



Position Statement

The Institution of
Engineering and Technology

Engineering and Technology

Skills demand 2012

Issues and Actions



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The Institution of Engineering and Technology

The Institution of Engineering and Technology (IET) is a global organisation, with over 150,000 members representing a vast range of engineering and technology fields. Our primary aims are to provide a global knowledge network promoting the exchange of ideas and enhance the positive role of science, engineering and technology between business, academia, governments and professional bodies; and to address challenges that face society in the future.

As engineering and technology become increasingly interdisciplinary, global and inclusive, the Institution of Engineering and Technology reflects that progression and welcomes involvement from, and communication between, all sectors of science, engineering and technology.

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IET Skills Surveys

Since 2006 the IET has carried out annual surveys of businesses to gauge the state of skills in the engineering and technology sector.

■ **IET Skills Surveys 2006-2012**

<http://www.theiet.org/factfiles/education/skill-survey-page.cfm>

1. For the first time since the recession, companies have the confidence to expand their engineering workforce.

The planned recruitment is clearly good news, suggesting increased confidence in the economic outlook, but if firms are unable to fill their vacancies the economy will continue to shrink.

As expected in capacity constrained market, as the demand for engineering skills has increased, more companies are experiencing difficulty in finding the engineers they need.

The second recession does not currently seem to be affecting engineering companies as badly as during the first dip which showed in our 2009 survey. In particular the energy, electrical and aerospace sectors are expecting significant growth in the next 12 months. Recruitment continues to be driven by expansion and diversification.

The challenge for government, academia and industry is to ensure that this demand attracts more people through technical training into engineering and engineering careers. A greater variety of technical training through Higher education, Further education and professional registration and apprenticeships will help to encourage more people into the profession.

Action: Supply issues need to be addressed. A mix of both academic and vocational training is required so that technical learning opportunities are provided for everyone.

2. More than a third of respondents said that new engineering, IT and technical recruits do not meet reasonable expectations for levels of skills.

More than a third of respondents said that new recruits do not meet their expectations for levels of skills. The main reason cited for this is a lack of practical experience.

As such, employers should be encouraged to provide more work experience and sandwich placements which would be much more effective in bridging the skills gap rather than sending employees on external courses.

Action: The quality of degrees must be maintained – including the provision of industrial placements. Kite mark/accreditation schemes (such as IET accredited courses) will help to do this.

The skills survey also shows that the amount of staff training and development offered by employers (which can be a key tool in providing these skills) has also significantly decreased, which can only make the situation worse.

Action: We stress the importance of training and development as a key way to hone the skills of new recruits. Adequate provision needs to be made by employers.

3. A quarter of companies see no benefit of engaging with the education system

17% of companies saw no value in engaging with the education system and 25% of companies who did engage reported no benefit in it.

Better engagement with industry at school level, will help to enthuse both girls as well as boys into the profession. This

would also help to promote the benefits of work experience and sandwich courses. If we want schools to recommend engineering careers to young people, we need them to improve their understanding and knowledge of the sector. Better interaction with industry will help to achieve this. In addition it helps schools to understand the needs of industry better, equipping school leavers to be more “work-ready”.

Action: Schools need to be encouraged to engage more with local employers as it is a key way of bringing engineering to life and making it relevant.

4. Half of UK engineering companies expect to recruit apprentices in the next 4-5 years.

The number has increased (by 10% since 2011), but should not be at the expense of poor quality placements.

Action: To encourage more people to start apprenticeships, the quality of the courses must be ensured and they need to be seen as a starting point to a successful engineering career, not just a way into a job.

Schools are still focused on sending pupils to university rather than onto apprenticeships. However, it is important to recognise that both routes are equally valuable. It is therefore clearly important for head teachers, teachers and careers advisors within schools to do more to raise awareness of apprenticeships as a viable option for their students’ futures.

Action: Raise awareness that apprenticeships are a viable alternative to a university degree.

5. Only 6% of the engineering workforce are women

This can be broken down further:

- Professional engineers: 6%
- Engineering technicians: 4%
- Engineering apprentices: 2%

The Defence sector has the highest proportion of women in engineering roles (11%) whilst the Communications sector has the least - only 3% of the engineering workforce is female. In the Aerospace sector only 5% of engineers are women.

The figures from the skills survey has shown that the proportion of women in the engineering industry has not changed over the last five years, the level remaining consistently low. This indicates that more radical action needs to be taken to incentivise females into the profession.

Action: More girls need to be encouraged into engineering careers at a younger age. Female role models from industry engaging with schools may help to dispel the myth that engineering is a job for boys. Attracting more girls into engineering will also help address skills shortages and boost the UK economy.

Action: Employer’s attitudes towards flexible working should be more positive. To encourage women to remain in the profession, they should not feel restricted by restrictions placed on them by employers on working hours, work-life balance.



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