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Skills and Training in the UK Precast Concrete Manufacturing Sector

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ABSTRACT

The precast concrete sector in the UK produces over 36 million tonnes of products every year, is worth more than £2.3 billion and employs in excess of 20,000 people.

Any study of skills and training within the precast sector has particular resonance for the wider construction industry, as not only are the products produced used by the wider industry, but precast factories traditionally recruit from similar labour sources as the construction employers to whom they sell their products.

Proskills, the government Sector Skills Council, has recently undertaken a survey of the UK's process and manufacturing industries with regards to their staff skills and training and this paper comprises an assessment of the views and opinions of the precast concrete manufacturing sector.

The widely predicted growth for the UK construction industry over the next few years presents an excellent opportunity for the precast sector (as the market for its products expands), as well as a significant challenge as the overall market for labour, both skilled and unskilled, becomes even more competitive.

KEYWORDS: skills, training, precast, concrete, offsite, employment, questionnaire

INTRODUCTION

Britain is expected to experience a buoyant construction sector over the next 5 to 10 years, placing an increasing strain on the availability of skilled labour (ICE, 2008 and Taylor, 2007). The government body Construction Skills forecasts that employment in the industry will need to rise by almost a sixth to 2.8m by 2011, compared with 2.4m in 2005 (Construction Skills Network, 2007). However, this boom also coincides with a current lack of qualified, experienced construction staff at all levels (Whitelaw, 2007). Historically, an estimated 25% of trainees drop out of construction training in the UK, but remain in the industry as unqualified workers (Smartlife, 2007).

Then there is the 'Olympics' factor – research from CITB-ConstructionSkills showed that 33,000 workers will be needed to prepare for the Olympics alone, 24,000 of which will be trade or craft roles, with 12,000 on site at the peak of construction (Majekodunmi, 2006 and Lynch, 2006). It is well-publicised that migrant workers,

mainly from the East-European ascension countries, have come into the market to help satisfy this need, though fears for worker exploitation and the undercutting of UK workers on pay and conditions (Amicus, 2007), as well as for their safety (Dainty et al., 2007), do exist. This difficulty in finding the right skilled labour however, does not seem to be the singular domain of the construction industry, with 55% of UK businesses finding it harder to recruit skilled labour today compared with 5 years ago (British Chambers of Commerce, 2007).

The declining recruitment and employment rates of those in the 16-24 age bracket have had a subsequent impact upon the construction industry's age profile, resulting in an aging workforce (CITB, 2003). This has had a consequent knock-on effect on the precast concrete manufacturing industry as they generally recruit from a similar pool of labour to the construction industry. In one respect, the precast concrete manufacturing sector can be seen as either part of the problem or part of the solution – the factories themselves compete with local construction sites for available labour, but the (precast) products that they produce mean that less labour is required on site to complete a similar structure or component when compared with traditional on-site construction. Anecdotal evidence would also suggest that if you compared the labour resource 'gearing' for precast with on-site labour, then you would get more 'build-per-person' using precast concrete.

The introduction of the CSCS card (Construction Skills Certification Scheme) in 2000 has encouraged the industry to employ skilled workers, and, although it is not compulsory to own a card, an increasing amount of sites are asking for employees to have membership. The aim of the card is to show that the bearer is a competent construction operative and to qualify he or she has to have at least a Level 2 NVQ in the specific trade and must have passed a health and safety test (Smartlife, 2007).

Sector Skills Council and construction

Proskills is the Sector Skills Council working with government to develop the skills that UK business needs in the following seven industry sectors: coatings, building products, glass, paper, furniture, extractives and printing. Proskills is a not-for-profit employer-led organisation working on behalf of the process and manufacturing industries with close links to training providers, higher/further education, trade and professional organisations, and government agencies (Proskills, 2008a).

Proskills conducted a UK-wide consultation with employers in July/August 2006 with the aim of shaping the future of skills provision and funding for the building products industry. The information gathered during this consultation process helped inform the Sector Skills Agreement (SSA), the fundamental collaborative action plan between employers, government and the education sector, which will determine the way skills are delivered and developed for the sector (Proskills, 2008a). The objective of this SSA is to generate measurable improvements in productivity by developing and maintaining skills in this key sector of the economy. This paper covers the initial stages, which includes the assessment of current and future skill needs in the concrete precast manufacturing sector.

