### **CONSTRUCTION:** A CHANGING SKILLS LANDSCAPE MARKET REPORT



### FOREWORD

Employing almost three million people and generating approximately £100bn every year for the UK economy (Property Week, 2018), the construction industry is one of the fastest growing in the UK. As with any sector, keeping on top of emerging trends and innovations is key to staying competitive and identifying skills needs for the future. According to the Chartered Institute of Building (CIOB), the latest UK statistics suggest the construction sector will have a shortfall in its workforce of over 150,000 people by 2022. This reinforces the need for effective workforce planning across the industry. In this report, we look at some of the issues likely to affect the construction sector in 2020 and beyond, to help you stay ahead.

# **AN AGEING WORKFORCE**

A high proportion of the construction industry workforce is close to retirement. The CIOB has found that the number of workers aged over 60 has increased more than any other age group, while the biggest reduction has been in those under 30. The potential impact of this is worrying, as essential skills and knowledge are being lost, there is a decline in entrants to the sector, and there is a shortage of skilled workers in the pipeline to replace those retiring.

More needs to be done to attract young people into the industry, but also to ensure that older members have upto-date training. It is imperative that employers focus on effective workforce planning to ensure vital skills are not lost within construction. At SQA, we pride ourselves on the accessibility and suitability of our qualifications to all learners. Recent analysis of our data showed that the highest uptake of qualifications was in the 24+ age group, with the average age of our Construction learner being 40.



# A CHANGING SKILLS LANDSCAPE

The sector has experienced continual problems of skills shortages in key trades as well as technical, professional and management levels since the recession. The Federation of Master Builders states that there has been a significant shortage of carpenters and bricklayers for a prolonged period, with other trades such as roofers and plumbers now experiencing the same issues. The high demand for skilled tradespeople drives up wages and this, combined with rising material costs, means that many small building firms are struggling (UK Construction Online, 2019).

In recognition of these shortages, SQA has been actively working towards bridging the skills gap with our range of construction qualifications. In 2017, SQA launched a further suite of Construction qualifications in direct response to the removal of the Construction Related Occupation (CRO) card, and to help meet the evolving requirements of the industry. The NVQs sit at Level 2 on the Regulated Qualifications Framework (RQF) and include niche qualifications such as the Removal of Hazardous Waste: Licensed Asbestos qualification.

The government's focus on construction apprenticeships is also helping to bridge the skills gap, facilitating entry into the sector by providing an alternative to traditional study methods and covering many key trades. An FE Week article by Christian Snaith of Skills Group highlighted the importance of employers getting on board with apprenticeships: "Not only do apprenticeships deliver all the mandatory gualifications, but they also expose learners to the industry early, getting them out on the job to pick up essential hands on skills and working practices". Currently, there are 82 construction apprenticeship standards approved for delivery with a further 15 in development (Institute for Apprenticeships & Technical Education).

In developing our construction qualifications, we worked with employers and training providers from across the sector to ensure that our offering meets the needs of the industry now, and in the future.

Gillian Hepburn, National Manager, SQA

# **BARRIERS TO EMPLOYMENT**

The public image of the construction industry has been a challenge to employers for decades when it comes to attracting talent into the sector. While significant progress has been made in improving this, there is more work to do. Given that the built environment is everchanging, it is understandable that an often negative perception of the industry exists. Building work can be costly, inconvenient and disruptive by its very nature (Building Specifier, 2019). This is also true for prospective employees entering the sector. There are a number of reasons why young people are not drawn to a career in construction many of them are either not aware of the variety of jobs available in the sector, or perceive the ones they do know about as offering an undesirable or uncertain future (Professional Builder, 2019).

Furthermore, statistics on employment by gender bear out the traditional maledominated image of the industry, with women accounting for 11% of the engineering workforce overall (Property Week, 2018). There are many factors contributing to this, including low female uptake of STEM subjects at school, misconceptions of the types of jobs available, and the pay disparity. According to the Office for National Statistics, the pay gap between men and women working in construction stands at 45.4% — women are paid an average hourly rate of £8.04 compared with £14.74 for men. Encouraging all pupils, especially girls, to consider STEM subjects when they choose their courses and career paths will go a long way towards bridging the skills gap in the sector. The sector must also do more to retain female workers and make it easier for women to return to the sector after career breaks.

