ROYAL ACADEMY OF ENGINEERING

UK-EU trade in engineering services

Lords Internal Market Sub-Committee

November 2016

1. The Royal Academy of Engineering is pleased to respond to the House of Lords inquiry on UK-EU trade in engineering services. Following the result of the referendum in June, the Royal Academy of Engineering, in collaboration with 38 professional engineering organisations, led a study on the implications of leaving the EU for engineering. The report, *Engineering a future outside the EU: securing the best outcome for the UK,* represents the views of all disciplines of UK engineering, with most of the findings applicable to engineering-related services as well as manufacturing. This response draws on the evidence in the report plus additional evidence gathered specifically from the service sector.

Overview of engineering-related services

2. The overall contribution of engineering to the UK economy is difficult to measure precisely. For example, the Academy's 2015 report *Engineering for a successful nation*[1] estimated that engineering-related sectors contributed £280 billion in gross value added (GVA) in 2011 – 20% of the UK's total GVA. This was further broken down as follows: construction (£87 billion), medium and low tech manufacturing (£75 billion), computing and telecoms (£60 billion), high tech manufacturing (£22 billion), architectural and engineering activities (£22 billion), other engineering-related sectors (£12 billion). The *Engineering UK 2016 - The state of engineering*[2] report concluded that in 2014, engineering generated £455.6 billion GDP for the UK. Differences in the figures are due to the defined footprint of engineering activity and how different classifications of sectors are treated but, regardless of the methodology use, it is clear that engineering contributes to and generates a sizeable proportion of the UK's wealth. It is equally difficult to determine precisely what proportion of these figures corresponds directly to professional services which include surveying, feasibility studies, landscape design, urban planning, structural design, flood risk management and disaster relief, transport planning and business improvement and organisation. However, given that transport, construction, energy, utilities, ICT and other services are included within these classifications, it is clear that engineering-related services are a significant and important part of the UK's trade in services.

3. Engineering-related employment is also a complex subject to measure. *Engineering UK 2016 - The state of engineering*[3] gives the most recent assessment of employment in the engineering sector, stating that 'In 2014, engineering employed 5,529,000 people, two thirds of whom (approximately 3.6 million) were practising engineers and technicians'. The Academy's 2012 report *Jobs and growth: the importance of engineering skills to the UK economy*[4] provides further evidence on the number of jobs at all levels within the engineering sector. Table 1 of that report (page 15) gives a summary of jobs in a number of engineering sectors. As with the contribution to the UK economy, disaggregation of the overall figures is difficult, but it is again clear that employment within engineering-related services is considerable.

4. In addition to the direct contribution that engineering-related services make to the economy and jobs, it should also be noted that engineering services such as transport, the built environment and telecoms play a vital supporting role for all business and society. Efficient and effective infrastructure and utilities are essential for productive industries and businesses to flourish. Engineering-related services support many other activities such as the finance sector, e-commerce, creative industries and manufacturing. Furthermore, there is increasingly a movement towards servitisation of products whereby companies that would traditionally sell products are moving to a

[1] http://www.raeng.org.uk/publications/reports/engineering-for-a-successful-nation
[2] http://www.engineeringuk.com/Research/Engineering-UK-Report-2016/
[3] ibid
[4] http://www.raeng.org.uk/publications/reports/jobs-and-growth

service business model, meaning that that engineering-related services will progressively make up a larger proportion of the engineering sector.

5. It is therefore important that the UK maintains a healthy engineering service sector as this will ensure that the UK has the infrastructure and facilities to support a growing economy and that this, in turn, will develop a world-class UK-based service sector that is able to compete in the global economy.

The EU and engineering-related services

6. There are a number of areas where membership of the EU has supported UK engineering-related services. Many of these issues are common to the rest of the engineering sector but the list below highlights those areas that are particularly important to engineering-related services.

