



Norfolk Skills Economy Project

Engineering & Manufacturing in Norfolk

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For: Shaping Norfolk's Future

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Executive Summary

This report deliberately challenges the notion that advanced manufacturing skills should be the main focus of attention when it comes to engaging with engineering and manufacturing businesses in Norfolk. On the contrary it proposes a mixed economy of “high end” and “low end” manufacturing skills to meet the needs of employers in the county and to ensure a healthy supply chain of skills – with the intention of averting the need for large scale imported skilled labour being required.

Despite the relative decline of manufacturing in the UK compared to other countries, manufacturing is still a vital part of the UK economy and manufacturing output has actually grown over the last 30 years, as has productivity. Employment in the sector however, has shrunk as the industry’s efficiency has improved.

There is much evidence of good employer engagement across all sectors of the engineering economy in Norfolk. But gaps persist and there is a danger that the needs of some manufacturing businesses are not being met. This report looks at the role FE and HE can play in helping to develop the engineering sector. In the post-recession environment where colleges are being encouraged to charge for training services and ‘engage with employers’ on a more commercial footing, there is a fundamental question about how FE with its emphasis on delivering government funded work has the capability to move into this more competitive field. The FE sector has excellent resources and infrastructure from which the local business community would be pleased to benefit. All that is missing is the commitment to keep up to date with industry development and encourage staff to develop ‘just in time’ subject specialisms for which there will be industry demand.

Norfolk needs to ensure that it is supporting its manufacturing and engineering sector by offering effective upskilling provision – bringing together the innovation focused Hethel Engineering Centre with the core and specialist skills delivery of the FE sector. Moreover UEA should be encouraged to take a leading role in the sector – providing management and leadership support and developing its HE energy provision (see below) to add to the perceived value of the county’s sector skills base.

More could be achieved through a reinvigorated approach to GTAs (Employer led group training associations). Equally, the four colleges (CCN, CWA, GYC, & Lowestoft College) have plenty of evidence to show how they engage with employers, listen to their needs and deliver everything from NVQs and apprenticeships to bespoke solutions for the sector – yet again one can imagine a more joined up approach to upskilling and engineering training in general – and an agreement on which colleges will specialise in which manufacturing areas. Moreover employer responsiveness is at best, patchy; colleges have, not surprisingly ‘followed the funding’ and in recent years this has not always aligned with employer needs (even though it would have been in line with a government ‘demand led’ strategy).

The University of East Anglia needs to be a key player in any future strategy for engineering and manufacturing in the county. There is no ‘Cambridge’, ‘Cranfield’ or

'Hertfordshire' university to fall back on in Norfolk, yet UEA has consistently achieved very high research ratings in other subject areas and is at the centre of scientific innovations, ranging from biology, chemistry and environmental sciences to computing, mathematics and pharmacy. The university is currently planning to launch an MSc in Energy in the next year – with plans for a B.Eng in the following years (possibly from 2012). UEA also has a track record of working with engineering companies (e.g. Lotus in relation to electrical technologies).

Norfolk has a real opportunity to lead the way in developing a modern manufacturing and engineering skills strategy – not based necessarily just on advanced techniques but also following the supply chain down to the welders, fabricators and fitters who supply the sector; the CNC machines which are now used for small batch production for the energy, automotive, marine and aerospace sectors rather than the mass production needs of earlier decades. No matter how advanced a sector may be, it is likely to rely on traditional skills. This is particularly true of businesses involved in the supply chain to an emerging advanced sector.

This report suggests a skills strategy which builds on existing resources rather than necessarily creating new ones. It puts UEA at the top of a skills chain with the intention that it becomes centrally involved in skills and innovation for the sector. UEA and Hethel Engineering Centre must work closely together but equally the FE sector needs to be able to feed into HE as is already happening for example with the Lowestoft foundation degree in science and with a range of CCN higher education courses. Moreover CCN's successful application for University Technical College status will bring this seamless FE/HE reality even closer. Colleges (and EAGIT) also need to be part of the HEC skills hub to the extent that each of them has a specialist facility which could be better promoted to industry.

