



Insight

Closing the industry skills gap:
act today, or pay tomorrow

By Patricia Moore, Managing Director,
Infrastructure UK

Governments around the world are investing in major infrastructure programmes in order to drive growth and prosperity, but skills shortages threaten to hinder those plans. Relying on market forces alone to solve this problem will not be enough.

The global construction industry is set to expand by an average of 3.2 percent per year for the next decade, with major infrastructure programmes playing a leading role in that growth. As populations migrate from rural to urban environments, cities around the world need new and improved infrastructure to enable sustainable economic growth.

The challenge facing the industry on a global scale is how to provide the skills needed to deliver this unprecedented volume of work. This requires a seismic shift in strategy and activity to create the skills capacity required at every level.

Without a fresh approach, we will see infrastructure programmes competing for skills and resources on a local and a global basis, with resulting 'hot spots' of cost escalation.

The scale of the problem

Skills shortages are already in evidence. Industrialised markets, including Australia, Hong Kong, the UK and the USA are suffering from a double challenge: an ageing workforce coupled with rising demand.

¹ www.agc.org/news/2015/09/10/nationwide-survey-finds-86-percent-contractors-have-difficulty-filling-key-craft-and



In the USA, the Associated General Contractors of America revealed that 79 percent of the 1,358 firms who responded are struggling to fill craft and professional positions¹. The Association reports that every part of the country is experiencing shortages, with the most severe problems in the Midwest.

The UK's National Infrastructure Plan for Skills reveals that the sector will need nearly 100,000 additional workers by 2020, with 250,000 of the existing workforce requiring retraining and up skilling as the type of work changes. A survey of contractors, consultants and clients by industry body Constructing Excellence in the UK revealed that they saw "a lack of availability of skilled workforce" as one of the top three barriers to achieving greater productivity². In newly industrialised regions such as Latin America and Asia the challenge is different: how to create jobs and provide the necessary training in order to improve fiscal and social outcomes.

Some Asian countries, particularly those in South-East Asia and the Pacific, have relatively low unemployment rates, although informal employment can reach nearly 85 percent in some countries. In construction this can introduce risks to safety, quality and programme

Immediate interventions

In the short term, governments and clients must take a leading role in attracting new entrants to the industry by adopting policies that encourage major contractors and their

supply chains to train and grow their workforces.

Planning for skills on a macro scale is the first step. Australia, Brazil, Canada, New Zealand and the UK are leading the way in this respect. Countries looking to attract private sector investment, often from overseas, have to provide assurances on resourcing, programme and budget.

Fostering greater diversity is an important way to increase numbers of professionals and skilled trade workers

Fostering greater diversity is an important way to increase numbers of professionals and skilled trade workers. Lessons can be learned from regions that have made the most progress. In Europe, Norway has had the greatest success with gender diversity, with females accounting for 35 percent of the construction workforce. This compares to 14 percent in the UK and just two percent in Greece². In the USA, women account for 8.9 percent of the construction workforce³.

In London, Tideway – the company delivering the £4.2bn 'super sewer' tunnel – has stated its aim to achieve a 50–50 balance between men and women in its workforce, using a range of measures including bringing skilled women back from career breaks to re-join the industry.

Communicating our social value

Construction globally still suffers from an image problem. A survey by Hong Kong University showed that 74 percent of young people surveyed cited the "demanding job nature" as a reason to avoid a career in construction, with "dangerous", "low social status" and "lack of future prospects" also scoring significantly. In the UK, 35 percent of career advisers thought a

career in construction was unattractive, according to a Construction Industry Training Board survey⁴.

There is little awareness of the wide range of professions available in the industry or the good that construction can do through providing better infrastructure to help people live healthy, productive lives.

The industry must take the lead in tackling this perception. Regionally and globally, we need to create a positive brand for construction with powerful campaigns that attract the best talent from a wide pool of people. There are regional examples of success. In Hong Kong, a Construction Industry Council campaign has resulted in a threefold increase in the percentage of young people interested in joining construction.

Training strategies

Once a pipeline of projects has been identified, industry, government and academia must develop strategies to provide the skills required to deliver that pipeline. Specialist academies, such as the Singapore Contractors Association Limited (SCAL) and the Tunnelling and Underground Construction Academy (TUCA) in London, have been created with this goal in mind.

SCAL was set up in 2009 to improve standards in the industry, focusing first on safety and now offering a range of courses. In 2011, TUCA was established not only to provide skills for London's Crossrail but also for future infrastructure programmes including Tideway, HS2 and Crossrail2. Since 2011, TUCA has trained over 10,000 people, including 450 apprentices⁵.

The industry globally should adopt these models, adapting them to the specific skills and training requirements of the region. Clients have to take the lead, with collaboration from across the industry.

² <http://www.construction-manager.co.uk/agenda/diversity-are-these-our-true-colours/>

³ <http://www.nawic.org/nawic/Statistics.asp>

⁴

<http://www.citb.co.uk/documents/construction%20careers/citb-educating-educators-careers-report.pdf>

⁵ <http://www.crossrail.co.uk/careers/tuca>

Working smarter

This isn't just a numbers game. The industry needs to develop smarter ways of working in order to deliver more with fewer resources. The construction process itself will change, moving from a bespoke, labour-intensive activity to one that is more akin to manufacturing, employing systems-based thinking and offsite construction.

Smarter use of technology will enable collaborative working and the transfer of information and knowledge. Resources can be shared around the world, without having to physically relocate people, with specialist teams connected virtually to local programme management teams.

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Technology will also bring efficiencies in working practice. We are already seeing the beginning of this transformation, for example using algorithms to interrogate 4D and 5D models to complete tasks that traditionally would have taken weeks, in a matter of days. This is a trend that will continue and gather pace.

Closing the skills gap

Those planning major infrastructure programmes must act now, factoring in their capability and capacity requirements at the very earliest stages of project initiation. Where programmes are in close vicinity to each other, collaboration is vital to avoid localised hyperinflation as they compete for the same resources.

The industry and governments have a key role to play to help quickly scale up capacity. To close the skills gap, new and existing workers must be equipped with a new set of skills to enable the industrialisation and digitisation of the delivery process. Longer term, industry, government and academia must work together

to develop new strategies for attracting and training talent.

Without this approach, all the best resources will be consumed by those regions that are prepared to pay the most. Elsewhere, infrastructure programmes will suffer from a lack of adequately skilled people with the resulting negative impacts to cost and time – and ultimately to that region's economic development.

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For more information please contact
Patricia Moore
Managing Director, Infrastructure UK
t: +44 (0)20 7544 4000
e: patricia.moore@turntown.com

For further information on any of our services visit our website
www.turnerandtowntsend.com

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