

IN THIS ISSUE

Registering intent
Re-setting the standard
Countdown to launch of ICTTech
More routes to registration
Mastering European integration
ABET discusses a better approach
One small step
Still on the cards
FEANI warms to Russian engineers
Engineering in government
Affiliation on the increase

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WELCOME



Register News brings you the latest developments in engineer and technician registration, plus coverage of the wider activities of the Engineering Council UK (ECUK), both at home and internationally. It also contains news and views on more general issues that are likely to be of interest to registrants, educators and institution staff.

This first issue of the New Year takes a look at three important publications – the ECUK 2009-2011 strategic plan, a newly reformatted UK-SPEC and the recently agreed standard for ICT Technicians (ICTTech). It also reports on the Engineering Gateways project and on possible changes affecting degree accreditation, as well as bringing welcome news concerning Bologna and the integrated MEng. There is coverage too of a promotional campaign to get engineering students on the road to registration, plus an update on the long-running EngCard saga – the proposed European card for professional engineers.

Andrew Ramsay, CEO, Engineering Council UK

REGISTERING INTENT

Boosting registrant numbers is a key objective of ECUK's 2009 –11 strategic plan. In the case of Incorporated Engineer (IEng) registrations, which have suffered a marked decline in recent years, a 10% increase is being sought by the end of the plan period. Various means will be employed to attract more applicants, key among which will be a major marketing effort and the development of learning opportunities designed to open registration to a broader spectrum of individuals.

In his introduction to the new three year-plan, ECUK chairman Professor Kel Fidler reflects on how the professional institutions' growing confidence in ECUK has allowed it to take a more pro-active role, which is exemplified by it being handed responsibility for marketing registration. As he points out, this will require the organisation to "deliver a persuasive message to both engineering students and working engineers".

Opening up new pathways to registration is equally high on the agenda. One way that this will be done is through widespread provision of the recently developed work-based MSc in professional engineering, which leads directly to registration as a Chartered Engineer (CEng). Under the strategic plan, ECUK also intends to develop support for alternative forms of work-based learning – relating to CEng and IEng - and seek other ways in which those who need to can acquire further learning.

Another important aim is to rationalise the accreditation of initial professional development, thereby responding to employer criticism that the profession makes it unnecessarily difficult to gain endorsement of graduate and other training programmes. This will be achieved by setting up a Professional Development Accreditation Board, which will facilitate sharing of good practice and joint accreditation – as is already done in the case of degree programmes by the Engineering Accreditation Board (EAB).

ECUK also intends to build on the success of the EAB by encouraging more joint accreditation of degree programmes. Moreover, it will consider the scope for accreditation visits to be limited to one per engineering department.

A number of the plan's objectives relate to maintaining or strengthening ECUK's involvement with outside bodies. They include working more closely with employer organisations – such as sector skills councils – and establishing more formal ties with the Quality Assurance Agency (QAA) and Engineering Subject Centre. Overseas, the intention is to continue playing a key role within the International Engineering Alliance (IEA) and the European Federation of National Engineering Associations (FEANI) - and to support the development of UK-compatible accreditation systems in China, India and continental Europe.

RE-SETTING THE STANDARD

ECUK has issued a revised version of the UK Standard for Professional Engineering Competence (UK-SPEC), which lays out the competences required for registration as an Engineering Technician (EngTech), an Incorporated Engineer (IEng) and a Chartered Engineer (CEng).

Though the competence statements themselves have changed very little, the standard has undergone major reformatting. Previously comprising two separate documents – one for CEng/IEng and the other for EngTech – it is now a single publication covering all three awards. This and its layout reflect the fact that as their learning and careers develop, individuals can and often do progress within the registration structure, moving from EngTech to IEng and IEng to CEng. The standard does however emphasise that each award is valuable recognition in its own right.

In its revised form, UK-SPEC also includes examples of how applicants for the IEng and CEng awards might demonstrate they have achieved the required competences. Until now, guidance of this sort had only been provided in the EngTech standard.

A few minor modifications have been made to IEng competences relating to the application of engineering knowledge and understanding and the analysis and solution of problems. These have been made in order to emphasise the responsibility that this type of registrant takes for day-to-day engineering operations. There have also been slight changes to both the IEng and CEng competence statements in the sections on interpersonal skills and commitment to professional standards. Whereas previously these were the same for both groups, they have now been altered to reflect the difference in their responsibilities.

As before, the introduction to the standard explains why both individuals and their employers benefit from registration and goes on to explore the meaning of competence and how it is assessed. The competence requirements and how they are attained are then described for each award in turn. The academic qualifications that are listed as exemplifying the level of knowledge and understanding demanded by the standard are basically unchanged, apart from the inclusion of approved, level 4 NVQs and SVQs in the section on IEng.

