Report from Lord Sainsbury to Lord Mandelson on the professional registration of technicians, April 2010.

The Rt Hon Lord Mandelson
Secretary of State for Business, Innovation & Skills

7 April 2010

Dear Peter

In November 2009, alongside the publication of the national skills strategy, you invited me to explore the issues surrounding the professional registration of technicians. The attached report outlines the conclusions of my work in this area.

My work has been informed by a group of senior representatives from key stakeholder organisations. The membership of this group is given at the end of the report and I am extremely grateful to them for their support. A summary of my findings is as follows.

1   There is unanimous support across all sectors of industry for action to strengthen and expand the UK's technician class.

2   Alongside training provision that increases the numbers opting for technician pathways, a framework is required that accredits the training in a way that is endorsed and valued by employers. There is widespread support for such a common framework of professional registers for technicians working in STEM-related sectors.

3   Key benefits for professional registration include increased employability for technicians themselves, through greater recognition of their knowledge and skills and increased confidence among employers that appropriate standards are being maintained over time.

4   Professional bodies – acting under the advice of the Science Council and Engineering Council – have a key role as gatekeepers for the standards of technician registration. These standards must be agreed and valued by employers and must be suitably challenging.

5   Reflecting existing practice in the engineering sector, the new common framework should comprise professional registration at three levels, beginning at registered technician level and concluding at chartered level.

6   The first tier of the framework will include the existing Engineering Technician (EngTech) and ICT Technician (ICT-Tech) registers. The priority for these two schemes should be the development of high-quality marketing strategies to drive a significant increase in registrant numbers. To complement EngTech and ICT-Tech, a new Science Technician register should be developed.

7   The second registration tier currently only includes the Incorporated Engineer (IEng) register. Equivalents in science and ICT should be developed such that clear progression pathways can be established from registered technician level to chartered level.

8   In the health sector, in addition to many science-based technician roles there are significant numbers of engineering and ICT technicians. In the context of the development of a new professionalism in the healthcare science workforce, there is support for the concept of technician registers, but it may well be that a new health-specific register is not required. Significant further work is needed to explore this issue and to understand how the registration framework could dovetail with broader arrangements in the health sector.

9   A new Technician Council should be created, as a simple and effective way to create the common framework of registration standards and promote the status of technicians. The Council's early work will need to include widespread stakeholder engagement, particularly with employers and prospective registered technicians.

10   The Technician Council should comprise senior stakeholders with an interest in the registration and training of technicians, including key professional bodies, employers, UKCES and the National Apprenticeship Service. The Royal Academy of Engineering has offered to host the Technician Council and Steve Holliday, CEO of National Grid, has agreed to become its first chairman.

11   The Public Sector, as a large employer of technician-level personnel has an important role in promoting the benefits of registration. Government should examine ways in which its Departments and Agencies can actively promote and support their employees to achieve registered status.

12   Standards defined for technician registration and those within apprenticeship frameworks must dovetail with one another. Only by aligning the apprenticeship and registration frameworks will a credible technician pathway begin to emerge.

13   To complement the data analysis undertaken by UKCES on future skills demand, the Awarding Bodies should be required by government to publish, annually, full and disaggregated data on participation and achievement on all vocationally-related qualifications.

Establishing a common framework of registration for technicians working across the STEM sectors presents a unique opportunity to establish common quality standards for UK technicians and ensure the skills and knowledge learnt within technician pathways develop in line with employers' needs. Over time the registers will raise the status and profile of technicians and this, in turn, should drive improvements in technician training and support increased recruitment. This initiative, therefore, has the potential to make a major contribution to solving what for many years has been a major problem for British industry.

Lord Sainsbury of Turville

The professional registration of technicians

Lord Sainsbury of Turville

7 April 2010

Background

1   In November 2009, alongside the publication of the 'Skills for Growth' White Paper, Lord Mandelson invited me to explore the issues surrounding the professional registration of technicians. This report outlines the conclusions of my work in this area.

2   My work has been informed and supported by a group of senior representatives from key stakeholder organisations. The membership of this group is given at Annex A and I am extremely grateful to them for giving their time so generously.

