

Member responses and Further Information

A survey of Members confirmed that there are a substantial number of non-UK nationals employed by both consultants and contractors. In addition to providing information about the nationality of employees, Members were asked to indicate why they recruited non-UK personnel; the perceived benefits of non-UK employees; and their experience with the existing visa/work permit system for non-EU recruits.

Table 1 shows the breakdown of nationalities in Members current work force. The high percentage of graduates and post graduates from outside the UK is a function of the acknowledged long term shortage of Ground Engineering Professionals in this country. Further information can be found in Appendix 1.

Table 1: Breakdown of current work force in the Ground Engineering sector according to nationality

	UK citizens	Europe (excluding UK)	Rest of the World
Graduates and Post Graduates	64%	17%	19%
Technicians (non-graduates i.e. in laboratories, IT, design offices, etc.)	69%	15%	16%
Skilled site operatives	88.0%	7.5%	4.5%

Table 1 highlights well the difference between the availability of UK skills at different levels in the ground engineering sector. A large proportion of graduates in the sector are ground engineering professionals – and the fact that 36% come from outside the UK indicates both the underlying problem (ie shortage of UK ground engineers) and the necessity of maintaining availability of non-UK professionals. 49% of the companies responding indicated that they had long term vacancies – closer scrutiny revealed that virtually all of these were ground engineers.

The situation is not expected to improve in the next 2-3 years (with or without Brexit) and the situation could become worse as large projects such as HS2 come on line.

Table 1 also illustrates that companies – particularly contractors – employ a number of technicians and skilled operatives from mainland Europe. Although the proportion of operatives coming from outside the UK is smaller than the proportion of graduates and technicians; this represents a higher number of individuals. However, there is little indication that the number of foreign technicians and operatives is necessarily the result of a UK skills shortage - cross border labour mobility at this level appears to be motivated by a number of factors.

UK companies in the sector (both consultants and contractors use intra company transfers (both to and from Europe) and employ European nationals for the following reasons:-

- To solve long term skills shortages
- To cover short term skill needs
- To smooth out fluctuations in work load:-
 - Contractors prefer directly employed operatives who are trained by the company and understand company procedures and culture. In times of economic slowdown operatives can be moved to non-UK companies within the same group. (Eg in 2007-8 a large piling company moved much of its site workforce to Poland where construction was booming in preparation for hosting Euro 2012. This avoided redundancies, and ensured the company retained the skills they had developed in the UK workforce)
 - The availability of EU labour allows contractors to rapidly adapt to local increases in workload and react quickly to client demands
- To provide useful insights on overseas clients and markets, particularly during the bidding process. (e.g. it is easier to win work on a French project, if you have French staff)
- To provide local knowledge and language skills when undertaking contracts in Europe
- To accompany plant imported temporarily to the UK (and vice versa). (Note: A piling rig can cost well in excess of £1m. Operating a rig is a skilled job and companies mitigate risk by using the same highly experienced driver on the same rig. If that rig is imported to the UK on a temporary basis, the driver will usually accompany it.)

- To cover specialisms (e.g. seismic, off-shore, in-situ testing) which are not taught extensively in UK universities;
- To provide knowledge and experience of particular specialist ground engineering systems and techniques which are used in Europe but are not as well understood in the UK
- Knowledge transfer between offices
- To bring all experts working on a project together

One respondent from a very large consultancy wrote about ground engineers.....

"We have been actively trying to recruit additional staff for a number of years, with limited success ...

To ensure that we continue to successfully and efficiently deliver designs for major UK infrastructure and building schemes, we are reliant on the expertise and skills of our UK based EU staff, and also from colleagues who regularly travel over from our offices within the EU. An example would be support from our Polish colleagues based in Warsaw and Krakow who have been providing valuable assistance with the delivery of rail electrification design and which has included a requirement to be based in our Cardiff office on a medium to long term basis.

Without the support of our EU colleagues, both permanently and temporarily based in the UK, we would simply not be able to deliver the quality of service that we currently do."

