REPORT

Manufacturing/Engineering Understanding the Lincolnshire Skills Shortage

Prepared for

The Greater Lincolnshire Local Enterprise Partnership

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fmc™ global talent

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EXECUTIVE SUMARRY

- This document is designed to provide the Greater Lincolnshire Local Enterprise Partnership (GLLEP) with a greater understanding of the skills gap faced by manufacturing/engineering companies within the Lincolnshire, North Lincolnshire and North East Lincolnshire area, in order to inform the LEP's next steps.
- Building on initial conversations with key representatives from the sector, who indentified skills as a barrier to growth, FMC carried out 20 face-to-face structured interviews across April and May 2012 with manufacturing and engineering companies across Lincolnshire, North Lincolnshire and North East Lincolnshire.

Existing Workforce

- Almost all companies acknowledged they had skills gaps within their company. For most this was technical management level skills.
- The impact of these skills gaps has been far reaching, with many losing out on work as a result.
- Despite many lacking formal HR policies and procedures retention is not an issue. For those in rural areas or SMEs, an aging workforce and retirement is they key reason for skills gaps.
- Training is regarded by many as the key to addressing these skills gaps. However, they are many barriers, mostly cost and having to travel for training.

Current Recruitment

- All but one company who had recruited in the past 12 months reported facing difficulties.
- Once again the gap was in recruiting mid-level technical staff, several companies mentioning production engineers in particular.
- Ability to attract the right candidates was stated by many as an issue, with smaller and rural organisations simply unable to compete with larger companies, such as Siemens.

Recruitment Over the Next 12 Months

- All participants, bar one, planned to recruit over the next 12 months.
- The desire to recruit at a graduate level was a strong theme across the sector.
- Once again the issue of recruiting at the technical management level was raised, with no-one who planned to recruit at this level confident they would be able to find suitable candidates.
- Confidence in filling roles at other levels varied, with those in small and/or rural companies generally lacking confidence in being able to recruit at any level.

Skills Gaps Amongst New Recruits

- Lack of technical skills in the local candidate pool was almost universally the first thing businesses mentioned when asked to discuss why they felt they faced difficulty recruiting.
- When pressed further to describe what they meant by technical skills employers definitions typically centred on job specific engineering, scientific and computer based skills.
- Unsurprisingly other barriers included lack of experience and applications.
- When asked to define work ready employers fell broadly into two camps:
  - Attitude focused- emphasising the importance of commercial awareness and wiliness to learn, and;
  - Ability to apply skills- focusing on the employee being able to apply knowledge to add value.

The Future

- When looking to the future, over the next 4 to 5 years, participants were more cautious.
- Financial constraints were raised for the first time for many, and fears of another recession were apparent.

Addressing Skills Shortages

- There is an overwhelming demand for training grants or some form of financial support in order to enable businesses to respond to the skills shortage. However, it is unclear if businesses really understand the content of these courses, and if they would truly meet the needs they express.
- Additionally, there was recognition that the solution needed to be more than just training, but looking at the bigger picture too, and that education and promotion of the sector and local employers was needed.

Conclusion

- There is no doubt that skills are a barrier to growth for the manufacturing and engineering sector in the GLLEP's area. This is even more pronounced for smaller and rural businesses.
- Mid-level technical skills are by the far the biggest area for concern for all businesses.
- In order to address the skills gap they face businesses would welcome training grants to enable them to access their desired training courses.

INTRODUCTION

Employing 16% of the workforce (GLLEP, 2010), the Engineering and Manufacturing sector plays a key role in the Greater Lincolnshire area. However, in line with national and global trends, recent feedback from the sector has identified skills, particularly at higher/management level, as a major barrier to growth (Corner, 2011).

It has been widely reported that one of the key problems affecting the county and wider surrounding areas is the weak skills position. International research demonstrates in the Engineering and Manufacturing sector this is far from a problem exclusive to Lincolnshire. There is severe shortage of technical skills globally, and competition for top talent is fierce.