To request a copy of the standard contact info@engc.org.uk or download it from the ECUK website: http://www.engc.org.uk/documents/EC0006_UKSpecBrochure_MR.pdf

COUNTDOWN TO LAUNCH OF ICTTECH

The last issue of Register News (no 40) revealed ECUK's plans to launch the first ever competence-based professional qualification for technicians who work in information and communications technology. Following recent publication of the competence standard, there are now just weeks to go before the first individuals will gain this important new award – granting them the right to the post-nominal title *ICTTech*. Their names will go on a national register of ICT Technicians to be maintained by ECUK.

Professional institutions with a strong interest in ICT can apply to ECUK for a licence that will enable them to offer *ICTTech* registration to their members. The first to make such an application was the Institution of Engineering and Technology (IET), which has been in the forefront of developing the qualification.

Candidates for the award will be assessed against the *ICTTech* standard by experienced ICT professionals. They will be called on to demonstrate competence in applying technical and practical skills and an ability to accept responsibility, communicate effectively and behave in a professional manner. They will also be required to show commitment to maintaining their competences.

ICTTech will help employers to identify ICT practitioners with the skills that they need. It will also strengthen professionalism and ethical practice, and encourage learning and skills development – in an area where many are self-taught. It is aimed at those involved in facilitating or supporting the use of ICT equipment and applications. This includes hardware, software and systems installation, operation, maintenance, change/problem management, administration, security, fault diagnosis and repair.

More on *ICTTech* – including the competence standard – can be found at: www.icctech.org.uk

MORE ROUTES TO REGISTRATION

ECUK's Engineering Gateways project continues to gather momentum. More universities are now offering the project's groundbreaking MSc in professional engineering – a work-based approach to gaining both the further learning and competences needed for Chartered Engineer registration – with the number of participating PEIs also on the increase. In addition, ECUK will shortly publish a guide to bachelor's programmes in professional engineering, which will offer a similar route to registration as an Incorporated Engineer.

Some 50 engineers have so far embarked on the work-based MSc, which is currently available through six universities – Kingston, Northumbria, Hertfordshire, Staffordshire, Cardiff and Teesside. Three more – Aston, Hull and London South Bank – are in the process of developing and validating their programmes and interest has been expressed by at least a further five. Engineering institution involvement, which at the programme pilot phase was restricted to IET, IMechE and RAeS, now also includes BCS, CIBSE, IChemE and InstMC – with more waiting in the wings.

Significant support has been received from the Engineering and Construction Industry Training Board (ECITB), which has funded 14 places on MSc programmes run by Kingston and Northumbria Universities – and is hoping to fund a further cohort later this year. The engineers benefiting from these places are with such companies as Air Products, Amec, Bechtel, BNS Nuclear, Cordell, CB&I, Foster Wheeler and Interserve. One of the current priorities for the Engineering Gateways project is to increase such employer engagement – both among large companies and SMEs.

The soon to be published guide on the work-based bachelor's for IEng registration prescribes the programme framework that participating universities and FE colleges must follow. Using this framework, each will develop an operating manual that describes its own processes in detail. The guide is also aimed at PEIs and will prove useful to employers as well.

Copies of the guide can be requested from project team manager Deborah Seddon at dseddon@engc.org.uk. It will also be available on the Engineering Gateways project website: www.engineeringgateways.co.uk.

MASTERING EUROPEAN INTEGRATION

As the nations of Europe edge closer to alignment of their higher education systems – a process set in train by their signing of the Bologna Declaration - the position of UK engineering degrees has been considerably strengthened. Most notably, the future of the integrated MEng is no longer thought to be at risk.

Two months ago, a gathering of over 100 engineering academics was buoyed by news from QAA that it would shortly be able to demonstrate that UK bachelor's and master's qualifications were Bologna-compatible. The occasion was a one day conference in London on the latest developments in the Bologna process and their implications for UK engineering degrees, an event co-sponsored by ECUK, the Royal Academy of Engineering, the Engineering Professors' Council and the IET (<http://www.theiet.org/events/2008/bologna.cfm>).

Delegates were told of the impending self-certification by QAA of the Framework for Higher Education Qualifications for England, Wales and Northern Ireland, which will establish compatibility between national qualifications and the qualification descriptors in the European Higher Education Area Framework. Scotland has already indicated that its national framework is compatible.

Significantly, four-year MEng programmes – which are studied by around a third of home engineering students - have been shown to meet the requirements of a full second-cycle degree.

The UK has been in the forefront of taking the Bologna process forward and is in fact one of only seven of the 46 signatory nations that have established HE frameworks. It has also been very influential in determining the basis for comparing different countries' qualifications. There has been a definite shift towards the UK view that programmes should be judged much more on their learning outcomes rather than factors such as course duration – a change that has bolstered the position of the MEng.

