople on-site anytime soon, they are already revolutionising office-based processes such as bid writing, cost estimation, and project planning. Companies are exploring how these tools can streamline operations, improve accuracy, and free up employees for more strategic and creative tasks.

“In the office, we’re already seeing software that can process technical drawings and instantly generate quotes. What used to take hours of manual input is now done in minutes, allowing us to focus on refining bids and exploring more opportunities”.

“AI tools allow us to upload plans and produce an initial cost estimate. It’s not perfect, but it speeds up the process dramatically and reduces human error”.

Automation on-site remains limited to specific applications, but innovations are emerging. Technologies like automated road-painting systems and AI-assisted digging equipment with hazard-detection cameras are being piloted. These tools add precision and improve safety, though they require skilled operators to ensure smooth functioning.

“The technology might assist us, but it’s still the operators who need to ensure everything runs smoothly”.

New roles are emerging as a result of these changes. AI specialists, data analysts, and sustainability advisors are becoming vital to construction companies as they adopt new technologies.

“Data analysis is becoming a big part of what we do. We need people who can not only run these systems but also interpret the results and make informed decisions”.

Green technology is another area reshaping the industry, with innovations like solar panels, air-source heat pumps, and timber-frame designs becoming more common. These systems require specific expertise, both in installation and maintenance.

“We’re moving toward technologies like air-source heat pumps and PV systems, but they’re not just plug-and-play... to install and maintain these systems properly, you need a deeper understanding of how they work. The skills we’ve relied on for decades aren’t sufficient anymore”.

Despite opportunities to be gained through automation, challenges remain. Some workers and contractors are resistant to change, often perceiving automation and AI as costly or complex.

“There’s a belief that these technologies are going to cost more upfront or replace jobs. What we’re trying to show is how they save time and money in the long run while supporting - not replacing - the workforce”.

Construction skills and talent pipeline

Apprenticeships are crucial for addressing skills gaps in South Yorkshire's construction sector, providing tailored on-the-job training and formal qualifications. However, challenges remain, including finding suitable training providers for niche roles and the financial burden on small firms. The demand for specialised skills is increasing with a focus on further integrating sustainability. Attracting diverse talent, including women in senior roles remains a challenge. Whilst firms recognise mental health concerns and have developed wellbeing initiatives, more could be done to celebrate employee successes.

Apprenticeships in the construction sector

2.1.1 Using apprenticeships

Apprenticeships play a pivotal role in meeting the skill needs of South Yorkshire's construction industry, addressing both immediate workforce requirements and longer-term challenges. Many firms see apprenticeships as a tailored solution, allowing them to develop employees with the exact skills and cultural alignment required for their operations. By embedding apprentices in real-world environments, businesses ensure that recruits gain practical, relevant experience while contributing to ongoing projects.

For many of construction businesses consulted, apprenticeships are more effective than other traditional recruitment routes, such as hiring graduates. One company noted that apprenticeships allow for on-the-job training while employees simultaneously gain formal qualifications, leading to more well-rounded professionals. Another company highlighted their preference for promoting apprentices into senior roles after years of development within the business.

"We'd rather grow our talent from within than rely heavily on external hires... They're a lifeline for bridging skill gaps, especially in areas where we struggle to find qualified candidates in the open market".

Over the next three to five years, the volume and type of apprenticeships offered in the construction industry are expected to evolve in response to several drivers. A key factor is the increasing demand for specialised skills, particularly in areas like sustainable construction, green technologies, and digital design. One firm mentioned their efforts to work with schools and colleges to inspire young people to pursue careers in emerging fields, reflecting a broader industry shift towards preparing for greener jobs. Changes in government policy, such as reforms to the apprenticeship levy and incentives for businesses, may also influence the types of apprenticeships available and the scale of recruitment.

"The push towards sustainable construction and green technologies will demand a shift in the type of apprenticeships we offer".

"In five years, I expect apprenticeships to dominate recruitment, not just because of cost, but because they deliver better-rounded professionals".

Economic pressures and the rising cost of university education are further shaping the apprenticeship landscape. With student debt becoming a growing concern, apprenticeships

offer an appealing alternative for young people and businesses alike. Businesses reported that apprenticeships are attracting candidates who value practical experience and financial independence.

"Rising student debt makes apprenticeships an attractive alternative - young people are realising they can earn while they learn without taking on huge loans".

However, there are barriers to expanding apprenticeship programmes. As noted, some businesses struggle to find training providers offering qualifications that align with their specific needs, particularly for niche roles like project management. Others face challenges integrating apprentices into small or project-based teams, where flexibility and immediate productivity are often prioritised. Despite these obstacles, many construction businesses are optimistic about increasing their apprenticeship numbers in the coming years, driven by the need to address skills shortages and adapt to changing industry demands.

Ultimately, apprenticeships are seen as a critical tool for ensuring the construction industry's future resilience. By developing talent from within, businesses can secure the specific skills they require while fostering a more inclusive and diverse workforce.

"Apprenticeships are not just a means of training- they're an investment in the future of our industry".

2.1.2 Barriers to apprenticeships

Employers felt that apprenticeships in the construction industry were not as well publicised as they might be, leading to a lack of awareness amongst both employers and prospective employees.

"For me, it [a key barrier to overcome] would be understanding what apprentice schemes exist out there".

Several employers struggled to find and recruit talent and would welcome more visibility of available apprenticeship schemes. They also would like practical information on how to work with an apprentice; how much support they might need and employer responsibilities. There would appear to be an appetite for employer information and guidance on apprenticeships from appropriate channels such as the South Yorkshire Apprenticeship Hub.

