

## Construction in transition

# Technology in fast lane but related skills in slow lane

The construction sector is in transition with skills delivery not always meeting the industry's evolving needs, despite rapidly-evolving advancements in technology. Essentially, developments in technology are in the fast lane while the skills and learning process are still in the slow lane, writes *Paul McCormack, Innovation Manager, Belfast Metropolitan College*.

**T**he training and education provided to workers in the construction industry is not sufficient to meet the industry's evolving needs. There are many reasons for this, including the lack of funding, outdated training materials, and the shortage of qualified trainers knowledgeable in emerging technologies. This has left the existing workforce isolated.

### Limited pool of talent

Also, construction is manned by an ageing workforce, with many skilled workers now nearing retirement age. Training and upskilling for this section of the workforce is often overlooked. The construction industry has traditionally been male-dominated, resulting in a lack of diversity and inclusion in the workforce. This makes for an even more limited pool of talent, and a lack of diverse perspectives and experiences.

To address these challenges, it is important to take a proactive approach to skills delivery in the construction industry. This must include investing in modern technology-based training and education programs, encouraging diversity and inclusion across the

workforce, and staying up-to-date with technological advancements. There must also be comprehensive collaboration between industry leaders, educational institutions and government organisations to ensure that skills delivery is aligned with industry needs.

### Addressing the skills gaps

One of the biggest levers we can use to help overcome the skills gap is technology. Construction must embrace digitalisation at every part of the value chain. Technology can be used to improve skills training, safety, efficiency and productivity, while also reducing the skills needed for certain tasks. The sector must also invest in upskilling and reskilling. This will enable workers to adapt to changing technologies and processes, and to encompass new roles and responsibilities. This can be achieved through mobile training, digital communications, mentorship and job shadowing.

We must also improve and expand apprenticeship and vocational training programs to attract young people into the industry, and to learn and gain the necessary skills to become skilled workers. These



should provide a combination of on-the-job training, blended learning and classroom instruction, essentially giving apprentices the opportunity to learn while they earn. There must also be a more targeted outreach to under-represented groups, creating a welcoming and inclusive work environment.

### Embracing digitalisation

Embracing modern technology such as digitalisation can be a most valuable tool in addressing the skills gaps in construction. Mobile apps, software and digital training can all be used to improve communication and collaboration between workers. This will also encourage on-the-job, task-based training to reduce the carbon footprint of construction. For example, workers can use various apps to access project plans and specifications, report issues and communicate with team members in real-time. This can help to improve productivity, reduce errors, and ensure that everyone is on the same page.

One of the key tools in the digital toolbox is BIM. It can be used to identify and resolve issues before construction begins, reducing the need for rework and saving time and money. This can also assist

workers to develop new skills and remain up-to-date with the latest technologies and processes. Additional digital tools include virtual reality (VR), augmented reality (AR), drones and even robotics.

Digitalisation will also enhance standards and help with quality assurance mechanisms and regulation compliance.

### Greater collaboration

Addressing the skills gap also needs greater collaboration between the construction industry, training bodies, educational institutions and government organisations. The current system is reactive when, in fact, it really needs to be proactive. It must anticipate future needs and be sufficiently versatile to prepare workers accordingly. We must foster a real culture of life-long learning and continue to invest in the areas of research and development that will help identify and foster continually emerging technologies and industry trends.

### Innovation needed

Innovation is key as it will help to drive the development and adoption of these new technologies, skills and processes. It can involve supporting and funding research and development initiatives, and creating an environment that encourages experimentation and risk-taking.

Playing it conservatively and safe is no longer an option for the industry ... it is essential that we now move skills training out of the slow lane and in to the fast lane. ■

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