THE UK PRECAST CONCRETE MARKET AND SKILLS

The precast concrete sector in the UK produces over 36 million tonnes of products every year and is worth more than £2.3 billion. There are around 800 precast factories located across the UK, which employ in excess of 20,000 people (BPCF, 2006, Clarke, 2006 and British Precast, 2008)).

Precast products make a significant contribution to the built environment; ranging from small hydraulically pressed items mass-produced in highly automated factories, such as concrete bricks, paving and roof tiles, to larger mass-produced items such as pipes, piles and floor beams, and individual structural units manufactured to specific engineering and architectural requirements.

Interest in offsite, MMC (modern methods of construction), and hence precast concrete has been increasing in recent years, driven mainly by the increased demand for housing, pressure by government and industry to improve the performance and efficiency of the UK construction, and the potential of offsite (including precast) to mitigate the industry's skills concerns.

In the last few years the construction industry in the UK has come under increasing pressure from the Government to adopt systems and techniques from the manufacturing industry, despite the differing natures of these industries. Several recent Government and other reports have called upon the construction industry to change and modernise. The report from Rethinking Construction (commonly known as the Egan Report (Egan, 1998)) is widely recognised within the wider construction industry and it identified targets for improvement in construction. New targets were set by Accelerating Change (Strategic Forum for Construction, 2002) to recruit 300,000 people into the industry by 2006 and to double applications to Higher Education construction courses by 2007.

Although precast concrete is a relatively 'mature' technology when compared with some forms of offsite, this rise in interest and investment in offsite is sure to have a consequent knock-on effect on the demand for precast concrete products in the near future (Goodier and Gibb, 2005a).

Skills and training

On-site concrete operative skills and training in the UK have always been poor when compared with either other craft trades, or other countries, and it is often viewed as more of a labouring job than a craft trade. Training and certification schemes do exist from organisations such as the Institute of Concrete Technology (ICT), the Concrete Society and CONSTRUCT, but they are unfortunately not the norm (Day, 2000).

The concrete precast industry itself is also constantly striving to improve. Profitability and competitiveness were recently identified to be the main business issues for the precast industry (Clarke, 2006). The recruitment and retention of skilled staff was seen as one of the main problems which would affect precast companies potential profitability and competitiveness. In response to this, British Precast recently formed a sector Training Committee in 2006. One recent survey showed that 85% of employees were covered by formal training and development policies, but that only 8.9 hours of training was provided per employee (British Precast, 2008). An earlier study also revealed. The health and safety of their workforce was also rated as a top business issue for companies.

The recently introduced Sector Sustainability Strategy for the sector focuses on 16 key sustainability issues facing the precast industry, including social issues such as employment and training, respect for people and health and safety, in order to measure and demonstrate progress (British Precast, 2008).

The recent research described in this paper has helped to strengthen the precast concrete products sector's approach to training. British Precast has set up a joint training committee with ProSkills and is considering the implications of the new National Skills Academy for Materials, Production and Supply to be launched in October 2008. British Precast also plans to start up as a training provider during 2008 (Clarke, 2008).

Other recent studies

Two recent studies have examined skills requirements for offsite construction. Although these surveys cover the wider offsite industry and not just the precast sector, they do have wider resonance for the precast sector, especially concerning skills and recruitment. Venables, et al. (2004) found that suppliers are generally looking for multi-skilled workers with a moderate level of training, rather than expertise in specific trades. The results from McKay et al. (2005) supported this finding, although nearly one third of their respondent group of leading offsite manufacturers utilised traditional construction site skills within the factory environment.

McKay et al. (2005) found that manufacturers were concerned with the lack of skills in the labour market, although their most acute concerns were in relation to design and CAD skills rather than operative labour. They also found that around a quarter of offsite manufacturers provided in-house training for the skills that they require, or for up-skilling operatives recruited from site. This was because the level of skills required in the factory was deemed to be higher than was commonly the case for on-site operations (e.g. the tolerances required for mould construction were higher).

Anecdotal evidence collected from manufacturers suggests that many factories supplying products for the construction industry have merely emulated onsite practices within the factory environment. In recent years however, there has been an increase in new factories which have been designed to maximise automation and to draw upon labour from other industry sectors.

In terms of the content of new offsite and MMC qualifications, the approach developed by SmartLife (2007) may offer an example for the precast industry. They have introduced an NVQ for Industrial Building Systems, which involves some traditional skills training, followed by specific modules covering timber, steel and concrete MMC systems. An optional third stage involves training on specific MMC systems provided by individual manufacturers.