The current system of Tier 2 visas/ work permits

Some Members have reported their experience in respect of visas/work permits obtained for ground engineers from outside the EU:-

- The system is very cumbersome and companies often have to pay for legal assistance to expedite the process – which can take 6 months from start to finish.
- Fees are high: e.g.
 - £1812 per person for Occupations on the Shortage Occupation List (3 yr visa)
 - £2,248 per person non SOL:
 - These will rise by £1000 *per year* from April 2017 when an Immigration Skills Levy comes into force.
- Minimum salary levels apply which are often higher than comparable UK salaries.
- Intra company (short term) visas are cheaper – but are still bureaucratic and time consuming
- Visas for dependants can be even more problematic (even if the working applicant is a UK citizen) – and costs (per person) are the same as above.
- It takes 5 years full time employment before anyone can apply for permanent residence
- Companies must take the risk that such high initial investment costs might be wasted if the employee doesn't stay with the company long term.

There is concern that visas may be introduced for European nations in the future which will exacerbate the shortage unless the system is streamlined and made cost effective.

The posting of workers between European countries is subject to complex rules covering taxation, social security, unions, and healthcare. These are already confusing and costly – but must be part of any negotiations re Brexit.

Note: One hoped for benefit from Brexit is that it may become easier to recruit Commonwealth citizens – but it should be noted that this is already possible with occupations on the Shortage Occupation List (ie ground engineers) but the changes in visa requirements and charges are making it increasingly unviable.

Appendix: The shortage of Ground Engineering Professionals

There is a persistent long term shortage of Ground Engineering Professionals (ie geotechnical engineers, engineering geologists, tunnelling engineers and contaminated land specialists). This is so acute that these occupations have been on the Home Office Shortage Occupation List (SOL) since 2004. Being on the SOL makes it quicker and easier for Employers to obtain Tier 2 Work Permits/Visas for ground engineering professionals from outside the EU. While this is greatly appreciated by employers, it does not in itself solve the underlying shortage of UK trained ground engineers

There is general agreement among larger companies (consultants and contractors) about the reasons for the shortage. These are perceived to be:-

- An historical shortage arising from low entry rates around the turn of the century compounded by losses after 2008 through emigration (particularly to Australia and New Zealand) and people leaving the industry through redundancy. This has resulted in an acute shortage of people with 10-20 years' experience.
- Qualification related difficulties due to
 - the need for a first degree in either geology / civil engineering (which provides a career path in its own right) followed by an MSc to add specialist knowledge in engineering / soil mechanics
 - the introduction of first degrees leading to either MEng or MSci – neither of which cover the specialist knowledge necessary for ground engineering but make it less likely that civil engineering and geology graduates will undertake the further study that would lead to ground engineering
 - the introduction of environmental science first degrees, with reduced geological content compared to traditional geology courses, which do not lead easily to engineering geology MSc courses.
- The cost of qualifications
Loans are available for 4 year MEng and MSci degrees but only became available for taught MSc courses this year.
- High competition and low margins – particularly on site investigation work – which leaves little room for employers to provide post graduate training.
- Salary Levels: Despite the high qualification requirements, starting salaries are relatively low and once again competition and low margins leave little prospect of substantial improvement. This also impacts on non-UK recruitment – and the minimum salary levels required for work permits and family visas often compounds the problem.

Industry action: Efforts to increase the number of UK geo-professionals have been ongoing for many years. Some progress has been made:

- Ground Forum lobbying contributed to the introduction in 2016 of loans for postgraduate study
- Industry has moved towards non university post graduate training options.
- Universities have increasingly offered part-time courses – which have been very popular with both students and employers
- Large Companies have replaced funding previously provided by NERC and EPSRC bursaries and have increased training budgets but perceive a risk that they will lose graduates to smaller companies, who do little training but pay higher salaries.

Government action:

- Maintaining ground engineering professionals on the Shortage Occupation List has provided a lifeline – particularly to consultants. However this is constantly under threat. The last Government looked on two occasions to limit the length of time that an occupation can be on the list and if this is indicative of future intentions it will make a serious shortage even worse.
 - The shortage of people with 10-20 years' experience cannot be overcome with training or UK recruitment
 - The proposed period for being on SOL is much shorter than the time it takes to train a ground engineer and takes no account of the need for experience.
- University courses in specialist areas need additional Government support. Universities understandably concentrate on profitable courses – which generally means high student enrolment. Enrolment in ground engineering MSc courses is low and their contribution to overall profitability of the University is likely to be low or even negative. So the course is generally at risk. Ground engineering courses often depend on non-UK students to meet minimum student numbers and fee income required by the University administration. Increased immigration controls on students threaten the viability of these courses and thereby their availability for UK students. Government training funds should be made available to assist particularly vulnerable but essential courses.