Skills

7. The engineering service sector relies, first and foremost, on the people they employ. Being able to continue to attract and retain the best talent will be critical to its continued success. This is true across all of the major engineering-related sectors including design, telecoms, transport and construction. Free movement of people within the EU has been helpful. Allowing companies not only to hire from within the EU but also to move employees and contractors easily within the EU from project to project.

8. In negotiating the UK's exit from the EU, government should aim to maintain ease of intra-company transfers, recognising that many companies require their engineers to move freely to support and fulfil contracts; ensure that practising engineers have certainty about the opportunities to work in the UK; and enhance support to enable UK practising engineers to gain international experience including in the EU.

Mutual recognition

9. Related to the issue of skills is mutual recognition of professional qualifications. Currently, regulated professional titles are covered by the Professional Qualifications Directive 167, which sets out conditions for recognition of qualifications and access to a regulated profession by EU and EEA member states. The Directive is transposed into UK law by the European Union (Recognition of Professional Qualifications) Regulations 2015.

10. This issue is especially important to engineering-related service companies as engineers working on the delivery of services abroad will often need to be based in the country in which they are delivering the service and this will require their qualifications to be recognised.

Standards

11. Common European standards are used in all of the engineering-related service sectors. This includes Eurocodes in the built environment, telecoms standards and transport interoperability standards. Standards relate to both products and services and the UK is particularly proficient at setting standards for services. They provide multiple advantages such as lower costs, interoperability, consumer and environmental protection, promoting innovation and increased productivity. UK industry has been heavily involved in the formation of standards and has gained significant commercial advantage as a result.

12. Currently, common European standards are agreed through the European Standardization Organizations (ESOs) – CEN, the CENELEC and ETSI. The UK is represented in these organisations by the British Standards Institution (BSI). It will be important to retain as much influence as possible on setting standards when the UK is

no longer a member of the EU. In particular, it is important for government to support UK national standards bodies in continuing to exert influence on setting standards through membership of ESOs and maintain the UK's commitment to the European 'single standard model'.

Legislation

13. All legal obligations, including Regulations and Directives, are equally important and related to standards. Standards are generally industry-led, voluntary codes but, through the EU's 'new approach', there is a harmonisation of the two whereby industry will be tasked with setting a standard that will ensure compliance with a new EU Regulation or Directive. The issue of Regulations, Directives and other EU law applicable in the UK will initially be dealt with by what the Prime Minister has called the 'Great Repeal Bill' that will aim to transpose existing EU legislation into UK law as far as is possible.

14. The details of the Bill are still to be determined but consideration will need to be given to avoiding, as far as possible, divergence from EU legislation. Engineers working in the service sector often rely on their knowledge and expertise of the regulatory system, particularly in areas such as pollution protection and safety. If, after the UK leaves the EU, dual regulations develop between the UK and EU, this could significantly undermine the ability of UK engineers to work in regions with regulations with which they are unfamiliar.

Research funding

15. The UK has some of the best research institutions in the world and is a net beneficiary of EU research funding. In the seventh European Framework Programme (FP7), which ran from 2007 to 2013, the UK came second only to Germany in terms of grants held at 15% and in total budget share, at 17%, equating to €7 billion[5].

16. Research funding does not just apply to academia. Industry also engages in research activities, often in collaboration with academia and overseas partners and this applies equally to engineering-related services. It is the collaborative aspects of research programmes that are of particular advantage to engineering companies. This encourages employees to keep abreast of the latest developments in specialist subjects, build up networks and learn about the market conditions in other countries. Government therefore needs to seek the closest achievable association with EU research and innovation programmes and ensure that, if needed, long-term UK funding programmes are available that complement current UK funding streams. These should focus on supporting international mobility and collaboration, including academic and industry partnerships.

17. There is also a risk of certain funding streams that are important to engineering-related services being lost. These include the European Investment Bank (EIB) and European Regional Development Fund. For example, the EIB has invested €76 billion in 509 UK projects since 2000 with construction and infrastructure being major beneficiaries. Government should aim to mitigate the impact of the potential loss of these sources of funding and provide possible alternative sources of low-cost finance.