Proskills have also recently introduced a Sector Qualifications Strategy for the building products industry (Proskills, 2008b) It is anticipated that these new Building Products qualifications will be developed at Level 2, and possibly Level 3 (Performing Building Products Operations and Precast Concrete). The industry is also currently working on the development of a foundation degree for clay building products with the University of Derby. Based on this model, future work could look into developing similar provision for precast concrete and other sub-sectors.

Technological developments in precast concrete

Self-compacting concrete (SCC) is an example of a technological development that has had a significant impact within the precast concrete sector (Goodier, 2003). SCC is a form of concrete that requires no vibration and virtually no finishing work. From being used in no precast factories in the UK in 1999, it is now used in more than three quarters of all precast factories in the UK. Its advantages include reduced noise, simpler handling requirements and higher strength and quality. These factors mean that it is ideal for the precast factory environment as less labour is required in order to place and finish it. A greater degree of skill and technical knowledge is required however, in the mix design and production. SCC is also used in the UK on site, but currently only in around 1% of cases, compared to around 10% in other European countries such as Sweden.

METHODOLOGY

This research involved the assessment of the current and future skills requirements in the UK precast concrete manufacturing sector and consisted of in-depth questionnaire interviews and discussions with key employers in the sector.

The contact details of 50 nominated precast company representatives were provided by British Precast. All of these contacts were approached individually by email, telephone and/or face-to-face between 01/08/06 and 12/09/06.

Sixteen participants agreed to take part in the study. Seven of the interviews were conducted in person, face-to-face, usually at the office of the company concerned. All respondents were Directors or Senior Managers of their respective companies. Interview duration was approximately 45 minutes for the telephone and 90 minutes for the face-to-face interviews.

The companies surveyed were all UK precast concrete manufacturers and members of British Precast. The number of employees that they employed ranged from 20 to 10,000, with 33% of the companies responding employing <100 employees, 47% 100-1000, and 20% more than 1000. 57% of the respondents questioned were in the East or West Midlands, which generally reflects the dominance of the midlands within the UK as the centre for manufacturing and raw aggregate production. Other regions represented included the North West, South East and Northern Ireland, and two larger companies who had a presence and factories in many locations around the UK.

QUESTIONNAIRE RESPONSES AND DISCUSSION

This section provides a summary and analysis of each question from the questionnaire used in the survey, divided into business issues, skills, development and training, and qualifications.

BUSINESS ISSUES

What are the 3 things that concern you most about your business, apart from investment and finance?

The main concern amongst respondents was with the problem of recruiting sufficient staff with the right skills and the need to constantly train the workforce (particularly in terms of health and safety). Other frequently mentioned concerns included increased competition from inside and outside the UK, increased government legislation, and the cost of raw materials, particularly energy e.g. *"The utility companies continue to put up their prices and we don't seem to be getting any concessions, in fact we pay a lot more than the domestic consumer."*

In general terms, are you less busy or more busy with orders than you were this time last year? Are you likely to be less busy or more busy over the next 12 months?

While several respondents reported being busier than this time last year a similar amount also suggested that they were less busy than this time last year. More than half the respondents however, thought that they would be busier than they are now in the next 12 months.

Sentiments overall reflected the opinion that activity level is difficult to define or gauge due to the sector being controlled by numerous uncontrollable external factors e.g. *"There are peaks and troughs. The sector can be unpredictable at best. While we certainly seem busy at the moment it can change at any time. So you may think you are in for a good year as a prediction based on the first few months activity, then you may hit a slump part way through the year."*

Have you changed the way your business operates in any way that requires new or enhanced skills?

The majority of companies did not consider that they had changed the way that they do business. However, respondents did identify that change was a constant and that with the advance of technology against competition, change needed to be ongoing and constantly evaluated. The main change seemed to be the general increase in *"investment in automation in production processes reducing the need for semi-skilled staff and increasing demand for more technical and IT-aware skills."* One respondent described it as *"we require operatives more skilled in 'button pushing' than in shovelling."*

Another noticeable change reflected how the organisation sourced labour. A particular resource change was the increased move towards temporary and fixed-term forms of employment e.g. *"While we don't necessarily employ fewer people directly, we do use a lot more agency workers or employ people on a fixed-term basis. This accommodates fluctuations in the market place. It has a distinct advantage that you also get a good look at potential employees without any employer commitment. You can also get rid of the ones who don't pull their weight without fear of legal sanction."*

Are there any step changes on the horizon for the industry? How will this affect skills requirements in your company?