On the part of employees, it was felt that there is an information gap regarding job opportunities within the sector. Without existing connections technical opportunities were hard to find. This was particularly evident when attracting women to the sector, especially in senior roles and site-based work, where there is consistently low representation despite the promotion of women into construction opportunities at events. Giving employers more opportunities to present at local careers events would improve awareness of the roles available in the sector hopefully inspiring the next generation of women.

"We look at why people aren't joining, for example women in construction- there's still this massive stigma around that, that it's a man's job but women are very good at doing those roles as well... how can we change that stigma and make it more enticing?"

Businesses discussed the challenge of matching skills needs to FE provision. Even in the case that frameworks and standards are available, businesses sometimes found local providers hard to source. One large low-carbon business highlighted an instance in which they found only two providers in the UK that delivered the required relevant apprenticeship.

“Being able to match a vacancy to an appropriate apprenticeship can be a challenge. We’ve had a skilled role recently, where there hasn’t been an apprenticeship available, or the frameworks are available, but there is no provider for it”.

Employers reiterated the importance of utilising apprenticeships but felt in some instances the challenges could outweigh the benefits. For SMEs with a smaller profit margin, the additional time and cost associated with hiring an apprentice could make offering such a position unfeasible. Further funding or subsidy support would be welcomed and without, smaller employers may struggle to be motivated to hire an apprentice.

“We’re going to be selective in terms of what type of trainee or apprentice we get, they’ve got to be useful to the business ... Because apprentices do cost money, and take some looking after, but they will hopefully become useful quickly. It’s a fine balance really”.

Recruitment and skills gaps

2.2.1 Effective change management strategies

Business transformation can often be linked with the challenge of employee buy-in. As such there is a need for the adoption of effective change management approaches. Larger firms can be susceptible to difficulties embedding change due to the scale of their operations. One larger employer for example referenced the roll out of new company level training modules that weren’t suitably adapted to all employees:

“I sit in on some training modules, and I struggled to keep up with them, and I sometimes wonder how some of the apprentices are even going to understand what we’re talking about”.

Whilst staff are not necessarily opposed to change, an overhaul of long-standing traditional processes or underdeveloped training methods may make change management easier to absorb. There is evidence that employers have begun to adapt and seek to utilise more interactive and accessible methods of delivery.

Guides and handbooks were cited as one way of communicating new systems, both for their introduction and as a resource on intranet systems to refer back to. However these important communications “have to get to the right people” to be effective. To ensure key messages reach their audience is it important to “[not] overcomplicate it” and provide the required information.

“We have so many guides and information notes, even an intranet where there’s vast amounts of intelligence...it’s just trying to make sure that they are communicated to the right people”.

In contrast smaller firms were more agile and able to provide bespoke specific support to employees to help effectively implement change. As a result those in smaller organisations found employees were more willing to work nimbly and will adapt to changes quickly. This supports engagement by building trust through communication and giving team members autonomy.

“[When there is policy change] we all come together, make sure that we’ve got a rounded view on what we need to do and how, we put a paper together and make sure that’s shared with the team”.

For companies with internal resistance, clear communication about the training, its benefits, and how it will affect the trainee’s role are important. Where possible, businesses should also

engage with employees to determine their development goals and evidence how new ways of working align. Firms that have adopted a more transparent, gradual and collaborative approach to implementing change and new ways of work with appropriate transition periods have overcome any potential adoption barriers.

2.2.2 Hard to fill vacancies

Specialist roles such as estimators, design managers, and mechanical and electrical specialists are among the most difficult to recruit.

“Finding an experienced estimator is like looking for gold dust; the expertise is rare, and those who have it are highly sought after”.

“They’re the unicorns of the industry. The good ones don’t move because they’re so well looked after, and when they do, they demand premium rates”.

Smaller firms face additional hurdles, often losing out to larger companies with greater resources and brand recognition.

“Candidates look at small businesses and see risk, especially in uncertain times. We can’t compete with the big names on salary, but we can offer real growth and hands-on experience”.

Larger firms, meanwhile, benefit from their ability to recruit globally.

“We don’t struggle as much because we can cast a wider net - we’ve even brought in talent from South Africa”.

The shortage of experienced project managers is another recurring theme, compounded by misunderstandings about the role itself. To bridge this gap, one company introduced intermediate roles.

“A lot of people call themselves project managers, but they don’t understand the complexities - risk analysis, financial oversight, stakeholder management. It’s not just scheduling meetings”.

“We’ve created stepping-stone positions to make the leap to project management less daunting”.

Employers are responding to recruitment challenges with a mix of traditional and novel approaches. Apprenticeships and partnerships with local colleges and universities were common. Others have invested in digital marketing and social media.

“We’re not just filling today’s roles; we’re creating the design managers and planners of the future”.

“If we’re not visible online, we’re invisible to the next generation of workers”.

Some have even turned to unconventional advertising, such as using stadium billboards during local football matches, targeting audiences directly within the community.

Internal culture and development opportunities are also increasingly recognised as key to retention. Others echoed the sentiment, focusing on fostering loyalty through clear career progression and support.

“When you find good people, you have to work hard to keep them”.

“Apprentices and junior staff who stay with us grow into the fabric of the business. They’re not just employees; they’re part of the team”.

Despite these efforts, systemic challenges remain. The perception of construction as physically demanding and unattractive to younger generations persists, particularly for outdoor trades like bricklaying and trades like plastering. These trades, once staples of the industry, now struggle to attract younger generations.

“The reality is, working outdoors in the cold and mud doesn’t appeal to Gen Z and Gen Alpha. We need to reshape the narrative. Construction isn’t just mud and hard hats; it’s about building something tangible, with a legacy you can point to and be proud of”.

