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Workforce of the future



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Methodology

This research, conducted by Building in conjunction with Gleeds, was carried out via group and individual interviews with experts in the field from across the sector and the answers to a selection of qualitative questions. The research was carried out in spring and summer of 2024.

Interviews were conducted by Jordan Marshall, special projects editor of Building, and the report was produced by Liz Scott.

The feedback from interviews and surveys all contributed to the conclusions and recommendations. However, the views expressed in the report are those of the Building the Future Think Tank, and participants cannot be assumed to have endorsed the final findings.

Acknowledgments

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- Karen Brookes, chief people officer, Sir Robert McAlpine
- Carol Davidson, people development director, Gleeds
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- Louisa Finlay, chief people officer, Kier
- Theresa Mohammed, partner, Watson Farley Williamson
- Karen Mosley, director, HLM
- Vanessa Murray, director, The Circle Partnership

Participants cannot be assumed to have endorsed the final findings.



After the success of the Building the Future Commission in 2023, Building established its own editorial research hub, known as the Building the Future Think Tank, dedicated to producing more in-depth research and reports on behalf of the industry.

This year the think tank's programme has produced four reports: on immigration, net zero, building safety and workplace and people.

Executive summary

Construction faces significant challenges in building the workforce of the future. The Construction Industry Training Board estimated in this year's annual industry forecast that to meet the anticipated level of growth in the sector will require the equivalent of more than 250,000 extra construction workers over the next five years.

As part of fulfilling this demand, it is vital that construction broadens its talent pool. Leaders recognise that improving diversity, equity and inclusion (DEI) is a potential game-changer for an industry perceived to be very traditional. While much progress has been made in this area in recent years there is a heavy gender imbalance to overcome, as well as a lack of proportionate representation from employees with an ethnic-minority background.

Broadening the demographic

Attracting more young people into construction is also crucial to secure the workforce of the future, given the sector's ageing population of employees and well-documented skills shortage.

Employers are using a range of initiatives to widen the demographics of talent in the industry. These include instilling inclusive principles into company culture, using recruitment techniques that are aimed at minimising unconscious bias, and adopting measures to improve the gender balance at senior level.

Effort is also being made to raise awareness of the breadth of roles available in construction, and to change outdated perceptions of the profession in terms of flexibility and the different career paths on offer. Better engagement between industry and educational providers is essential if we are to attract the next generation of workers.

A range of strategies

Companies that are preparing for the future have invested in development strategies aimed at everyone from those starting out in the industry to those with decades of experience. Tomorrow's workforce will clearly need digital capabilities, but technical, traditional and personal skills cannot be overlooked.

Some of these training and professional

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growth programmes include digital apprenticeships to ensure staff are equipped to handle data, leadership training programmes that focus on new ways of working, and mentoring for targeted skills sharing.

The pandemic has reshaped how the industry operates and it is uncertain how models of working will continue to develop. While there has been progression on flexible working, some bosses are still sceptical about the concept or believe it is a binary choice based on location. However, many employers have taken the opportunity to embrace flexibility in numerous ways, including trialling different options for on-site workers on a project-by-project basis.

To encourage a return to the office, other companies have improved their working spaces to appeal to a workforce that increasingly expect choice. It is recognised that working from home offers benefits ranging from improved wellbeing to greater productivity, but that careful management is needed to avoid missing out on the advantages in-person collaboration brings.

Artificial intelligence

It is impossible to look to the future of the workforce in construction, or indeed any industry, without examining the impact of artificial intelligence (AI). It is already influencing how companies operate; many are using the technology to monitor and track programme performance and drive efficiencies, among other applications.

Clearly there has been, and will continue to be, a need for investment in training the workforce to use AI tools as they rapidly evolve. However, with apprehension about the pace at which the technology advances and its potential to make some jobs obsolete, the industry must ensure it has the infrastructure necessary to keep up - and the right approach to get the workforce on board.

Employers must foster a culture of openness and encouragement to enable the successful uptake of AI and other disruptive technologies. AI and automation have the potential to improve productivity in construction, create jobs and ultimately reshape the future of the workforce - if the risks can be mitigated.

Part 1: Diversifying the talent pool



There is a long way to go before the workforce of the UK built environment industry reflects the diversity of the communities it serves. According to the Construction Industry Council (CIC), women account for just 11% of the industry's labour force and 1% of workers on site, while under 6% of construction workers are from an ethnic-minority background.