ABET DISCUSSES A BETTER APPROACH

The UK engineering profession is not alone in the problems that it faces. Delegates to the latest annual meeting of ABET – the body that accredits US engineering degrees – heard that the world's biggest economy also suffers from poor public understanding of engineering, a lack of good maths teaching and a shortage of nuclear engineers.

The purpose of the meeting was not of course to try and solve or even debate such problems, but rather to discuss the current issues relating to degree accreditation, many of which are as relevant in the UK as they are in the US.

One such issue was whether students should be involved in the accreditation process, as they are in France, Germany and several other countries. In the UK, QAA is introducing the practice in England and Wales, and it has been applied in Scotland for a number of years. ECUK certainly sees merit in a "student-eye view", which experience has shown to be mature and informed.

Including international representatives on accreditation teams – which again is the practice in some countries - was another question discussed. Some argue that despite the added cost, it has the potential to boost a programme's international recognition. Unfortunately, language and cultural differences can mean that the influence of overseas team members is somewhat limited. Moreover, as these individuals tend to be from neighbouring countries, the added value and different perspective they bring may not actually be very much.

There was food for thought too on the subject of sharing of accreditation good practice. At present, ECUK tries to achieve this through workshops and bulletins, though a more formal approach might achieve better results. This could include producing glossy reviews or monographs on key emerging issues.

The meeting also brought news of ABET's plans to step up its overseas activities. These will see it offering accreditation to leading HEIs around the world and the creation of a trading arm to provide consultancy. The organisation is currently accrediting programmes at 14 universities in 12 countries. ABET is also going to overhaul its governance, bringing in employers, HEIs and students, and representatives from outside the US.

ONE SMALL STEP

Many of those on the ECUK register of professional engineers became members of an engineering institution while still at university or college, or very soon after leaving. A major campaign is now underway to encourage the current crop of students and recent graduates to follow their example and take this first, all-important step on the path to professional registration.

The ECUK campaign aims to persuade its youthful audience of the considerable benefits of registration as a Chartered Engineer (CEng), Incorporated Engineer (IEng) or Engineering Technician (EngTech). Promotional materials include specially designed brochures and posters and a dedicated website*, which gives further information on the process of gaining the above awards and provides a means by which individuals can register their interest.

Targeting students will not of course have an immediate impact on registration numbers, since the individuals involved will not normally have gained the competences necessary for professional recognition, for which they will need work experience. However, it should pay dividends in the long term.

Also, while these future potential registrants are still in the educational system they are easy to locate – which makes for cost-effective marketing – and their young age means they are likely to be receptive to a well-communicated message on the clear merits of registration. Moreover, they can be put on the right track regarding the experience they will need and possible further learning requirements.

The campaign will be implemented in collaboration with ECUK's licensed engineering institutions, augmenting their existing marketing activities in the HE and FE sector. To this end, ECUK has produced a 'toolkit' to help the institutions – and academic staff - make best use of the promotional materials. It includes the key research findings that have shaped the marketing strategy. It will be possible to get an early measure of the campaign's success by monitoring institution membership applications.

Copies of the brochures and posters are available from: info@engc.org.uk. The brochures can also be downloaded from the campaign website: www.theNextStep.org.uk*

STILL ON THE CARDS

The FEANI General Assembly has decided against going ahead with a major pilot trial of EngCard, the proposed European card for professional engineers. However, this does not spell the end for the EngCard project, which was born out of a desire to boost engineer mobility. Agreement has been reached for a more modest study, the aim being to devise a form of the card that can be tested and implemented both easily and cheaply. ECUK's Head of International Recognition, Jim Birch, a FEANI Board member, will chair the group set up to direct the work.

FEANI – the European Federation of National Engineering Associations – has already carried out an EU-funded study of the feasibility of EngCard. It found that such a development – essentially a validated record of an engineer's qualifications and experience - would be of value and there would be demand for it. ECUK and a number of other FEANI members were however sceptical that there would be sufficient interest to justify the likely resources needed to administer the type of system envisaged.

Following this study a proposal was put forward to conduct a large-scale EngCard trial involving the issue of up to 15,000 cards – a huge number for a pilot. ECUK was among those strongly opposed to the project, not least because of the risk it posed to FEANI's finances and credibility should it not be successful. Moreover, it was intended to take in engineers who were not registered with a national engineering organisation. If eventually rolled out, such a scheme might well undermine national registration systems.

In the event the FEANI General Assembly rejected the proposal by just a single vote, out of 26 cast. Any hope for it was then extinguished when the EC refused to come up with any funding.

Yet there is still enthusiasm for the EngCard concept among FEANI members – even though the European Commission now appears less supportive. And the new study, which will not require external funding, offers a real possibility of coming up with a workable solution. Initially at least, it will consider how to implement a card system that is based on registration with or membership of the various European national engineering bodies. This might produce a card that was effectively an endorsement of national membership/registration criteria and could include an assessment of competence as well as a record of attainment. Importantly only limited resources would be needed to determine whether such a system works and how much demand exists.