2.2.3 Recruitment processes

In the context of the current job market and high volumes of applicants, construction firms prioritised efficient recruitment processes. Employers try to reduce the length of the recruitment process and the time between the application and outcome stages with many adopting a two-stage interview processes. The first stage explores experience, culture and attitude, with the latter highlighted as the most important attribute for prospective employees. Sometimes these interviews are held remotely, reducing the need for travel. Many roles require a second, practical interview in which the applicant must demonstrate knowledge of a specific task.

“We like to keep it quite thorough, and we try to be as efficient as possible, keeping in mind what the market is like at the moment as well”.

Businesses valued the opportunity to introduce prospective recruits to their teams in an attempt to determine whether they were the ‘right fit’ as well as providing applicants with an insight into company culture. Employers welcomed applicants with good work-readiness, team working and soft skills.

“People will be invited for a day to come and see us, and they’ll be introduced to people from different teams. It’s a good way to meet candidates and see what they are like”.

Unlike many sectors, the construction industry often involves wildly fluctuating workforce requirements from short-term projects or long-term commitments. Specialist recruitment agencies were used to provide flexible staffing solutions, allowing employers to quickly scale their workforce up or down based on project demands.

Recruitment agencies were used extensively to help construction companies filter the right people and worked with clients to understand their needs and expectations for any roles they were looking to fill. This works well for harder to fill positions.

“For the most part, we would put a job on Indeed, and we would go to a recruitment company. We work with one in particular that we’ve had really good experiences with. They get our business; they understand what we’re looking for. They don’t just send you half dozen CVs and say, ‘work it out for yourself’”.

Agencies were also considered effective in recruiting short-term workers reducing the time needed on sourcing and shortlisting applicants for temporary, contract and permanent roles as well as construction apprentice opportunities.

Recruitment was often done through word of mouth or personal networks and connections and there were examples of incentives like staff referral schemes. Construction networking

events and business forums were used to build and nurture relationships and promote potential career opportunities.

“We try and target people [through] word of mouth and we have an employee referral scheme where we pay our staff if they bring someone to the business. If someone brings a site manager, then they’ll get two or three grand as a bonus”.

Staff development and career pathways

South Yorkshire’s construction firms adopted varied approaches to staff development and career pathways. These include a mix of formal and informal approach with some providing employees with ‘career maps’ and ‘progression frameworks’ and others encouraging ‘natural progression’. Induction processes vary considerably too from informal inductions to robust programmes and group inductions. One employer referenced their ‘induction experience’, which is led by employees talking about company practices and strategies.

“It’s very much about empowering the people already in our business to come and speak to their new colleagues”.

Consultee firms all conducted staff appraisals and reviews, however, their depth and frequency varied. Some were on quite an ad hoc basis without a structured approach, offering an opportunity to raise any issues or discuss performance. Several companies had more structured approaches with appraisals taking place on a scheduled and frequent basis, for example, monthly meetings with an annual review. Employee well-being is also often considered within the appraisal and development processes.

“That feeling that you’ve progressed and been developed and invested in, gives people that sense of purpose and wellbeing in their job”.

Some employees were supported to develop personal development plans typically using career goals and objectives. Some firms had what could be described a performance led culture, in which progression was earned using a structured framework. Others adopted a more employee centred approach; employees are encouraged to express their development needs, to develop and grow within the business at their own pace.

Employee engagement surveys were sometimes used to highlight any concerns; this ensured that employers were listening and responding to their workforce.

“Ultimately we want to be a good place to work”.

Knowledge sharing of staff development processes between firms might encourage the adoption of good practice where appropriate e.g. within smaller firms with employees but without HR staff .

Flexible and hybrid working

It was quite a mixed picture in relation to flexible or hybrid working. The activities of construction firms necessitate on site working for manual roles such as tradespeople and warehouse operatives. However for office-based staff or those in roles where hybrid and flexible working practices are possible, there is an increasing demand for it. Employers are aware that since the pandemic there is more value placed by staff on attitudes to wellbeing and their personal development.

“People want more from their employer now. They don't just want an employer that's financially successful. They want one that's invested in their wellbeing, including flexible working and personal development”.

Where hybrid working was not possible, some companies chose instead to offer in-kind benefits such as time off, “we make sure they get at least a Friday off a month” or flexible working practices for staff commitments such as childcare or medical appointments.

Some firms were more resistant to hybrid working. They felt cultivating good workplace cultures and teamwork was a challenge when staff were not on-site, and it was harder to ensure training was effective.

“It doesn't work for me, maybe I'm old fashioned, but it's the collaboration; we have such a dynamic team, from senior middle management project leads down to early careers staff and apprentices. How do you train everybody? How do you how do you bring them all on as a collaborative workforce if they're all sat at home?”.

The level of trust needed between employer and employee must be high for a hybrid working strategy to be successful and some businesses had past negative experiences.

“One employee wanted to work from home and would get up late and not get dressed for meetings. They would be doing the washing, walking the dog, anything other than work”.

While not suitable for all roles, a hybrid and flexible office policy was acknowledged by most employers as important for staff morale, retention and recruitment.

“The biggest impact around agile working is we've extended our reach, we're able to attract candidates from a broader geographical range. Equally I think the flip side of that is that there also comes an increasing expectation that roles will be agile”.

For those more sceptical about the benefits of flexible working, trialling successful practices implemented by other construction businesses or sharing good practice with these employers around the advantages could reduce the hesitancy experienced in some parts of the sector.

Employee wellbeing and celebrating success

Many firm's consulted place significant emphasis on staff wellbeing and firms have adopted modern approaches to supporting employees. This is in part influenced by the context in which the sector operates. Mental health is a prominent issue, construction workers are at some of the highest risk of suicide in the country, with rates in the industry over three times higher than the national average - a problem acutely recognised by local employers.