Introduction

3   I have been greatly encouraged by the unanimous support I have heard for sustained action to strengthen and expand this country's technician class. All whom I have consulted agree with what the recent UKCES report[1] spells out in stark terms: the shortage of people with intermediate technical skills will be one of the most significant challenges facing the UK economy over the coming years.

4   To address this shortage we need a system of training that increases the number of people opting for technician pathways and enables them to develop the knowledge and skills required in the workplace. Alongside this training provision, a system is required that accredits the technician pathway in a way that is endorsed and valued by employers and hence, over time, delivers to individuals enhanced employment prospects.

5   To this end I have been canvassing views on proposals to create a common framework of professional registers for those working in STEM-related occupations. I have found widespread support for this idea, with employers and other stakeholders understanding the potential of such registers to align across the sectors the knowledge and skills of those working at a particular level and to support improved mobility between sectors through the explicit recognition of prior skill and knowledge acquisition.

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[1] 'Skills for Jobs: Today and Tomorrow', UKCES (March 2010)

6   Key benefits of professional registration include:-

For technicians themselves:

-       increased employability through greater recognition of their knowledge, skills and competence and in particular those transferable skills that will enable them to respond to future changes in technology and, if required, move between STEM sectors; and

-       improved opportunity for progression into and through the professions. For some technicians, registration will be a stepping-stone towards chartered scientist or engineer status.

For employers:

-       clearer expectations about what they can expect from employees. The registration schemes will clarify for employers the value and comparability of a vast range of vocationally- and occupationally-related qualifications within a stable, recognised professional scheme;

-       increased confidence in technicians. The standards of the register will be independently agreed, externally validated and maintained by the professions themselves, providing a benchmark for the quality of UK technicians.

7   A registered technician scheme has existed in the engineering sector for many years ('EngTech', managed by the Engineering Council) and a similar scheme for ICT technicians (ICT-Tech) was launched by the Engineering Council last year. See Annex B for extracts from the UK-SPEC document which outline how the registration process works in engineering. *[Note: Annex B removed from this version; information may be accessed at http://www.engc.org.uk/ukspec/]*

8   There are currently around 14,000 registered EngTechs but it is widely believed that the number could be expanded significantly with more focused and sustained marketing to employers and technicians. Indeed, since the three levels of registration are well defined in the engineering sector, marketing and communications strategies may be considered to be the key priority for driving numbers to engineering registration schemes. The same is likely also to be true for the fledgling ICT-Tech scheme.

9   There is currently no equivalent of EngTech or ICT-Tech for science technicians, although the Science Council has undertaken some research to explore the demand for such a scheme in science. It is estimated that the potential market for registered technician schemes spanning the engineering, ICT, science and health sectors would be of the order of 1 million individuals.

A common framework of registers

10   Building on existing practice in the engineering sector, I believe a new common framework of professional registration should be created for all those working in STEM-related occupations. This should comprise registration at three tiers, beginning at the technician level and concluding at the chartered level.

11   The first tier of the framework will include the existing EngTech and ICT-Tech registers. To complement these, a new 'Science Technician' register should be developed for technicians working in the science sector.

12   More work is required to agree upon appropriate naming conventions for the second registration tier. In engineering, the 'Incorporated Engineer' (IEng) register currently occupies this tier; there are no equivalents in science[2] or ICT. The Engineering Council (which manages ICT-Tech) and the Science Council, working with appropriate professional and employer bodies, should look to define standards and develop registers for science and ICT at this second tier. In this way, clear progression pathways can be established from registered technician level to chartered level.

13   In the health sector, the work on 'Modernising Scientific Careers'[3] suggests that there will be a growing demand for technicians to fill the roles of Healthcare Science Assistant and Healthcare Science Associate working within different scientific specialisms, driven by changes in scientific and technological advances and care demands. In addition to these science-based roles there are already considerable numbers of engineering and ICT technicians working in the health sector. 'Modernising Scientific Careers' contains proposals to create a tiered approach to registration (both statutory and non-statutory) based on common standards of education and training and outcomes in terms of role and function descriptors. An extensive programme of work is also ongoing to develop modernised curricula and awards and qualifications.

