

## **Building a Foundation for the Future**

**28<sup>th</sup> October 2008**

*A lack of high level skills within engineering and manufacturing* is threatening the UK's ability to compete on a global stage in these industries. A problem exacerbated by today's challenging economic climate. This was the consensus at a recent seminar held by AEMFC (Advanced Engineering and Manufacturing including Food Manufacturing and Related Industrial Chemical Sector) one of the seven sectors of WYLLN (West Yorkshire Lifelong Learning Network).

Funded by HEFCE, the organisation responsible for distributing money for teaching and learning research, WYLLN is one of 29 Lifelong Learning Networks throughout the country. Its aim is to establish partnerships between industry and higher education universities, further education colleges and other vocational learning organisations, with a view to equipping the region's workforce with the high level skills required to compete at an international level.

The AEMFC sector plays a vital role in the local economy, with over 7,500 enterprises employing around 150,000 people within the West Yorkshire region alone.

Dr Paul Denton, AEMFC Sector Officer, organised the 'Foundation for your Future' seminar as an opportunity to engage with engineering and manufacturing organisations within the local region. Around 50 delegates attended the event including key decision makers from some of West Yorkshire's leading engineering and manufacturing companies.

"In the past there has been a perception that universities and higher education organisations fail to equip students with the necessary work-based skills, especially within engineering and manufacturing. We want to reverse this trend by offering local employers a voice, a chance to inform the development of future, work-based courses," Paul said. "However, in order to do this effectively, we must first be aware of their business needs and the challenges that such companies face in today's uncertain economic climate," he added.

### **Understanding Today's Sector Challenges**

To determine these challenges and needs, three key questions were put to delegates, by the event's keynote speaker Eur Ing J Brian Firth:

1. What is the most pressing business challenge facing you today?
2. Which key skills and associated job roles present training issues for you?
3. What barriers do you see to participation in educational programmes?



Feedback from the seminar showed that globalisation, increased competition and financial issues, such as fluctuating exchange rates are indeed pressing business challenges.

However, many delegates also listed skill shortages, availability of workforce and concerns over aging employee profiles as key issues. Indeed, for an organisation to operate as a high-performance enterprise, competing and succeeding on a global scale, it must have a professionally educated and highly skilled workforce.

Yet the AEMFC Sector in particular, is currently suffering from a lack of relevant skills. A situation, which if allowed to continue, will see West Yorkshire's manufacturing and engineering organisations finding it even harder to cope and survive in today's market.

The current skills draught, threatening the AEMFC sector is due to a combination of factors.

A general shift towards service and retail sector in this country over the last few years has reduced the popularity of engineering and manufacturing as a career choice. This has been exacerbated by students shying away from courses, like maths, which are perceived as more difficult.

Coupled with this is the decline in traditional craft, in-house development programmes, due to cost restrictions. With, until recently, fewer financial incentives to take on apprentices, the number of companies operating more traditional apprenticeship programmes have also drastically reduced.

## **Engineering and Manufacturing as a Career Choice**

This all adds up to fewer young people moving into a career in engineering and manufacturing and gaining the years of experience required to become highly skilled in such professions. As a result the industry is facing an ageing workforce with a lack of youngsters working their way through the ranks.

"The highly skilled and technically specialised disciplines required by engineering and manufacturing organisations, cannot be learned overnight. To become proficient in certain skills requires literally years of training and work-based practice," commented one delegate.

"Similarly, certain roles require the application of advanced mathematical knowledge, which again requires years of learning and study," the delegate added.

The outcome is a growing gap between the skill levels required by engineering and manufacturing and the skill levels possessed by graduates and candidates.

Despite the reportedly dire condition of the economy, there are profitable opportunities for UK manufacturing and engineering organisations. However, the skill shortage

means that companies are in danger of losing contracts to foreign competitors or being forced to seek skilled employees from abroad.

“One manufacturing organisation recently suffered from such a situation. Having invested in machinery and facilities, they lost a major contract as they couldn’t employ sufficiently skilled employees to undertake the work.”