The major shift predicted in the way that the business worked seemed to be the increased investment in the mechanisation, computerisation and automation of the precast factories. One respondent hoped to, *"operate our production facilities similar to the car industry."* In general, it was considered that the drivers of demand across the sector raised the skills needs. This included those arising from competitive position strategies, productivity and the impact of international competition.

Sentiments reflected the opinion that the evolution of markets both within the EU and globally has redefined the size of the market for some products and services. It was considered that the positive and negative aspects of increased competition mean that business in the building products sector must compete on many levels to remain competitive. Aside from the quality of product or service, there needs to be a reassessment of standards in customer service, flexibility and responsiveness to change, the adoption of new technologies and the ability to seek out different routes to market. These opportunities need to be made relevant to the perceived needs of small businesses in the sector and it will be necessary to ensure access to development opportunities and the necessary skill sets needed to utilise these.

Given these changes, how will they impact on skills?

The general theme was the need for more highly-trained staff with more specialist skills (such as IT), as well as multi-skilled staff. One respondent was *"moving to less numbers but more technically competent and multi-skilled staff"*.

New competition from abroad was clearly identified as a significant change on the horizon. The nature of competitive changes has raised awareness as to the use of technology and increased operational efficiency. As such, respondents also recognised the need for a greater skills base amongst the workforce to maintain a high level of quality and both operate and maintain the technologies introduced e.g. *"We need people with greater IT, design and technical awareness. Process technology often means major innovations in manufacture and more engineers to design build and maintain the technology."*

What are the current trends in your sector as a whole?

Particular trends cited were increased activity in the wider construction industry, increased health and safety legislation and awareness, the introduction of the Part E (sound) and Part L (insulation) Building Regulations and the increased industry interest in offsite and precast solutions.

Respondents considered that throughout the UK, urban regeneration and transformation were key relevant government initiatives. The drive to rebuild and transform urban environments to provide a high quality of life for those living in towns and cities, promoting growth and inward investment as well as stimulating additional tourism (especially leading up to the Olympic games) was highly significant. The building products sector is key to this process through providing the products to support the construction of schools, hospitals, sports grounds and the development of open spaces in urban areas.

Another trend was found in the increase of precast solutions. Respondents suggested that the increased interest in offsite and MMC would be reflected by increased orders in the precast sector. The future looks positive though, as explained by one respondent, *"as the industry continues to gain market interest in precast solutions and the benefits that precast brings in terms of speed and thermal mass, to name a few. I believe as long as the industry invests in new technology and modern methods of production, the future is very bright and will continue to increase its market share against other construction methods, i.e. steel, timber and lightweight structures"*.

SKILLS

Does your current workforce have the skills required to carry out their jobs effectively? If not, what skills are lacking?

The majority of the respondents thought that their current workforce had the skills required to carry out their jobs effectively. Many suggested that *"training is a priority"*, it was the *"company's responsibility"* and that the *"company has a policy of investing in training and development of skills"*. It was also stated however, that there is *"always a need for continual improvement"* and that you *"need commitment from the top"*. The main skill lacking was thought to be IT and other technologically-based skills, which was mentioned as being particularly difficult to obtain.

Do new employees have the requisite basic skills (reading, writing, basic mathematics, communication skills, etc) to meet your company's requirements? If not, what is lacking and how severe is the problem?

Basic skill deficiencies of new employees were generally identified in all of the organisations questioned, with several stating that it was *"very severe"*. Only one respondent stated that the level of basic skills was 'good'. This lack of basic skills appeared most frequent at operative level, including language, where firms have increasingly started to employ migrant labour from EU member states. This lack of skill was mentioned by several as due to the *"general difficulty in encouraging people to enter the manufacturing/production industries"*. One respondent countered this however, by commenting that they had no problem with basic skills as *"production does not require a high skill level"*.

Many of the respondents also reported being extremely dismayed by the low standard of education amongst UK-based school leavers, e.g. *"I am appalled by the lack of basic letter writing skills displayed by our younger folk."* One worrying trend was that several respondents mentioned that the lack of basic skills, including reading, writing and language skills, had consequent health and safety implications, especially with regards to migrant labour.

DEVELOPMENT AND TRAINING

What is your preferred method of development for the following levels of staff? (a) Front line/Operational/Production, (b) Technical, and (c) Managerial & Supervisory.