The importance of a diverse workforce is widely acknowledged by leaders in the construction industry and beyond. A more inclusive workplace fosters greater innovation, which comes from multiple perspectives and different approaches to problem-solving. People share ideas more openly where diversity is embraced, unlocking the potential for creativity.

Construction industry companies that are rated highly for DEI will have the competitive edge when it comes to hiring and retaining staff. Sought-after candidates are increasingly more demanding of prospective employers in terms of values, ethics and commitment to sustainability. Furthermore, employees who feel empowered and appreciated are more likely to perform better, and to progress within an organisation rather than move on.

A diverse workforce can also provide an advantage in winning work, with clients now looking at the DEI policies of construction companies when making decisions.

It is vital for the future of the workforce that the built environment industry diversifies to appeal to the younger generation. The CIC estimates that construction will lose a quarter of its workforce to retirement in the next 10 to 15 years. Generation Z - which refers to people born between 1995 and 2012 - value DEI highly and will not consider a career in the sector if they perceive it is not inclusive.

Looking for diverse talent

Most of the expert panel members who contributed their views for this report concurred that construction industry leaders recognise the value of DEI; however, there are some significant challenges in diversifying the talent pool.

For a start, addressing such a heavy gender imbalance will not be achieved overnight. Panel expert Theresa Mohammed, a partner at law firm Watson Farley & Williams, observed that while many construction industry events take active steps to champion women working in the sector, it is still possible to attend discussions with very little or no female representation.

There is some evidence of women being



reluctant to be involved in schemes that drive forward the diversity agenda for fear of a backlash. Mohammed said she is aware of concern among her peers that involvement with high-profile initiatives may have negative ramifications. There is also a worry over “diversity fatigue” for the often-small pool of willing participants working on DEI projects and the risk that their efforts may not be valued by the sector.

Another challenge is that some white, male leaders in construction would like to advance progress on diversity but feel they cannot take part in the conversation because they do not come from minority groups themselves.

Good intentions regarding DEI are also being hampered by widespread cost-cutting across the industry - when market conditions worsen, the first savings to be made are often the outreach programmes and initiatives to support under-represented employees.

However, in the last decade or so significant progress has been recorded on making construction more inclusive, and today all the big players have sophisticated DEI policies. This is reflected in some positive statistics from leading companies, such as tier-one contractor

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Kier where its board is around 40% female.

Gleeds is also seeing gradual results in boosting its percentage of female employees. The consultancy giant has framed its DEI approach as being one of fairness, inclusion and respect. Launching the strategy in 2022, Gleeds chief executive Graham Harle said: “We want our organisation to achieve great things, and the best way to do that is to attract and retain diversity within our workforce.” To embed diversity principles in its culture, the firm has created ally groups on race, gender, carers and LGBTQ+.

Construction businesses have also adapted their hiring processes to attract more diverse talent. The construction leaders consulted for this report had differing views on the efficiency of blind recruitment, where certain personal and demographic information is hidden from candidates’ applications. Karen Brookes, chief people officer at tier-one contractor Sir Robert McAlpine, said that the technique had been a game-changer in terms of removing unconscious bias from the company’s recruitment activities.

The firm also uses assessment tools in selection, including a cultural survey to check



on cultural fit, as well as psychometric tools and technical/behavioural competence questions to minimise subjective decision-making.

However, it was suggested that blind recruitment did not always achieve the desired outcome of addressing a particular diversity need, and sometimes presented anomalies in the scoring of diverse candidates. One participant cited their previous involvement with blind recruitment as an example, saying that the scoring of applicants from particular heritages would be lower than that of a white candidate for indeterminable reasons. They said that while it was not a huge difference in numbers, they were different enough that it could have made a difference to the assessment of a candidate.

The built environment also needs to diversify the age of its workforce, and to change outdated perceptions of roles in the industry in order to attract more young people. Kier's so-called Kierriculum is aimed at encouraging young people to consider a career in construction.

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There was consensus that better metrics on the gender pay gap are needed, with criticism that methods of reporting it have lost their impact and need updating

It provides schools and colleges with resources to link school subjects with the real-world skills needed in the sector, including critical thinking, problem-solving and practical delivery.