“Mental health is a big issue in construction...as managers, we are now much more attuned [to mental health]. Nobody did all this sort of stuff, 20, 30, 40, years ago and it's right that our world evolves into a more supportive place”.

As a consequence, wellbeing initiatives centre on support including mental health first aiders, private healthcare packages and support lines. Several firms referred to work with Lighthouse, a charity focused on supporting the emotional, physical and financial wellbeing of the construction workforce and their families.

While all employers had processes in place and encouraged open workplace cultures, larger firms had more developed measures. These included an employee council that has a say in

major company decisions and an employee benefits package that included self-taught training modules and the integration of company development groups, raising awareness on a variety of wellbeing topics.

Celebrating team successes was less frequent or formalised within smaller construction firms but employers recognised its value.

“I think as a team, we haven't done enough of that if I'm honest. It's often been all work and no play. I'm trying to re-dress that balance”.

As with wellbeing initiatives, larger construction businesses had more developed processes when it came to publicising and rewarding success. These included internally developed platforms similar to that of social media to praise promotions and success stories, newsletters, peer-to-peer recognition schemes and financial benefits such as bonus schemes.

Training the employees of tomorrow and offering the skills for today

South Yorkshire construction firms adopt a variety of (often digital) training models and favour external expertise for technical training and internal delivery for soft skills and leadership. Most businesses work closely with trusted training providers to meet their skill needs, focusing on solutions that match compliance requirements and business goals. Tailored and practical training is welcomed. While AR/VR adoption is more commonplace the cost remains a barrier to small firms, and not all are equipped for immersive training.

Training models and provider engagement

3.1.1 Training models

Construction firms use a variety of training models, balancing internal expertise and external resources to meet their workforce development needs. The choice of delivery approach often depends on the type of training required, with clear distinctions between mandatory compliance courses, technical qualifications, and personal development opportunities.

Mandatory training, such as health and safety certifications, is predominantly delivered by external providers. Courses like asbestos awareness, manual handling, and fire safety have standard and mandatory requirements, with accredited organisations ensuring these are up to date and compliant.

"Health and safety compliance is heavily reliant on accredited providers to ensure the highest standards".

For soft skills and leadership development, many firms prefer internal delivery supported by external specialists when necessary. This approach allows for tailored content that aligns with organisational goals.

"We're moving towards a more internally delivered model for management training, with external partners for technical expertise".

Common areas include communication skills, emotional intelligence, and time management, which are vital for team and client interactions.

When it comes to technical or specialised training, such as understanding new legislation or obtaining professional qualifications, external experts are often relied upon. For example, a company described how they addressed changes in building regulations:

"We brought in a professional to ensure we fully understood the Building Safety Act, followed by a refresher session months later".

For roles like quantity surveying, many firms fund employees' enrolment in professional accreditation courses, such as RICS qualifications, at universities or industry-recognised institutions.

Digital training platforms are more common. These systems offer mandatory modules alongside elective courses tailored to individual roles offering self-paced learning and multi-site access.

“Our portal allows employees to log requests and apply for external training aligned with their objectives”.

Smaller businesses often take a bespoke approach, tailoring training to specific team needs, demonstrating the flexibility to address unique requirements like career coaching or niche technical skills.

“We’re a small team, so we can adapt training on a case-by-case basis”.

Larger organisations combine this tailored approach with structured programmes, such as graduate schemes or leadership academies, ensuring consistency while addressing specific training needs. Many companies emphasised the importance of using the right external providers for specialist training.

“We move between providers based on what’s required, ensuring the best fit for our training goals”.

3.1.2 Communicating training requirements and skill needs

Most construction businesses consulted work closely with trusted training providers to meet their skill needs, focusing on solutions that match industry requirements and business goals. Building long-term partnerships helps them save time, keep training relevant, and ensures it has real impact and relevance.

“We engage with a preferred supplier list, auditing it yearly to assess service quality and decide whether changes are needed”.

Regular reviews ensure training meets high standards, follows frameworks like CITB, and is able to take full advantage of government grants and levy benefits. Businesses also value providers who balance quality with cost efficiency and understand their specific needs, going beyond generic offerings to truly understand and align with the company’s operations.

“We moved away from a provider that prioritised cost over fit and now work with those who invest in understanding our business”.

New and intermediate leadership

The continued development of new and intermediate leaders in the construction sector is paramount because of the role they play in managing complex project and multidisciplinary teams within set parameters (time, budget and quality). They act as the link between operational teams and senior management. They need to be able to solve problems, make decisions and motivate and direct their teams.

Mentoring is a key element of leadership development; personalised support, guidance, and advice to enable individuals to develop specific skills and know-how. Reverse mentoring is also gaining popularity, ensuring senior leaders paired with recent recruits to stay connected to challenges faced at the operational level and learn from each other.

“Reverse mentoring helps senior staff understand what’s happening at ground level”.

Structured leadership pathways offer a clear framework for phased personal development at different stages of a leader’s career that helps to deal with the challenges of today and tomorrow (net zero, diversity, digitisation etc).

“Our first level is for those exploring leadership skills, the second supports middle managers, and the third focuses on senior leadership”.

These programmes are designed to adapt over time to ensure leaders are equipped with the skills required to transition into more senior roles.

“We’ve introduced modules like financial decision-making and change management to ensure the pathways stay relevant and impactful”.

Cross-functional roles also provide middle leaders with valuable opportunities to broaden their skills and collaborate beyond their immediate responsibilities.

“A team member of mine works on collaborative principles - training teams to work better together and mediating conflicts. It’s a great way to develop leadership skills while addressing business needs”.