“With a shortage of skilled, local workers, another company in West Yorkshire has been forced to rely on foreign workers. Yet, due to the economic climate, this skilled labour supply is also drying up as these individuals return home,” said Paul.

The findings from Question Two support these claims. Delegates at the seminar expressed concern over skills and training issues in several areas.

Feedback included difficulties in management development and the succession of shop floor staff into managerial positions. Many also faced problems finding and training general engineers with core skills, project managers with relevant experience and individuals with practical computing and engineering skills.



From the answers to Question Three, it appeared that many of the training and skills problems experienced by these organisations were due to the barriers preventing their employees from participating in educational programmes.

It was felt by many delegates that educational training programmes failed, on a number of levels, to match their organisations’ needs.

From a practical point of view, many courses lacked the necessary flexibility to allow employees to combine training with work demands. Lack of funding or financial incentives to make such training a viable option for organisations was also a concern.

But perhaps the most condemning sentiment was the comment that:

‘Overall, current courses do little to provide employers with the workplace skills and relevant understanding. Academia is too slow to respond.’

As Paul Denton explained:

“In essence, the delegates felt that a wealth of current training and educational provision failed to meet the practical needs of local engineering and manufacturing organisations.”

It is this issue that the AEMFC sector is aiming to address.

At present there are three key ways for individuals to gain skills and qualifications; through vocational-based training at further education (FE) colleges, work-based

apprenticeships from individual training providers or the academic route from traditional A-levels to university degree.

While the vocational courses and apprenticeships provide practical work-based skills, often they do not equip individuals with the high-level academic knowledge in scientific and mathematical disciplines. It is this combination of knowledge and experience, which is required to produce highly skilled, professionally educated employees who are to eventually be recognised as Chartered Engineers.

Conversely, universities tend to concentrate on high-level, theoretical knowledge. Yet, rarely do universities combine this high-level knowledge with the work-based skills that are responsive to the industry's needs.

## Delivering Work-based Solutions

One answer to the problem is to provide a Foundation Degree, which will act as a bridge between further education colleges and higher education universities.

“Such an approach can provide a proven opportunity for individuals on vocational courses or apprenticeships to gain the academic knowledge and high-level skills necessary to progress in their careers,” explained Richard Brown of Bradford College.

“Yet, in order to ensure that this approach is effective, courses must be developed to satisfy the skill-needs of local employers. This necessitates an open and on-going dialogue with local manufacturing and engineering organisations.” he added.

The Foundation for your Future seminar has kick-started this process, but there are other initiatives that would also help to secure the future of the country's engineering and manufacturing sector.



To help organisations survive the credit crunch, delegates at the seminar called for more Government support. It is currently felt that while large financial institutions and other large companies are receiving as much help as is deemed necessary, very little is being done to help the SMEs (small to medium sized companies) that constitute 98% of the UK's engineering and manufacturing industry.

Recent recommendations from the CBI, for instance, have called for immediate Government action to help small businesses. Indeed the CBI's ten-point plan included a request to temporarily reduce employer National Insurance Contributions to protect jobs.

It also called for initiatives to improve the nation's skills, with incentives to encourage SMEs to take on apprentices through additional targeted financial assistance.

If the UK AEMFC Sector is to continue as a global leader, it is initiatives like those put forward by the CBI, which are needed.

Emphasis must be placed on improving high-level skills to ensure that we breed the right calibre of graduates for the future. To achieve this will require real and effective collaboration between Government, private sector manufacturing and engineering organisations and the combined education sector.

Although there are things that can be done immediately to ease the burden on the manufacturing and engineering sector, an overnight cure is not feasible. It will take years for the trainees of today to become the highly skilled professionals of tomorrow, but action is needed now while it is still possible to save these vital industries.



It is for this reason that the 'Foundation for your Future' delegates made the decision to raise awareness of the predicament. They are encouraging all interested parties to start by writing a letter to their MPs and representative sector organisations.

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