HLM was part of the Trailblazer group that developed two apprenticeship standards for architecture, creating a more accessible route into the profession. It has also developed resources to be delivered in schools to educate children about different roles in the industry.

There are also projects to improve diversity at senior level. Sir Robert McAlpine operates development centres for internal opportunities such as its Future Leaders Programme, which is run in partnership with Cranfield School of Management and for successful applicants provides an apprenticeship degree and the opportunity to progress into leadership roles. The scheme's first cohort demonstrated a 50:50 gender split.

Transparency and accountability

The panel for this report highlighted the importance of accountability to ensure DEI policies are properly implemented. This could look like leaders being asked to demonstrate how they have adhered to DEI principles in work allocation or recruitment, or on construction projects.

Tracking and reporting will also be key in addressing the gender imbalance. There was consensus among the panel that better metrics on the gender pay gap are needed, with criticism that methods of reporting it have lost their impact and need updating.

DEI should factor strongly in the way companies allocate work. Some panel members agreed that internal moves needed to be decided objectively to avoid cliques where the same people end up working on big jobs.

Furthermore, managers need to deal firmly with any behaviour that contravenes DEI policy, so it filters down the employee grapevine that such behaviour will not be tolerated.

At an industry level, there are a growing number of initiatives aiming to expand the diversity of the workforce. The Circle Partnership was founded to improve mid-level female talent retention in the built environment and increase gender balance at senior level; Go Construct offers information on avenues into the construction sector and the range of roles available; and OurCity2020 has a built environment pathway that aims to open up employment opportunities in the sector for underrepresented groups.



Part 2: Developing and retaining the skills required for a modern sector



As well as the need to diversify, construction has a well-documented skills shortage to address. The panel voiced concerns that the current skills system is overly complex, with continuously changing funding models and approaches making it difficult for employers to understand what is available to them and how best to access it.

Employers are seeking a breadth of skills to help future-proof their businesses. Digital capabilities are increasingly sought after, as smarter construction methods demand employees trained in BIM, data analytics, virtual collaboration, augmented reality, the internet of things, and much more.

Technical expertise underpins the industry, and will be needed to enable deployment of smarter construction methods across the project lifecycle. Similarly, traditional skills will remain in demand, and some experts believe an emphasis on non-digital skills could help ensure that emerging technologies supplement rather than cut across or destroy a company's culture.

Personal attributes such as collaboration and communication also cannot be overlooked. "There has to be an acknowledgment that this isn't just about technical skills - there should be a focus on the personal skills individuals need to work effectively and collaboratively in our industry," said panel expert Karen Mosley, a director at architect HLM.

Other panel members agreed construction asks for "overly academic" qualifications, which could exclude some very capable people who

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The current skills system is overly complex, with continuously changing funding models and approaches making it difficult for employers to understand what is available to them and how to access it

are not necessarily suited to taking exams. More emphasis on teamwork, good management and problem-solving could also reduce the industry's prevalence of disputes.

Strategies to develop skills in the workforce

Employers are using a range of strategies to prepare their workforce for the future, and they recognise that professional development is a continual process as construction evolves with the emergence of new technologies and specialisms.

An example of this is the apprenticeship scheme provided by Kier, which offers staff across the group the opportunity to learn data skills and gain a level 3 qualification. The 13-month course covers the core technical skills required to transform data into insights and how to present findings. Gleeds runs data apprenticeships too, to level 3 and level 4.

Sir Robert McAlpine is ensuring it has the necessary digital expertise by mandating that all staff are upskilled in cyber and data security on an ongoing basis. To boost technical skills, the company uses a technical competency framework that complies to BS 8670 built environment for building safety competence of individuals and to PAS 8672, a new framework for individual principal contractors and designated individuals working under organisational principal contractors. It also has a training partnership with the CIOB to ensure compliance with the Building Safety Act.

Post pandemic, HLM reshaped its development strategy for the hybrid working model, recognising that it needed to be more

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People need to see a path of progression for them in order to perform well at work. Learning and development rank highly in staff satisfaction surveys

consciously inclusive so that good work did not go unnoticed and voices were still heard, and that leaders were equipped with the right skills to effectively lead and manage teams in a partly remote setting.

Collaboration between colleagues and across disciplines, and with other industries, will be key to preparing the built environment workforce for the future. “We need to start sharing in order to get a better understanding of the challenges experienced by colleagues and others on project delivery teams, so that we can predict stumbling blocks early, and work together to overcome barriers and deliver superior outcomes for clients,” said panel expert Louise Ellis, chief people officer at Gleeds.