Businesses are also increasingly seeking providers able to address both industry-specific and leadership skill gaps including those in specialised areas such as planning and surveying. Flexibility and practicality are equally important. Training must integrate seamlessly into busy workflows and align with business objectives.

“Every college has a construction section, but none specialise in development roles we require. Finding the right training often takes a lot of digging”.

“It’s about pulling together what we need and creating something that works for us”.

“It’s not just about technical expertise; it’s about leadership and adaptability”.

How training providers can meet firms needs

The construction sector faces unique challenges in equipping its workforce with relevant skills, and training providers play a crucial role in meeting these needs. Businesses highlight the importance of tailored programmes, consistency, practical expertise, and improved visibility from providers to ensure training is effective and aligned with business priorities.

Tailored training is a top priority, as generic programmes often fail to address specific operational needs. On-site delivery also supports customisation.

“Development is development wherever you work, but there are some specific things we do that others don’t. Tailoring the course around us and our processes really helps”.

“We’ve tailored our training to ensure it meets our quality needs, and hosting it in-house reinforces its relevance”.

Tailored approaches also help bridge the gap between classroom learning and workplace application, making training more impactful. Although the fast-paced nature of construction work leaves little room for extended training programs.

“Training tailored to day-to-day operations is non-negotiable”.

“We don’t deliver training in peak periods because the organisation can only absorb so much change”.

This reality necessitates training models that minimise disruption. Adopting flexible, modular formats, such as virtual or short, focused sessions, allows businesses to integrate skill development into their schedules without compromising critical project timelines. Carefully

timing training outside peak periods ensures productivity is maintained while employees continue to grow.

Furthermore, construction businesses value trainers with practical, real-world experience.

“Tutors need industry experience to back up what they’re teaching. Generic qualifications are fine, but we need programmes that reflect real-world construction and home building”.

However, finding knowledgeable trainers is challenging and requires appropriate trainer training.

“We’ve brought in former bricklayers as trainers, but transitioning from practice to teaching requires specific skills”.

Additionally, improved visibility of training options is essential. Affordable, government-backed schemes are particularly valuable, but businesses often find them difficult to locate.

“If you don’t know it’s there, you won’t use it. Providers need to promote their courses better. Greater accessibility ensures businesses, particularly smaller ones, can access high-quality training”.

Overall, construction companies welcome training providers offering tailored, practical programmes through flexible modular formats that are delivered by industry-experienced trainers with good visibility of their offerings and a menu of support for those wishing to transition from trades to teaching.

Upskilling

The construction industry is at a crossroads where upskilling and continuous professional development (CPD) are critical to addressing evolving challenges like sustainability, regulatory compliance, and digitalisation. Leading construction companies are setting the benchmark, but there’s still work to be done to ensure CPD is embedded across the sector as it adapts to change.

CPD tends to focus on practical, business-critical skills. Industry leaders emphasise the need for “relevant, need-to-know” training that aligns with current priorities such as sustainability and legislative updates. Training provided by external experts - through concise formats like “lunch-and-learn” sessions or on-demand workshops - ensures employees are equipped with actionable insights without wasting time on irrelevant content.

Cultural resistance remains a hurdle in fully embracing CPD. Traditionally, construction has prioritised technical output over structured development. To overcome this, companies are integrating CPD into regular appraisals and individual development plans.

“Upskilling isn’t just about knowledge; it’s about preparing people to meet future challenges”.

Promoting internal career progression and offering trial periods for new roles encourages engagement and supports long-term retention.

Aligning CPD with established frameworks such as those of The Royal Institution of Chartered Surveyors (RICS), Chartered Institute of Building (CIOB) and Association for Project Management (APM) ensures employees gain valuable credentials while meeting industry requirements. This approach provides dual benefits: boosting individual expertise and reinforcing organisational credibility.

Upskilling requires a sustained commitment to building robust systems for training and appraisal. Leading companies are addressing this by dedicating resources to track CPD progress and integrating it into organisational strategy.

"It's a cultural shift, but one that's vital for survival in this industry".

Overall, construction companies that prioritise targeted training, foster a culture of development, align CPD with recognised standards, and commit to long-term investment will position themselves ahead of the curve. CPD is not an option - it's a necessity for futureproofing the workforce and staying competitive.

On the job training and VR/AR immersive environments

Augmented reality (AR) and virtual reality (VR) are reshaping training in the construction industry, offering powerful tools for improving safety, engagement, and skill development. However, adoption is tempered by cost concerns, practicality, and readiness.

AR and VR provide hands-on, risk-free environments for employees to practice skills and identify hazards. Simulations like virtual site walk-throughs or fire safety drills deliver realistic experiences that traditional methods cannot replicate. These tools bridge the gap between theory and practice, equipping employees with critical skills before they encounter real-world challenges.

"You're in that environment, picking up an extinguisher and using it in a virtual reality world. Obviously, you can't replicate that in real life, or you wouldn't want to, but it makes the experience impactful and practical in a way classroom training can't match".

Further, immersive technologies help reframe construction as a forward-thinking, innovative sector. Showcasing projects through virtual simulations, such as sustainable buildings or architectural designs, highlights the creative potential of construction. These tools align with the digital expectations of younger workers, positioning the industry as both modern and exciting.

"It makes construction more exciting than just being a joiner or plumber, showing the creativity and innovation the industry offers".

While AR and VR offer clear advantages, their high costs raise concerns, especially for smaller firms. It is important new technologies focus on practical, high-impact applications - such as visualising complex structures or testing safety protocols - that directly enhance operations and provide measurable returns.

"You can spend a lot of money on technology and not actually improve things. If it doesn't add real value, it just becomes another cost".