Table 1 Preferred method of development for staff

	Formal		Informal Internal	Distance learning	On-line learning
	External	Internal			
Front line / Operational / Production	M	H	H	-	L
Technical	H	L	L	L	L
Managerial & Supervisory	H	L	M	L	L

Number of responses - H: High, M: Medium, L: Low

On the whole, the preferred method of training for all staff was formal, mainly external, but with some internal, or learning on the job with the assistance of a colleague (mentoring). It seems difficult for *"external trainers to develop a knowledge of the company"* and so they are used mainly for formal training, such as health and safety. For front line operational staff, the majority of the training seems to be conducted internally, with some external training provided, mainly for health and safety. The vast majority of technical staff seem to be trained formally by external organisations such as colleges, many in concrete technology. Managerial and supervisory staff development seemed to combine a mix of approaches, with external formal qualifications combined with some internal mentoring.

Ideally, more *"collaboration of trainer and company"* is needed, one problem being that external trainers *"cannot deliver specific plant training."* Distance learning and on-line learning did not seem to be popular and were mentioned briefly by only two of the respondents.

What proportion of all training is induction and health and safety training?

Most of the organisations reported that 50 to 100% of their training was induction and health and safety training. The majority of organisations questioned had some form of staff induction training programme in place. In most cases, the induction programme is short and focused on the individual's job role and accompanying administrative procedures. Respondents suggested that there was a need to embrace best practice from other sectors, in particular, the recognition that a well-planned and structured induction can play an important role in reducing staff turnover. Staff induction was best seen as a process that commences before the employee starts work and extends through the first two or three months of employment. In the very best instances the new recruit was deliberately eased into the new job. In this respect, the training of new recruits was considered vital not only as a mechanism for introducing staff to the established ways of working, but also as a mechanism of sustainability e.g. *"induction is an important element of human resource management practice. If done well, it can help to retain the new employee and reduce staff turnover."*

This level of training was also found in some cases to filter through the supply chain, in order to maintain quality standards and efficiency, e.g. *"It is mandatory that everyone who joins the company attends an induction course. (Our company) also carries out health and safety training to all members of staff involving all aspects of the industry, together with this, they also train externally to our subcontractors."*

The majority of the firms questioned were serious about their labour relations and especially the priority given to training. Unfortunately, the

general sentiment was that in the wider sector effective training was not high on the agenda of priorities. Most respondents reported that in their opinion there were endemic problems in training investment. There was a general awareness that training was a crucial element in the productive and managerial process but notably less acceptance of the need to allocate funds beyond basic training requirements. Some respondents however, suggested that these forms of training (induction and health and safety) were not a priority e.g. *"You would be hard pressed to uncover any form of meaningful, systematic, on-going training in the smaller companies. In the list of financial allocations (induction) training is not considered a priority to a lot of firms in the sector. It can't be. We view further training as a priority for future success."*

How much of your staff development is being conducted in-house. Why do you choose this route?

Responses reflected the sentiment that most employers appeared to use external agencies only when they were certain that they could not use their own staff as trainers. They felt that they themselves were the best suited, in terms of expertise, to provide training that was specific to their workplace. When they needed to go outside the company for training they found that there were too few courses aimed at the specific needs of their employees. The bulk of courses to them, seemed to be very general in focus. Expense was another barrier.

In general, the majority (50 to 100%) of training was conducted in-house. This was primarily down to the cost implications of external, formal training delivery. Many respondents also suggested that in-house training can easily be adapted to suit the specific business and productivity requirements of the organisation. A typical response was to send out members of staff to be trained externally, who would then deliver the internal training seminars. Often, external training consultants were found to be too expensive, or disruptive. Their was also the suggestion that they *"invent problems and are unlikely to understand the firm's difficulties, including the training needs of managers"*.

External training was often constrained by the need to ensure that productivity was uninterrupted. Once again this was related to cost, personnel and time factors. Typical comments made included *"at times of peak business performance, training has to be suspended"* and *"often finding a lull period so you can have people released from their jobs for training is the biggest problem"*.

What does 'multi-skilling' mean within your business/sector – and is it something that needs considering in your skills development planning?

The majority of respondents thought that multi-skilling was important, and more so in the factory than in the office. Several companies however, thought that it was not relevant to them as most production personnel had *"well defined roles"*. One company stated that they employ staff to be multi-skilled *"only"*. The main reason for employing multi-skilled staff seems to be that it *"provides cover for absenteeism"*. Definitions of multi-skilling ranged from using *"different types of machinery"* to it being *"company/business philosophy"*, where *"every member of staff can do everything to cover each others jobs when needed- therefore everyone is multi-skilled from the Director to a basic operative."* The general consensus seemed to be that multi-skilling was important, will continue to be so, and is taken into account in staff skills development.