Whilst it is difficult to predict future demand for skills, recent reports suggest the UK will require an additional 600,000 engineers by 2018, with annual demand for graduates double the number our country currently produces (Institution of Mechanical Engineers, 2011). Similar shortages are reported around the world, with the US facing a current shortfall of 75,000 (Barry, 2009) and Germany 34,000 (Barry, 2010).

In order to inform their response to this issue, particularly in this key growth industry, the Lincolnshire and Rutland Employment and Skills Board, on behalf of the GLLEP, commissioned FMC to provide a better understanding into skills as a barrier to growth.

Carried out across March and April 2012, FMC undertook 20 face to face consultations, providing depth of insight into the scope, and potential resolution, of the current skills gap in engineering and manufacturing, covering:

- what employers mean when they report skills as a barrier to growth;
- which skills and at what level employers as facing the most difficult problems;
- the impact on local businesses, and;
- the characteristics of a support programme that would help to address this issue.

The study has provided access to employers from across the area covered by the GLLEP, including a diverse mix of businesses within the sector, from furniture manufacture to power engineering corporations.

Please note: All participants were assured any feedback would remain anonymous to ensure honest input; therefore no names are included in this report.

THE WORKFORCE TODAY

The size of the businesses interviewed varied greatly, with the smallest business consulted employing just four full time staff and the largest over 1000. The majority employed around 100 people.

Two of the businesses FMC consulted had shrunk dramatically in recent years, with competition from outside the UK the cause.

Despite these vast differences in size there were some common themes researchers noted in structure of the current workforce:

- Sales/marketing and other support services were often small or non-existent.
- Apprenticeships were the most common way businesses sought to bring in new recruits.
- A large majority of businesses interviewed had no experience of hiring at a graduate level.
- Most importantly, all acknowledged a gap in skills.

Existing Skills Gap

When asked where they were lacking skills in their existing workforce technically focused roles came out on top, with employers listing roles such as;

- production engineer;
- estimator;
- manufacturing technician;
- manufacturing engineer;
- engineering managers;
- control engineers;
- software engineers;
- technical manager;
- design engineer;
- maintenance engineer, and;
- marketing manager.

When talking about skills more generally it was acknowledged by some that of these the most difficult to fill were office based engineering roles, where engineers were required to use their skills but not in the traditional hands on/shop floor context, such as change management roles. Other skills areas noted as lacking were commercial skills, business engagement, marketing and sales.

Unsurprisingly due to lack of previous experience in hiring them others also referenced that graduate level skills were something businesses reported as lacking.

For those in more rural locations such as Market Rasen the skills gap caused by an aging workforce was more pronounced, and companies stated they simply just did not have the next generation of managers.

Impact

The impact of this lack of skills is by no means small, with all but four of those surveyed reporting that they believe they have lost out on work as a result. For most it was simply a capacity issue, with businesses unable to meet requirements due to not having enough staff. Two employers even reporting directly having to turn down work at times.

> *We had to turn down a contract because we couldn't guarantee we'd have the regularity of workforce to deliver it.*
> *Civil engineering business, Grantham*

Conversely one company, a furniture manufacturing company, reported the reverse was true, that they would love to undertake recruitment and training but the demand simply wasn't there as they were being so badly undercut by competition from overseas.

In addition, two other companies noted that lack of skills had actually restricted their ability to make improvements to their products, as all the focus is on delivery of orders rather than development. They are concerned this could restrict their competitiveness in the future.

Exisiting Training and Retention

Despite many of those consulted reporting little in the way of dedicated business support teams, such as Human Resources, it would appear retention of staff is not an issue. When it comes to retaining talent an overwhelming majority reported low turnover rates, but that their problem lay elsewhere, either an aging workforce or training.

When quizzed further as to what measures they took to retain existing talent many reported it was more of a cultural thing, rather than a concerted effort, and there was very little evidence of any formal response.

Training

It is very clear that training is something that the entire sector holds in very high regard. Despite this many reported various barriers to training, with one company even stating they had given up on training as a result. Cost was an often cited issue, with many simply unable to afford what they require.

As a result, the overarching approach to training is an extension of the 'lassiez-faire' HR attitude taken with retention, with many reporting they only offer 'on the job', and many noted their staff often associated any alternative training with apprentices.