14   On this basis there appears to be both support for and synergy with the concept of my proposed common registration framework within the health sector. However, arrangements within health need to fit within broader regulatory arrangements for the health and social care workforce. Significant further work is required to understand fully how a common framework for science, ICT and engineering could dovetail with these broader arrangements in the health sector, including the statutory registers that exist for some parts of the workforce[4]. This exploratory work will also need to include discussion regarding naming conventions for the tiers of registration, as mentioned earlier.

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[2] The Science Council has acknowledged that the introduction of Chartered Scientist (CSci) standard means that practising scientists with a first degree who do not progress to M-level are often not acknowledged as professional scientists and has been exploring ways in which provision might be made for this group.

[3] See 'Modernising Scientific Careers: The UK Way Forward', UK Departments of Health (Feb 2010).

[4] For example pharmacy technicians.

Standards and the role of professional bodies

15   A key success criteria for registration schemes is that employers actively seek to employ registrants because the knowledge, competence and skills they value in employees has been rigorously validated via the registration process. Clear standards – agreed and respected by employers – need to be established and these must be suitably challenging. Mass participation in the registration schemes, while a long-term goal, must not be pursued at the expense of low standards and a resulting lack of currency with employers.

16   While any registration process must respond to the needs of employers, there is a need also to ensure registration at the three levels recognises the transferable knowledge and skills that will enable an individual to respond to innovation and perhaps move across sectors. I thus believe there exists a role for the professional bodies to act as gatekeepers for the standards of technician registration in a similar fashion to the way that they hold the registers and maintain standards for chartered and other designations.

17   The Science Council and Engineering Council act as umbrella organisations uniting the key science, engineering and ICT professional institutions and learned societies. Working together, the two Councils will be key in developing and promoting the new registration framework. Capitalising on the experience, expertise and engagement of their member institutions, the two Councils will be able to ensure that credible standards for registration at each level can be established and maintained and that there exists a commonality of standards across the sectors. Attached at Annex C, for information, are the standards for the Chartered Scientist (CSci) register, maintained by the Science Council. *[Note: Annex C removed in this version; information may be accessed at www.charteredscientist.org/index.html]*

18   In order to be successful, responsibility for the standards of registration must be owned by the professional bodies and clearly meet the needs of employers. A new registration framework should not be imposed by government. Nor should registration for technicians be made statutory, except for those occupations where there exists a compelling need to do so (for example because of safety regulations, or protection of the public as in the health sector) or where specific employers call for statutory legislation to meet their business needs.

A new Technician Council to develop the common registration framework

19   Over the last few months I have listened to the views of key stakeholders from across the science, engineering, ICT and health sectors. These discussions have given me the confidence to recommend that work is progressed on creating a common framework of registration for technicians. However, it must be stressed that for such a framework to succeed, significant preparatory work is still required. In particular, more extensive stakeholder engagement work is needed to ensure the registers fully meet the needs of employers – of all sizes – and prospective registered technicians.

20   I am persuaded that a Technician Council should be created, as a simple and effective way to take this work forward. The new Council should comprise senior stakeholders with an interest in the registration and training of technicians, including the following organisations: Science Council, Engineering Council, EngineeringUK, National Apprenticeship Service, UKCES and the Association of Colleges, along with a small number of professional bodies and employers, including the National Health Service. Senior representatives from BIS and the Department of Health should attend as observers.

21   I am grateful to the Royal Academy of Engineering for offering to host the new Council and to Steve Holliday, CEO of National Grid plc, for agreeing to become its Chairman.

22   Initially the role of the Technician Council will be to build on existing professional registration standards and achieve an expansion and development of technician registers across the sectors. To this end, the Council will:

-    help facilitate the initial drafting of further registration standards across the sectors and subsectors;

-    ensure that appropriate support, professional development and information is made available alongside registration for individual technicians; and

-    drive forward the agenda of promoting the professional status of and recognition for technicians, including marketing and policy influence roles.

23   I believe that the Technician Council should aim to become financially self-sufficient within 5 years, with its core costs from then on being drawn from a proportion of technician registration fees. In the meantime, the Council will require modest levels of funding to support its stakeholder engagement work, the drafting of registration standards and early marketing activity. A budget for this work will be agreed by the Technician Council in the next few months, with the intention of submitting a request for funds to government to be considered as part of the upcoming Spending Review.