The study working group is currently setting its terms of reference and will have its first meeting shortly.

FEANI WARMS TO RUSSIAN ENGINEERS

The return to cold war style posturing between Russia's political leaders and their counterparts in the west is happily not mirrored in the less abrasive world of engineering. Indeed, it was recently announced that RUSEA, the Russian Union of Scientific and Engineering Associations, had been made a full member of FEANI – the European Federation of National Engineering Associations.

FEANI now has 29 national members. These include ECUK, which believes that granting RUSEA membership will not only benefit European engineers but is also the sort of action that will help bring about détente between Russia and its neighbours.

RUSEA is an umbrella organisation for over 20 scientific and engineering institutions, which between them have 110,000 individual members. In concert with RAEE, which is the body responsible for accrediting Russian engineering degrees, it is now looking at introducing an engineer registration system.

One reason for welcoming the country's entry into the FEANI fold is its progressive and outward looking stance on higher education. It is for instance a signatory to the Bologna Declaration, and is thus committed to aligning its HE system with those of other European nations. Importantly for its engineering degrees, it has recently introduced outcomes based accreditation standards. RAEE has also been authorised to award the European Commission backed EUR-ACE label to Russian engineering degrees that meet the necessary standard. A number of programmes have already been granted accreditation under this new system.

ENGINEERING IN GOVERNMENT

A dearth of engineers within the civil service has meant that government is not getting the specialist advice that it needs on key policies and projects – and the whole nation is paying the price. This was one of the stronger messages to come out of the on-going House of Commons IUSS Select Committee inquiry into engineering, the latest phase of which has been examining the role of government.

As in earlier phases of the inquiry, ECUK has contributed to joint written evidence submitted by the engineering profession, led by the Royal Academy of Engineering. It has also made its own submission, giving supplementary information on how overseas governments source engineering advice.

The joint submission argues that engineers need to be involved not only in policy delivery but also in its formulation, and that key government departments should have Chief Engineering Advisers – either as well as or instead of the Chief Scientific Advisers currently in place. Furthermore, it is important that these posts go to engineers with practical experience of large-scale projects.

There was support for the idea of introducing Chief Engineering Advisers from several leading engineers who were questioned directly by the committee. They included Chartered Engineer and FEng Professor Michael Kelly, who is actually Chief Scientific Adviser at the Dept for Communities and Local Government.

There was consensus too over the need to recruit engineers at every level, not just at the top. The profession wishes to see an increase in recruitment of engineering graduates through the 'fast stream', which is the entry route to senior positions within the civil service.

According to Professor Kelly, secondment of experienced engineers from major consultancies (for 2-3 years) represented another source of expertise and would benefit both government and the firms involved. The engineering institutions also feel, with good reason, that they should be involved more in providing advice to government.

Significantly, the joint submission recommends that government should require the professional registration of both its own technical staff and that of its consultants and suppliers. This would ensure it received the best advice, from engineers who were fully qualified and up-to-speed on the latest developments.

Professor Christopher Snowdon, Vice President of the Royal Academy of Engineering and President-Elect of IET, made a related point when appearing before the committee. He expressed the belief that if government encouraged the presence of Chartered Engineers in its own departments there would be a greater uptake of CEng registration. He also suggested that IT projects would benefit if government required Chartered Engineers to be involved in formulating and developing policy.

The oral evidence given to the committee can be viewed at:
<http://www.parliamentlive.tv/Main/VideoPlayer.aspx?meetingId=2857>

AFFILIATION ON THE INCREASE

In addition to its 36 licensed engineering institutions, ECUK has a growing number of professional affiliates – a group currently comprising 18 learned societies, five of which have joined in the last 18 months. Affiliation is recognition of the contribution these organisations have made in their particular areas of engineering and technology.

Membership of the scheme gives these sometimes relatively small associations a voice within the engineering community and a means of influencing ECUK's general objectives. Other benefits include the opportunity to network with MPs, government officials, top industrialists, leading academics and senior members of major engineering institutions. For some it could eventually lead to being granted a licence to assess their members for professional registration.

The latest organisations to gain affiliate status are: the Institute of Explosives Engineers (IExpE), the Institute of Telecommunications Professionals (ITP), the Institution of Civil Engineering Surveyors (ICES), the UK Chapter of the International Council on Systems Engineering (INCOSE) and NAFEMS, which is the International Association for the Engineering Analysis Community. For a full list of professional affiliates see:
http://www.engc.org.uk/institutions/professional_affiliates.aspx

ECUK is hoping to encourage more organisations to seek affiliation and has just published a new brochure explaining the benefits and membership criteria. Copies are available from abodimeade@engc.org.uk

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