> 'We're competing with the higher salaries of larger corporations, some we supply, and they demand quality. But we can't attract the staff to deliver it.
>
> We miss out on higher level skills.'
> *Fabrication business, Lincoln*

Others, some of whom currently carried out external training where they could, stated that the right training simply isn't always available locally, with some having to send employees as far as Germany.

External courses currently undertaken include;

- apprenticeships;
- business improvement NVQ level 2;
- training for accountancy, warehousing, sales;
- lean manufacturing;
- efficiency training;
- CAD training;
- HNC Engineering;
- polymer related courses;
- Masters, and;
- CITB Scaffolding training.

Where training was referenced, either existing or if barriers were removed, the focus was very much on specific technical skills such as asbestos removal or AutoDesk CAD training, and in some cases continuous process improvement, such as lean manufacturing/Six Sigma.

CURRENT RECRUITMENT

Of the participants that were currently recruiting, or had done so in the past 12 months, all but one reported difficulty. Consistent with Neil Corners previous findings, all of these, bar one Civil Engineering firm, reported difficulties at the experienced/management level.

> 'Up skilling is costly, but we can't seem to recruit the skills we need. It's a Catch 22'.
> *Plastics Manufacturer, Grantham*

Difficulty in candidate attraction, particularly locally, was the overarching reason stated for difficulty in recruitment, with rural employers finding all levels of recruitment difficult. Some of the smaller organisations noted that they simply could not compete with larger organisations, especially when it came to positions that demanded higher level skills. Production engineers were noted in several cases as difficult to recruit.

Recent roles employers reported difficulty filling:

- mid level engineers;
- production engineers;
- manufacturing engineers;
- graduate engineers;
- electronics engineers;
- design engineers;
- business development,
- change consultants
- operators, and;
- apprentices.
-

RECRUITMENT OVER THE NEXT TWELVE MONTHS

All participants bar one, who was unable to due to lack of demand, planned to recruit over the next 12 months.

Two consultees were seeking out marketing or sales people, as these were areas they currently felt the business was lacking in skills, with no dedicated resource. However, the two had conflicting views on how difficult it would be to recruit. Both were small in size, and one of the businesses felt that this would impact their chance of securing a local graduate.

The intention to recruit graduates was a common theme amongst those in the sector, with some stating they were doing so in order to try and start addressing succession planning, that they admit they should have done earlier.

No-one seeking to recruit mid level engineers was confident they would be able recruit suitably qualified candidates. In addition those in rural and or small companies were unsure about being able to recruit at any level, stating them simply couldn't compete with larger local organisations and that it was difficult to encourage relocation.

A producer of semi-conductors noted that whilst they were confident they would find suitable candidates; this will mean sponsoring non UK nationals, adding to their costs and making recruitment more difficult.

> 'Hiring general staff isn't the problem; it's hard to find electronics engineers, production engineers, experienced design engineers'
> *Electrical manufacturer, Grantham*

Interestingly, all those that were confident in employing the right calibre of person did note the use of external providers (recruitment agencies, job centres), and recognised that the area was well served by suppliers in this regard.

Skills Gaps Amongst New Recruits

Technical Skills

When exploring why business thought they faced difficulty recruiting, all bar two consultees reported lack of technical skills as one of the biggest barriers to recruitment. Once again it was noted by some this was particularly an issue at mid-level, and that this was something that would take years to address.

When pushed further as to what they meant by technical skills this typically referred to job specific knowledge or abilities required, such as engineering, scientific or computer-related. In some cases these can be very specific, and many employers felt the local labour market could just not meet these demands.

Other Barriers

Based on this lack of technical skills it is unsurprising that lack of experience was also consistently mentioned as a key barrier. Much of this was related to experience of applying the skills, and the need for someone at a higher level.

Building on these others reported a lack of applications as an issue, once again raising the difficulty of not being able to complete with companies such as Siemens for top talent in the area. This has been particularly pronounced with graduates.

> 'For some roles we can hire internally, but for others talent just isn't available in our sector, let alone locally. We need to think outside of the box.'
> *Steel manufacturer, Scunthorpe*

Work Readiness

As previously mentioned some participants have raised the concern that entry level staff are often not prepared for work in an SME, with a couple stating the only real way to address this is experience, and pure academics is not enough.