Retaining talent

Upskilling and continuous professional development has a direct impact on retention. People need to see a path of progression for them, and feel valued, in order to perform well at work and be motivated to remain within an organisation. Learning and development, along with personal growth, rank highly in staff satisfaction surveys.

The industry has a wealth of knowledge in its ageing workforce, and it is important to help more experienced individuals learn new skills in a manner that suits their learning style. There is evidence that some members of the older generation of workers want to acquire digital skills but do not want to be made to feel “stupid” in doing so. An environment where curiosity and collaboration are encouraged will be essential in enabling this and could help retain staff in new roles.

Other retention strategies involve gaining insights into the sentiment of the workforce. Sir Robert McAlpine uses an online engagement platform called SRM Pulse to measure employee satisfaction on a range of topics including learning and development, DEI and workload. This has helped the firm to understand how its people are feeling, where they have issues, and what those issues are, and it encourages line managers to tackle these issues either anonymously or not - depending on the individual's choice. The company's retention levels run at 90%. The firm has also matched its maternity and paternity benefits to offer 26 weeks of paid leave regardless of gender, which Brookes said was “a big reason people come to us and stay”.

Some employers are considering how to offer equal career progression opportunities to their staff, as well as how to ensure that the advancement of certain demographics is not unnecessarily restricted.

For example, Kier has increased its understanding of the potential barriers and biases that underrepresented groups in the company may face, through the use of reverse mentoring.

This concept turns traditional mentoring on its head by pairing experienced colleagues with employees from a younger generation or a different background or at a different experience level, and the company's executive committee have all been mentored by a colleague in this way. People at Kier can also apply to be mentored for specific goals, such as extra support with being promoted.

Case study: Gleeds

Gleeds was named as one of 2024's Best Workplaces for Development (super-large companies) by workplace culture research and certification body Great Place To Work.

The construction consultant has a development opportunities marketplace, open to everyone at Gleeds, which covers everything from getting started through to professional excellence and leadership development. It also supports people to take part in continuous development as members of professional bodies.

Employees have check-ins to discuss their performance and development on at least a quarterly basis, with the option of an additional once-a-year career conversation for them to drive their own career ambitions in collaboration with their manager.

The impacts on productivity from these measures have been notable. Gleeds' first-time pass rate for RICS Assessment of Professional Competence (APC) candidates is 30% higher than the industry average, enabling people to progress into higher fee-earning roles more quickly.

Part 3: Ways of working



Despite a perception that construction cannot offer flexible working, the covid pandemic has changed how built environment professionals operate. Things are still in a state of flux, as the industry grapples with the challenge of enabling flexibility for a workforce split between offices and on site.

A flexible and adaptable mindset

Some company bosses still view flexible working as too difficult, and see it as a binary choice of either in or out of the workplace. However, flexibility is not just about location; it can also relate to conditions or autonomy. There are firms with more progressive approaches; HLM offered nine-day fortnights and flexible working initiatives long before the pandemic. The practice runs a scheme called SmartBlend, which is aimed at supporting employees across the business to find the best work-life balance for them.

Overall there is a sense that the pandemic has accelerated positive change in the industry in terms of ways of working. Flexible working can improve productivity, retention and staff satisfaction; in a recent Gleeds survey, just 2% of respondents said they expected working from the office 100% of the time to be the most popular choice for employees in 2024. The experience of contributors to this report has been that even one day a week spent working from home can improve people's wellbeing and productivity.

It was also suggested that since covid, flexible working has enabled more of a balance in terms of family duties; with, for example, a greater number of male employees factoring school drop-offs or pick-ups into their day.

In-person working still presents benefits in terms of collaboration, knowledge-sharing and social connection. Rather than stipulating a

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Since covid, flexible working has enabled more of a balance in family duties, with a greater number of male employees factoring school drop-offs or pick-ups into their day

certain number of days a week in the office, some employers are taking a more organic approach by improving their business's environment and culture, with more spacious and appealing workplaces that people want to come to.