Not all businesses are fully equipped for immersive training but as costs decline and technology becomes more accessible, businesses that integrate AR and VR will have a competitive edge. Construction companies using VR for tasks like client walk-throughs demonstrate its potential for widespread application.

"We've been using VR for years now to let clients literally walk through their buildings before construction starts. It's a powerful tool to visualise spaces and make adjustments early in the process".

Employer Engagement

This final chapter looks at how the South Yorkshire construction firms 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 an appetite for more engagement in learning and skills delivery and development.

Talent Pipeline

4.1.1 Working with those further from the labour market

There is a strong degree of open mindedness within the construction sector around working with cohorts further removed from the labour market with examples of work with prison leavers and veterans in particular. One business has a strong relationship with the Ministry of Justice, running prisoner training programmes to provide upskilling, mentoring and CV development as well as opportunities for employment on release. Several firms had won awards such as for employment opportunities created for veterans and for being leaders in their field on social value.

Engagement with these cohorts however was often less around active recruitment and more focused on the provision of training and opportunities to upskill.

“A lot of it is confidence building, a lot of these groups aren't actually ready for jobs yet, which is fine. It's understanding where those individuals are and how we can best support them through their next steps... they may not be ready for full time employment, but they may be ready to look at a scheme or a course or training. It's not one size fits all”.

The skills shortages faced by the industry were acknowledged. Recruitment practices have adapted in response with more emphasis, where practicable, on attitudes to work than specific qualifications or industry experience.

“I think provided they they're the right person, and have the right skills and attributes, then that's incentive enough”.

“The construction industry has a skills shortage right now. Anybody that has ambition to be part of the sector, we've got a responsibility to support that”.

People further from the labour market require additional support and guidance to help them adjust to their new work environment which required employers to put in place appropriate training, mentoring and support. The most common barrier faced by employers here was awareness of how to engage or resources to support recruitment and training with people further from the labour market. Publicising of successful programmes and increased outreach to employers would be welcomed.

“Where we do need the support is the retraining piece and the reskilling. I know there's upskilling programs [out there], but I just feel like there could be more to help with that transition of skill, I don't think there's enough knowledge of what is available to companies - I don't know if they shout enough about what is going on”.

4.1.2 Inspiring the next generation

Employers have experienced increased difficulty in attracting young talent, in part due to a historical overreliance on recruiting through family and industry connections and due to negative perceptions of the work involved. There is a need to better market the variety of roles and career pathways available to young people as well as the scale and type of projects delivered to both ‘inform and then inspire’.

“I think we have relied as an industry for a long time on people coming in because of family members or relatives or loved ones in the same industry or reaching out to relatively similar talent pools”.

“[Young people’s] options are much more varied now and they have better access to information about industries and careers. The industry hasn’t been good at advertising itself, you’ve got to make it about the buildings and environments we’re creating for people to work and live in. Show them some of the projects you’re doing”.

Early years engagement was seen to be the most effective opportunity to do so, when children have not yet fully settled on their future career paths. Support from parents and teachers was seen as crucial given their influence on children’s impressions of the sector. Raising awareness with parents of the diversity of activity within the sector, and with education institutions around career pathways such as apprenticeship schemes will increase the sectors exposure.

“We need to target the younger generation, by the time they get to GCSE’s/A Levels they’ve picked their choices... there’s probably a lot more to be done with parents, they really influence children’s perceptions of an industry or job”.

“I don’t think there’s sufficient awareness from schools or sixth forms of the apprenticeships that we offer”.

Ensuring engagement was interactive and relatable was a key part of this approach. Where firms share experiences with students via careers fairs or visits it is important that this is delivered by staff from a wide range of backgrounds. Particular emphasis was placed upon encouraging women into the sector and evidencing that construction is a gender-neutral industry to incentivise more female interest. Ongoing activity that could be replicated included the integration of technology (such as the use of mobile plant simulators and virtual reality headsets), hands on construction tasks using Lego and the tailoring of activities to align with schools’ lesson plans:

“The team are extremely proactive in schools’ visits. They have all sorts of lesson plans that they can tailor to the school’s requirements. If during our visit, the school is doing a topic on green issues, they’ve got construction exercises related to how you would make a house more sustainable”.

Support from providers, the local authority and chambers would be welcomed by businesses to help enhance understanding of young people’s motivations. This could come through the sharing of research and the adoption of a conduit role by local authorities to connect students and businesses.

“I think it’s very much getting to know them right now, to understand the individuals of what, what will inspire them. I think we’re seeing a generation that is very much purpose driven”.

“[Support from providers] could be that research, going and polling young people, finding out what they want to be or do, and then telling businesses those results, and then we can tweak

approaches to target those requirements...that support piece from local authority perspective, or the chamber perspective, is acting as almost a connector between business and education and creating real dialogue between students and businesses”.

4.1.3 Partnering with education and skills providers

South Yorkshire Construction businesses had existing and strong relationships with training providers. Staff offered their time for guest lectures and development of course content and one employer was considering partnering with universities to run an industry specific competition, offering a three-month internship prize. Some employers felt however that university course content was often too theoretical in its design and lacked the hands-on practical elements that students needed to prepare themselves for the world of work in the built environment. They would be open to collaborating to help input on future course design.

“They seem to be wanting to follow a syllabus that is very theoretical, [it needs] somebody going in and saying this is how it actually works in the real world... they're missing that sort of practical element of the education”.

Employers highlighted the importance of collaborating with education and skills providers to increase the visibility to young people of the variety of career opportunities within the sector. While university collaborations were strong, less activity was undertaken with schools and colleges. This was felt by some to be reflective of the increasing pressures on school systems to deliver a large amount of content in a short period of time. Employers would be open to supporting schools in curriculum development, acknowledging the importance of careers education on student outcomes.