The role of the Public Sector in promoting technician registration

24   The Public Sector employs tens or even hundreds of thousands of technician-level personnel across its Departments and Agencies. It thus has an important role in promoting the benefits of registration. Engineering and science technicians feature in significant numbers in specific government Departments and publicly-funded laboratories and these individuals should be actively encouraged to seek registration. But it is perhaps ICT-Technician that offers the greatest potential for early success. Each and every government Department and Public Sector organisation employs many ICT technicians to keep its computer systems, databases and websites running. Active promotion of registration to these employees will be a key step in securing a critical mass for this new initiative.

Links between registration and Apprenticeships

25 It will be important that the standards defined for technician registration dovetail appropriately with those included within future apprenticeship frameworks. By aligning the registration and apprenticeship frameworks, a credible and reliable technician pathway will begin to emerge. Those completing Advanced Apprenticeships should be in a position to apply for registered technician status. Similarly, as more Higher Apprenticeships are developed it will be important to align these with the criteria for the higher tiers of registration.

Careers Information, Advice & Guidance

26 Everyone agrees that it is crucial for people to understand the value of the technical education pathways open to them. But so too is there agreement that quality of provision of careers information, advice and guidance in this area has long been in need of improvement.[5]

27 The new technician registration schemes will help this process by providing a clear career target for people to aim at. By placing all of the technician registers within a common framework it should also be possible to give much stronger messages to people about technician pathways and the importance of transferable skills in STEM. For some, the achievement of registered technician status will be an end in itself; for others it will be the first rung on a ladder to chartered status or its equivalent. But while a registration framework will help bring some clarity to technician pathway options, much more is needed to improve the information available to young people. I therefore applaud the government's recent commitment to make course and labour market information more readily available to people in user-friendly ways. I hope this work will be prioritised by BIS in the coming year.

Data to inform the development of a modern class of technicians

28 The development of a professional registration framework which sets the standards for technicians, alongside a significant expansion in the number of advanced level apprenticeships, should help ensure a new modern class of technicians emerges. However, if market forces are to work effectively it is also very important that good information is available in the market about the demand and supply of key skills.

29 UKCES data will continue to be extremely helpful in identifying what and where the demand is likely to be. What is lacking from the public domain is equally robust data

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[5] See, for example, the recent 'Science for Careers' report of the BIS Science & Society Expert Group, which recognises that developing and promoting technician pathways will be an important step towards raising attainment and take-up in science and maths and increasing access to the professions.

relating to the supply side and, in particular, comprehensive data on participation and achievement on all technical and vocationally-related qualifications (including BTECs, City and Guilds, OCR Nationals, N/SVQs etc). BIS has recently commissioned a piece of research to provide a one-off snapshot of these issues – and this is to be welcomed – but the Awarding Bodies should be required by government to publish[6] full and disaggregated data annually, bringing vocational qualifications into line with reporting on other mainstream qualifications such as GCSEs and A-Levels. As well as ensuring we have a better understanding of the supply of technicians, the publication of such data should also help to raise the profile of vocational and occupational qualifications in general.

Conclusion

30   Creating a common framework of registration for technical staff working across the science, engineering, health and ICT sectors presents a huge opportunity to establish and maintain common quality standards for UK technicians and ensure that the skills and knowledge learnt within technician pathways are in line with employers' needs.

31   Over time the registers will raise the status and profile of technicians, the value of whose roles has for far too long been misunderstood. This enhanced status should, in turn, drive improvements in technician training and support increased recruitment, including from advanced apprenticeships.

32   The new Technician Council will drive this agenda forward and I encourage all those with an interest in securing the UK's future prosperity to support it in its vital work.

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[6] Publication of this data should be coordinated by the Data Service and Joint Council for Qualifications.

Annex A: Membership of Lord Sainsbury's advisory group on technician registration

Lord Sainsbury of Turville   Chairman

Diana Garnham   Chief Executive, Science Council

Professor Matthew Harrison   Director of Education, Royal Academy of Engineering

Paul Jackson   Chief Executive, EngineeringUK

Professor Sa'ad Medhat   Chief Executive, New Engineering Foundation

Professor Maggie Pearson   Academic & Training Programme Director, Modernising Scientific Careers, Department of Health

Andrew Ramsay   Chief Executive, Engineering Council