"There are many career options within the construction and engineering sectors that are open to those who have studied STEM subjects. The main barriers to employment and uptake of STEM subjects at school or further/higher education levels include a lack of information on the available employment options, a lack of understanding of the required qualifications and skills to fulfil the available roles and a perception that the majority of available roles are only suited to men.

Educators and employers need to work together to dispel misinformation and promote positive information and messages. Only then will we begin to see an increase in those who actively choose to study STEM subjects and progress to positive career destinations, of which there are many available for all levels of skills and regardless of gender.

### TECHNOLOGY IN CONSTRUCTION





The growing digitalisation of the construction industry continues to be a key trend, with businesses striving to streamline their processes and take advantage of the often attractive cost savings. A growing trend has been the increasing use of drones in the sector; as their use increases, the cost of the technology is likely to fall making drones more accessible for small and medium companies. This presents a substantial opportunity for trained workers to operate the machines and interpret data.

With the addition of new technology comes greater responsibility companies will need to comply with the Civil Aviation Authority's rules and consider the need for insurance before adopting drones (LABC Warranty, 2019). Augmented Reality (AR) and Virtual Reality (VR) technology is also edging its way into construction. For builders and developers AR facilitates the use of wearable technology and 360-degree video to enable 3D visualization of projects, automated measurement and fast and affordable simulation of architectural and structural changes (Big Rentz, 2019)

'SQA recognises the growing importance of technology in the way training and assessment takes place in the construction industry. Effective use of digital technologies can enhance the flexibility, validity and reliability of assessment. It can reduce costs and turnaround time eg for delivery of results. SQA is exploring how VR can be used to enhance assessment for its Construction qualifications. We are working with eCom Scotland who are leading a Ufi VocTech Trust funded project, together with partners City of Glasgow and Fife College, looking at developing a VR assessment authoring tool that will enable non-technical people in organisations, to create fully immersive virtual reality experiences by themselves without the need for specialist coding skills. This will create assessments that are more relevant to work situations. consistent and transparent. Over the first half of 2020, we will develop, trial and evaluate VR-based assessments for components of some of our construction gualifications. This research will generate valuable learning about how and where VR can help enhance assessment for Construction qualifications more generally'.

Martyn Ware, Head of Transformational Change, SQA

### **BENEFITS OF DRONES**

access remote

locations



monitor environmental factors



### SUSTAINABILITY AND GREEN CONSTRUCTION

The construction industry is responsible for 20% of global emissions, and with growing concerns over climate change and the finite nature of resources, there is increasing pressure on construction firms to reduce their environmental impact. A new trend helping to tackle this is green building; The World Green Building Council says a green building is one that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment. It covers all elements of construction, from sourcing sustainable materials through to safe demolition.

The World Green Building Trends 2018 Report, involving 2,000 industry professionals across 86 countries, revealed that half of the sector expects most projects to be 'green' in three years. Top reasons given were client demand, environmental regulations, and social reasons such as the drive to 'do what's right'. There are however challenges and barriers faced by business looking to adopt such practices, with the greatest being affordability. The World Green Building Trends 2018 Report reveals that almost 40% of UK firms reported that affordability was the greatest challenge presented to adopting sustainable construction practices, but with the perceived value of green building thought to be around 7% higher than traditional structures, this may help offset both building costs and concerns.



'In construction, like in manufacturing and many other industries, we should carry out a whole life cycle environmental impact assessment. Determining the environmental impact and aiming for a light environmental footprint over the full life cycle of a product at each stage from production to transportation, installation, use and eventual disposal. A consideration for the circular economy and the reusability of components and materials helps to minimise the overall impact.

Designing in best practice in terms of efficiency in lighting, heating/cooling, ventilation, water management and renewable microgeneration where appropriate, is a given.

### Sustainable construction methods, more efficient plant and tools, and reusable or recycled materials, as well as efficient project planning all contribute to limiting the impact on the environment and can actually be more cost effective than traditional materials and methods.

Allan Dunbar, Health, Safety and Environmental Officer, SQA

### **ABOUT SQA**

SQA is an international awarding body, supporting the construction sector by developing, assessing and awarding qualifications. A leader in qualifications and skills, SQA is helping to build a qualified, effective construction workforce. We offer a comprehensive portfolio of qualifications in Craft, Operative and Specialisms, and Technical, Supervisory and Management. In addition, we offer Streetworks Assessment and Re-Assessment qualifications. With over 100 years' experience, we work with employers, training providers and colleges to deliver qualifications and assessments that are developed with industry to ensure they meet today's skills requirements.

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