Opinions are split in the construction industry and beyond as to whether flexible working is here to stay. According to the KPMG 2023 CEO Outlook survey, 64% of leaders globally, and 63% in the UK, predict a full return to in-office working by 2026. However, the new Labour government has proposed that flexible working should be a day-one right and employers will be required to accommodate it as far as reasonably possible.

It is clear that construction industry organisations need to be ready to adapt to an increasingly changeable environment in the UK and globally. Kier has been running a programme with Cranfield University around organisational resilience and behavioural change, so that its leaders can support different ways of working. According to Cranfield, organisational resilience is a broader concept than traditional risk management, and one that also takes into account the importance of behaviour and culture.

Future trends

Digital innovation continues to shape how the industry works, and the successful adoption of disruptive technologies such as AI will play a key role in construction businesses' resilience. "AI will become critical to enable us to solve complex problems faster and allow us to be more inclusive in our approach," said HLM's Karen Mosley.

To varying degrees, this is already happening today. Sir Robert McAlpine is using the AI programmes Builddots and Disperse to monitor



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There is a risk that the speed of AI's development will outpace companies that do not have the right infrastructure in place to keep up

and track programme performance, harnessing real-time data to drive efficiencies and delivery, as well as Microsoft's Copilot to improve operational efficiencies. It aims to roll these out across all projects, and is training its project staff in using these tools.

Many other employers are focusing their efforts on ensuring that their workforce have the right skills to maximise the technology's potential. However, barriers include a lack of understanding of AI's uses, a reluctance to embrace change, and an apprehension that it will replace jobs. There is a risk that the speed of AI's development will outpace companies which do not have the right infrastructure in place to keep up.

Good communication will be key to educate employees on how the technology fits into their role and to convey that it is a tool which still requires human input, for example to interpret the datasets generated. As with other digital skills, the businesses with a culture of openness will most successfully embed AI within their organisation. Despite the challenges and risks, the consensus among the companies feeding into this report is that AI has the potential to transform construction by increasing productivity, minimising on-site risks, and automating tasks to free up people for new roles in the industry.

Case study: Sir Robert McAlpine

Sir Robert McAlpine has embarked on education programmes around flexible working options for on-site teams, following a trial across a number of projects. This is led by the project managers and individuals working on a particular project who look at the collective preferences - there is a framework to follow, and choices that must pass the test of meeting both business and individual needs.

For example, a project team working on a particular job decided their preference was to finish at 12pm on Fridays by working longer days in the rest of the week, which was agreed with the client and subcontractors before implementation. Another option that was used was buddy systems to give more individual flexibility, where a person can take a day or afternoon off, with their buddy picking up the slack in their absence.

Recommendations



1. Require accountability in diversity, equity and inclusion (DEI)

Construction firms must prioritise DEI and demonstrate their commitment by increasing their transparency and accountability. Leaders should be required to transparently report on internal and external hiring policy, workforce allocation, and strategies to address the gender pay gap. Strengthening and updating regulations, such as mandatory gender pay gap reporting, will drive further progress.

2. Invest in future workforce programmes

To attract the next generation of workers, there should be cross-industry investment in educational initiatives targeting schools, colleges and universities. Collaboration across the sector, co-led by the industry and the government through the Construction Leadership Council, will raise awareness of the diverse career opportunities in construction and amplify the impact of these programmes.

3. Revamp the skills system

The skills system needs to become more agile and responsive to meet evolving business needs. Construction employers should play a greater role in shaping a simplified system that includes better forecasting of future skills requirements. Significant investment from both within the sector itself and the government is necessary to overhaul and modernise the current framework.

4. Promote continuous personal development

Continuous personal development should be a key focus, as clear paths of progression positively impact employee retention. Understanding and addressing barriers to advancement for specific groups is crucial. Techniques like reverse mentoring can provide valuable insights for leadership to make sure there is equal access to development opportunities. More professions should consider requiring that individuals gain CPD points throughout their careers.

5. Enhance access to flexible working

The construction industry should continue to embrace flexible working arrangements post-pandemic. Leadership training is essential to successfully implement various forms of flexibility, beyond just location. Industry-wide collaboration on agile and flexible working practices, especially for site-based workers, will help drive meaningful change.

6. Advance AI training and understanding

The industry needs to improve training and communication around artificial intelligence (AI) to address fears and misunderstandings. By demonstrating AI's potential to create job opportunities, close the skills gap, and increase productivity, the construction sector can better integrate this technology and adapt to future demands.



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