“Schools are under immense pressure, so careers education, for lots of teachers, even now, is very much seen as a nice to do, as they have to get through everything else...we have had that dialogue with headteachers that careers should be the most important conversation you're having with your students...It's about getting them into the job market, doing good, productive jobs. But I think the schools are so focused, because of pressures on them, on the short term, getting results, that they don't really feel they have capacity to do much more than they're doing”.

Future engagement with employers open to collaboration would build upon existing good practice (see it Be it, pre-employment programmes, interview skills training and work experience placements). One firm, inspired by a ‘meet the buyer’ event, was looking to initiate a ‘meet the employer’ to allow students the opportunity to meet prospective employers and understand what it might mean to work for them.

4.1.4 Sectoral and supply chain collaborations

Sectoral and supply chain collaborations around training and skills development were commonplace. There was little reticence around engaging with competitors or others in the sector, something that may be atypical of other industries. This is an interesting point to note for providers looking to fill construction training places aimed those in work or newer recruits.

“We want to work very much in partnership with everybody; not in isolation, far from it”.

Employers collaborated with suppliers, academic institutions and competitors in different ways. These included ‘supplier drop-in days’ each month to involve those procuring development contracts in decision making, sitting on forums with other construction firms to identify shared challenges and opportunities and working with local colleges to develop staff skills. One employer worked closely with local government to combat skills shortages:

“We talk to local authorities and look at the shortages in the local colleges and universities, and what courses aren’t being undertaken and why places aren’t being filled - really looking at the gaps within the education system”.

Other informal interactions were also noted. Employers facilitated knowledge sharing and capacity building sessions with SME subcontractors. One larger construction business provided upskilling around sustainability and Net Zero to help partner organisations ‘future proof’ their business. Firms also sponsored local schools or shared equipment with other businesses within the sector. Some construction firms had plans to initiate new collaborations:

“We’re looking at doing expert volunteering to enrich smaller SME’s and add value to businesses”.

“There is a plan for us all [local construction businesses] to come together in the next few months and deliver some form of big social value action”.

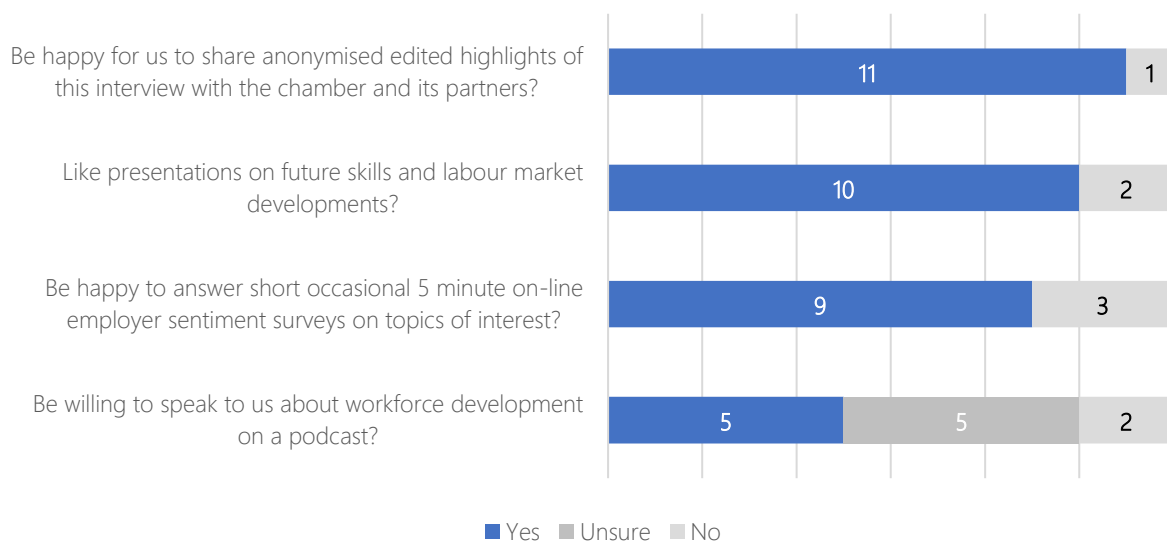
For some working collaboratively was essential and opportunities to engage in local networks would be well received.

“[Our collaborations] are mainly about sales, if you’re talking specifically about development and house building and construction, there isn’t enough, in my view- there’s a huge problem coming forward with a lack of skills in the sector. I see a lot of people leaving the industry retiring, and I’m not convinced there’s people coming forward to replace those people”.

Ongoing engagement

Employers were asked to fill in some supplementary questions to gauge their interest in further engagement in training and skills. Of those that responded, employers operated within residential (5), commercial (3) infrastructure and (1) construction. The most common main business activity was the construction or development of buildings (7) with only one respondent citing professional services or general construction activity respectively.