Pipe fitting could be an example of a future skills need which if not addressed now may lead to the importation of skilled temporary labour from other parts of the country leading to loss of income to Norfolk. Sizewell C will require hundreds of pipe fitters in the coming years (5000 people are likely to be deployed on the construction of the site over a 7 year period). Moreover, pipe fitting is a key process required across the energy sector.

On one level we could say that there isn't much to do. Skills shortage forecasts are unreliable and we know that employers would always prefer an over-supply of skilled labour to keep prices down and engender greater loyalty from their own workforce. So there isn't necessarily a case for intervention on the skills shortages front. Equally, skills gaps are generally short term so should never pose a serious problem for employers.

And yet on another level, it would be absurd to do nothing. The engineering/manufacturing sectors need all the support they can get, and they willingly participate when given the opportunity. Global competition for engineered products and services is severe; Countries from around the world are able to compete on price

– of land; labour and materials. And communications technology makes it easier every day, to make anywhere in the world feel local. Norfolk in particular, will be acutely aware of the dangers of businesses relocating. The county doesn't have an obvious engineering or manufacturing HE anchor and the training on offer appears quite disjointed with little constructive co-ordinated activity between the four main colleges. Hethel Engineering Centre acts as a local advanced engineering hub, but it's a niche market which doesn't resonate with all SMEs in the county. HEC could do much more to act as the county's beacon, ambassador, and champion for all aspects of the engineering sector. It is not as though the sector is so big in the county that one needs to differentiate between the sub-sectors: advanced; traditional; mechanical; electrical etc.. Norfolk needs a single powerful voice for the industry with stakeholders from both the private and public sector supporting and supplementing the message of support for engineering in the county. The aspirant Lotus Technology Park would certainly add critical mass to this idea and provide a key platform for the county's engineering and manufacturing potential.

UEA surely has a role to play within HEC. A university presence at HEC immediately creates a critical mass bolstering both institutions and providing a platform for greater innovation, knowledge transfer, and research for the sector. More than that, it sends a signal out to the private sector that the county takes engineering seriously – and of course it reinforces Norfolk's position in the global market place, potentially safeguarding jobs and businesses in the area.

So this report recommends working together in order to raise skills aspirations; deliver a more joined up approach to training; inspire graduates to choose the sector and stay in the county. Working together should mean – better information out to the market; more effective use of resources; and improved communications with employers (one thinks of ECITB's comment that they can't possibly know the demand for pipe fitters because they only cover businesses from the engineering construction side of the sector – others are "out of scope" and therefore out of bounds for employer engagement!)

This report identifies a range of challenges and opportunities which, if addressed could make a significant difference to the sector's prospects in the future. The following recommendations hopefully point to a way forward:

Recommendations

1. Explore the possibility of employers forming new Group Training Associations (GTAs), similar to the Warren/Milltech example, to further their workforce skills needs.
2. Identify the extent to which pipe fitting is a skills gap in the county.

3. Based on the above, look into possibilities for pipe fitting courses in Norfolk, including apprenticeships (e.g. C&G 2800 or 2456).
4. Explore ways in which Hethel Engineering Centre (HEC) can become a genuine sector hub for engineering and manufacturing skills in the county.
5. Investigate ways in which UEA could become more involved in Hethel Engineering Centre, even entertaining the idea of a UEA HEC Chair for Engineering.
6. Work with CCN's new University Technical College to ensure that HEC is closely involved in its unfolding.
7. Develop a portfolio prospectus for engineering skills in the county – focusing on the specialist facilities available in each of the colleges; at EAGIT; and at Hethel Engineering Centre.
8. Develop a framework for engaging businesses in skills development; possibly through awareness raising peer to peer workshops (sharing best practice in upskilling); celebratory events – (rewarding business achievements in training); and ongoing dialogue on skills issues (perhaps through a GTA online forum).