When asked to define what work readiness meant to them definitions broadly fell into two camps:

1. Commercial awareness and the ability to learn- Employers here emphasised the importance for candidates to have an understanding of their industry, emphasising the importance of an appreciation of business. However, they also emphasised the importance of simply willing to learn more, understand, and take initiative. It was more about attitude (this was the opinion of a slim majority).

> 'Work readiness is the ability to add value by applying skills they know.'
> *Polymer manufacturing company, Lincoln*

2. Able to add value and apply the skills they know.

THE FUTURE

Having focused discussions on skill demands recently, currently and over the next 12 months the consultations then moved on to the medium term (recruitment over the next 4 to 5 years).

The responses here were fairly cautious, with fears of another recession and global competition apparent. Financial constraints were now raised as a potential barrier to obtaining the skills they would need.

One Horncastle based company even stated that they simply had no choice but to focus on internal training to address their skills gap, as what they did was so specialist and they simply couldn't secure funding from the bank for a long enough period to support anything else.

However, once again the issue of lack of local candidates with the right hands on technical skills was raised.

ADDRESSING SKILLS SHORTAGES

Having established what employers meant by skills as a barrier to growth in the area, our consultations then sought to explore with employers how best to address the issue, discussing what actions local government or employers themselves could take.

The overwhelming response from employers was a demand for training grants. Businesses appeared to know the courses they required, and these were focused on a variety of job specific technical skills. They simply stated they required funding to allow them to access it.

> 'Whilst we need training now. There is no quick fix. It's a generational issue. We need to look at more than just skills, and take in the whole picture.'
> *Electronics manufacturer, Horncastle*

However, it was unclear how much detail the employers really held about the courses, and therefore how readily available it was and if it would really meet their needs or if they simply assumed it would. This was particularly pronounced due to the lack of formal training currently undertaken, with much focus 'on the job' training.

Demand for grants is unsurprising based on participant's earlier comments about how costly training was, particularly with businesses having to travel for niche technical courses.

Some suggested courses employers would like to access included;

- management training;
- continuous improvement;
- lean manufacturing;
- marketing training;
- CAD training (AutoDesk);
- CNC training, and;
- bespoke niche industry training such as Rubber focused training course or Wood Machining.

Surprisingly when the suggestion of improving the school curriculum was raised most employers did not feel this would help. Perhaps this is due to a short-term focus, and the skills issue being more of a management level.

Those who did suggest any amends to academia reiterated their point about training or experience in a commercial environment before leaving school or university. Some suggested work placement schemes would be one way to address this. Others felt the issue of raising the profile of SMEs and the associated benefits to candidates would play an important part.

Other common suggestions included recruitment support and promotion of British products, engineering and manufacturing.

CONCLUSION

There is no doubt that a lack of technical, job specific, skills is restricting the growth of manufacturing and engineering in the area. Businesses have existing skills gaps, particularly at the technical management level, and are unable to recruit into these roles, claiming the local talent pool does not posses the right skills.

In addition, there is an obvious divide. SMEs, and rural based companies, are unable to compete for talent with the larger businesses based close to the city. Few have experience in employing graduates, and whilst they would like to, there is some concern that they are not work ready.

When asked to define what they meant by work ready, employers fell into two camps, one focused on commercial awareness and having the right attitude, the other concerned with the ability to apply skills in a working environment.

Businesses suggest funding support for training courses to address the skills barrier. However, it is unclear if these courses would truly meet their needs, and it is recognised a broader, longer term approach is required, focusing on the promotion of local engineering and manufacturing.

APPENDIX

Methodology

The report is based on 20 face-to-face structured interviews carried out across March and April 2012, which built upon initial conversations with key representatives from the manufacturing and engineering sectors, where skills were indentified as a barrier to growth in the Lincolnshire, North Lincolnshire and North East Lincolnshire area.

The interviews were carried out by FMC's team of trained researchers, who specialises in skills research, particularly within the East Midlands. Interviews were conduced with senior level managers, to ensure respondents had a good overview of the whole business, and its requirements.

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