QUALIFICATIONS

Do you look for qualifications when recruiting the following experienced staff? (a) Front line/Operational/Production, (b) Technical, and (c) Managerial & Supervisory.

For front line/operational staff, half of the respondents replied with a straight *"no"* when asked if they looked for qualifications. The majority of the other replies were combinations of *"sometimes"*, *"skills"*, *"experience"*, *"reliability"* and *"personal traits"*. One respondent stated that labourers with no GCSEs were *"unemployable"* and another stated that their ideal person would be a *"25 year old with a mortgage and children who needed the money."*

All the respondents stated that they did look for qualifications when they recruited technical staff. The appropriate related qualifications were thought to be *"highly regarded"*, though *"skills and experience"*, *"reliability"* and *"personal aspects"* were also valued by some as well as formal qualifications. Qualifications were also looked for by virtually all the respondents when recruiting managerial and supervisory staff, together with *"skills"* and *"experience"*.

What are your views on the value to your business of general degrees, specific degrees, foundation degrees, apprenticeships, NVQs/SVQs and specialist qualifications (City & Guilds, Edexcel, SQA etc)?

In general, the majority of the respondents thought that qualifications of all kinds were of value to their business to some extent, and that there was a general need to attract more people to construction qualifications of all kinds. Qualifications did however, depend upon an individual's *"particular job role"* and they should ideally be *"fit for purpose"*. If they are, then they are deemed to have value. Several respondents felt that what was really important was if *"the person can do the job"* and their *"ability to perform"*, with one respondent stating, *"how do you teach commitment, loyalty and enthusiasm?"*

Degrees of all types were held in high regard and were seen as an *"indicator of intelligence"*, with specific degrees being the most valued. A small number of respondents however, found general degrees not to be useful. Apprenticeships, NVQs/SVQs and specialist qualifications were all generally found to be valuable and the majority of respondents seemed to encourage their uptake.

DISCUSSION AND CONCLUSIONS

The paucity of skilled labour in construction, and in the wider economy, is well documented and does not look likely to be abated in the near- or medium-term future.

The precast concrete sector is unique in that it transcends the manufacturing and construction sectors, both in terms of labour recruitment and the products that it produces.

The predicted growth for the construction industry over the next few years presents both an excellent opportunity for the precast sector (as the market for its products expands), but also a great challenge as the overall market for labour, both skilled and unskilled, becomes more competitive. The recent rise in interest and investment in offsite technologies and techniques will ensure that precast concrete products will remain in demand in the near future. Although the mainstay of the industry is low-end standard components such as blocks, tiles and paving, this interest in offsite construction has meant an increase in demand for volumetric units and other higher-value products. These products provide an opportunity for more valuable product lines, but also require a higher degree of skill in their production. This has been matched by recent advances by precast companies in both materials and automation, driven by a desire for higher quality and productivity, and reduced costs.

For the sector to take full advantage of the expected increase in work levels, the precast companies and employers must both retain the skilled staff that they have and compete more competitively and effectively for the additional staff that they may require to either expand,

or to replace the staff who may have left to pursue better paid jobs in other expanding areas of the construction industry. Workers from abroad currently fill some of this gap, and this is expected to increase, although concerns may exist with regards to communication and health and safety, as well as to the consequences of them leaving if their employment prospects improve back home.

The recently introduced Proskills Sector Qualifications Strategy (and associated Performing Building Products Operations and Precast Concrete qualifications) for the building products industry is definitely a step in the right direction, but only time will tell if this is a success, in terms of applications, funding and employer take-up.

If the industry continues to innovate then it will need skilled staff. The industry has a strong collective vision however, of how the future for precast concrete may look in the next few decades. Such visions even include the idea of a University of Concrete (Clarke, 2007a), along the lines of the L'Ecole Française du Béton, a French 'virtual' University of Concrete (www.efbeton.com/ and Clarke, 2007b)

Industry initiatives such as the recently introduced British Precast Sector Sustainability Strategy, will continue to push the boundaries and potential for precast concrete and hence the skill base required to deliver such schemes. Substantial advances in such social areas as health and safety have been made in recent years, and it seems that plans are in place to try and raise standards in other social areas such as employment and training, and respect for people. Although the foundations have been laid and the commitment seems to be there, only time will tell however, if these initiatives make any significant inroads or impact into a sector which has traditionally relied upon low-educated and low-skilled labour.

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