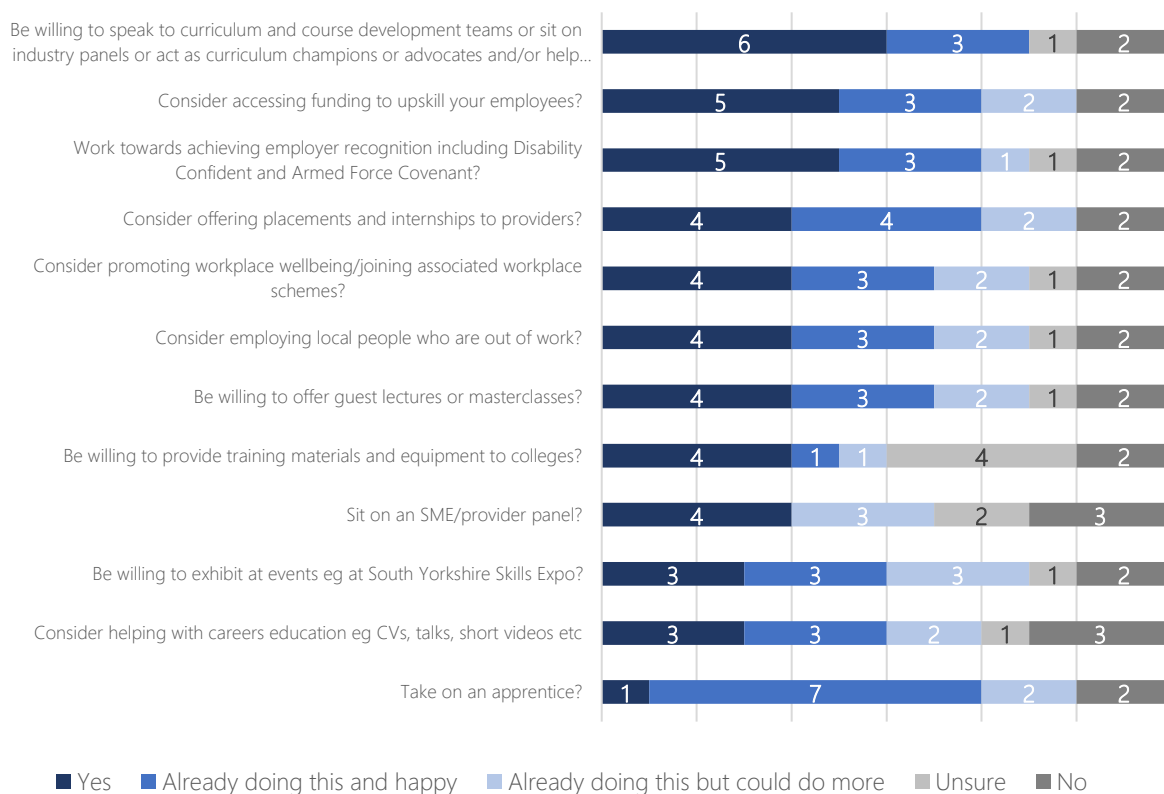
Those that answered were open to presentations on future skills and labour market developments and to answer occasional sentiment surveys and almost all would share interview highlights. Not everyone feels comfortable about participating in podcasts.



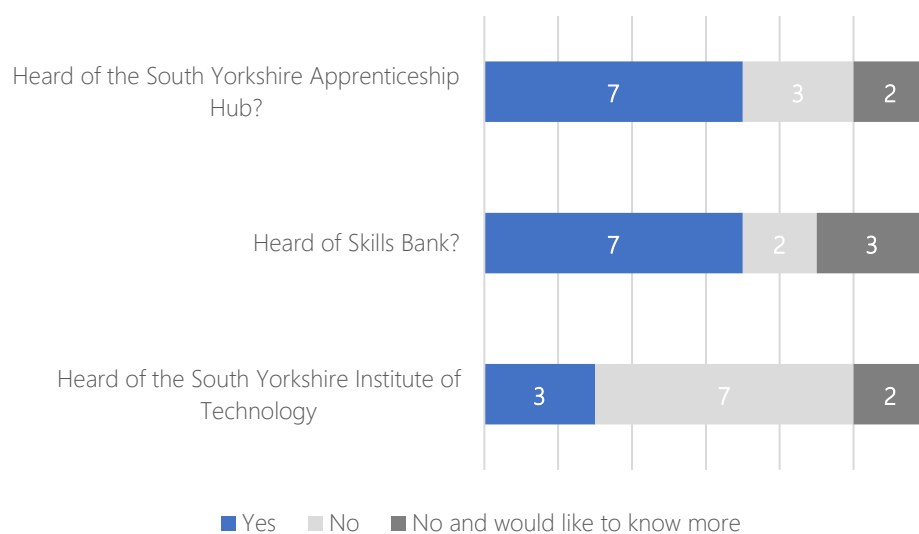
The research indicates that employers are open to speaking to curriculum and course development leads, considering accessing funding for skills and working towards achieving employer recognition (for instance signing up to be a disability confident employer or an armed forces covenant employer for service leavers or veterans), with a few doing this already. Offering placements and internships to providers, guest lectures and masterclasses, promoting workplace wellbeing and employing local people who are out of work is something employers are active in doing or would certainly consider in future.

75% of those who responded to the survey are already utilising apprenticeships. More employers however could consider providing training materials and equipment to colleges. Only a quarter of the employers who responded are currently sitting on an SME/provider panel however they all conceded that they could do more and a further 33% would be willing to start.

Employers were also asked if they need providers to offer specific training. Three firms were looking for bespoke training, citing green landscaping, offsite construction and modern methods of construction and clean heat design/installation/maintenance as their current preferences.



The survey tested employer awareness of key local strategic skills investments. There is reasonable knowledge of the South Yorkshire Apprenticeship Hub and Skills Bank however only a few employers are aware of the South Yorkshire Institute of Technology and there is limited interest in further information suggesting there is work to do for construction related activity here.



Appendix one: consultees

- Acttnow
- Bowmer and Kirkland
- Equans
- EuroSafe
- Forge New Homes
- Hallam Land
- HEB Group
- Henry Boot
- JHA Architecture
- Keepmoat
- Keltbray
- MJ Gleeson
- Mott Macdonald
- OVO Spaces
- Professional Soils Laboratory
- Rider Levett Bucknall
- SISK Contractors
- Strata
- Sustainability Support Service/Peak Homes
- Swan Homes/Vigo Group
- Tilbury Douglas
- Togel Contractors
- Yorkshire Housing



Accelerating digital transformation