Risks from exiting the EU

18. In addition to the issues listed above, the main risk from leaving the EU is the impact on investor confidence caused by the uncertainty of the referendum result. Much of the work of engineering-related services is involved with critical national infrastructure –

5 http://ec.europa.eu/research/evaluations/pdf/archive/fp7_monitoring_reports/7th_fp7_monitoring_report.pdf

energy, transport, telecoms and the built environment. These systems represent high capital expenditure with long lead times and low returns. Any uncertainty over the UK's economic future could have an impact on investment. We have already had reports that some design consultancies, for example, are seeing a downturn in new projects.

19. A certain degree of uncertainty in inevitable, but the government must do all it can to minimise the uncertainty and provide assurances where possible. Examples of this are the Treasury's pledge to underwrite Horizon 2020 projects beyond the UK's exit from the EU and the Chancellor's commitment to increased infrastructure investment in the Autumn Statement. Government must continue to work with business to ensure that investors have the confidence to invest in the UK.

20. Additionally, the UK's withdrawal from the EU is likely to mean UK engineers and organisations are less closely involved in developing (and certainly agreeing) legislation and standards. The danger is that should the UK be perceived as being more distant (and therefore less expert) from these critical issues, there is a risk of our consultancy services being less valued and a loss of business.

Trade agreements

21. In terms of trade agreements, under WTO rules trade in services would be controlled by the General Agreement on Trade in Services (GATS)[6]. This covers areas similar to the EU single market – freedom of movement of people and services, and commercial presence – although they would not be as comprehensive as EU single market arrangements. The exact details of the agreement would vary depending on negotiations to determine a Schedule of Specific Commitments that identifies market access for certain services and the conditions under which they operate.

22. For engineering-related services, direct tariffs and customs union are much less of an issue than for products as services do not generally involve the transfer of goods across national boundaries. Non-tariff issues are therefore much more important such as regulatory and standards equivalence and mutual recognition of professional qualifications as noted above.

23. The exact details of any trade deal agreed will be open to negotiation, both for final and interim arrangements. There are a number of possibilities from WTO rules through to membership of the EEA or a series of bilateral trade deals.

24. Our report did not prescribe a models for the future UK relationship with the EU, but instead set out the outcomes important to the engineering sector and thus wider economy that government should aim for during negotiations. Consideration of the needs of services industries needs to be considered on an equal footing as other aspects such as goods or capital.

Opportunities

25. In terms of opportunities, engineering-related services can, and do, work in a global marketplace. Beyond the EU there are significant markets for all engineering-related services in the US, South East Asia, China, India, South Korea, Japan and others. Given the very mobile nature of engineering-related services, companies working in telecoms, energy, transport and the built environment will look to develop business in any successful economies where growth is strong and opportunities for work can be found.

26. UK engineering is world class and is able to compete well in most markets and sectors. However, the competition is fierce and it should be remembered that working abroad can present additional difficulties that could put UK engineers at a disadvantage. This

[6] https://www.wto.org/english/tratop_e/serv_e/gatsqa_e.htm

can include language barriers, access to local supply chains or knowledge of regional or national regulatory regimes.

27. Throughout the evidence gathering process for the report on exiting the EU, it was generally agreed that plans to develop a new industrial strategy represents the best basis for maximising opportunities in new or existing markets. The strategy should be based on, and enable, strong partnership between government, industry and the academic research base and deliver a powerful message that the UK is forward looking, open for business, and an active and welcoming partner for the international research, innovation and business communities.

Conclusion

28. The UK engineering community is committed to building on its international reputation to make the most of global opportunities in research, trade and investment. The UK must continue to be welcoming and open for business. Government needs to continue to engage with leaders and opinion formers throughout industry and academia to create a shared vision for the UK in the world, building confidence and managing the inevitable uncertainty brought about by the referendum result.