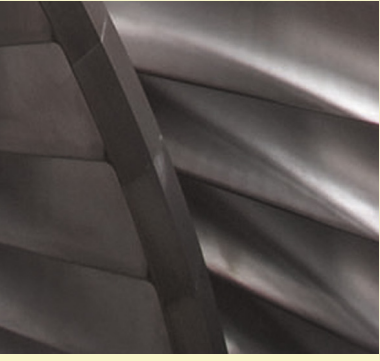
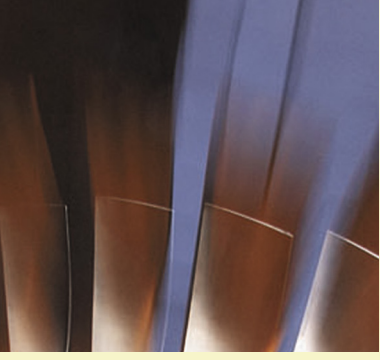


Technical Skills Audit 2010

A NAMTEC Report
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Summary

The UK is still the 6th largest manufacturing nation in the world. Within the UK, manufacturing is the third largest sector in the economy (behind Business Services and Retail); it generates £140bn Gross Value Added (GVA), 11% of the UK economy, and employs around 2.6 million people (~ 8 % of the workforce)¹. Ensuring the health and well-being of manufacturing ought to be a UK priority.

This second technical skills audit has shown the following in terms of company's continued (or otherwise) support to the technical skills/knowledge development of their employees in the metals manufacturing sector.

Companies responding

209 organisations associated with metals manufacturing, from around the UK, responded to an on line survey carried out in November and December 2010.

Responding organisations operate in a range of market sectors; the order of market sector representation had altered from the initial audit findings in 2008. In 2008 the greatest sector representation was from Construction and Automotive which have been replaced by Power Generation and Defence as the largest sector of respondents in 2010. The areas of business manufacturing, forging, rolling, machining remain similar. Their areas of operation had however shifted from 60% UK based only in 2008 to 22% in 2010, whilst international operations increased from 40 to 76%.

Company size remained very similar with the exception of large employer responses (500+ employees), which had fallen from 27% to 11%.

¹ BIS Occasional Paper No 10A Manufacturing in the UK, an economic analysis of the sector December 2010.

Employee Development

Apprenticeships

Companies supporting apprenticeships remained around the 45 – 48% level. The 2010 data indicated that these were chiefly supported by companies with 20-250 employees General engineering is the most supported apprenticeship, 61% of companies citing a preferred supplier. 36% of those not currently using Apprenticeships requested more information, which is being facilitated by NAS (National Apprenticeship Service)

Further/Higher Education

The largest change in the statistics is an increase in sponsored Post Graduate study, from 19% in 2008 to 36 % in 2010. Companies are supporting MSc's and MBA's

There is a slight decrease in the number supporting HNC/HND/FD programmes from 43% in 2008 to 38% in 2010 split between 21% Foundation Degrees and 17% HNC's. At the time of audit 578 staff were being supported on FE/HE programmes.

The statistics were however consistent for companies supporting neither Apprenticeships, nor any FE/HE for their employees (37% of companies in each case). This represents 78 respondents in the 2010 audit.

77% of companies in 2010 do not use any technical skill development programmes.

Technical Training Needs

The data is consistent for companies who believe that their Technical Knowledge/Skills needs are being met by existing provision (80% in 2008, 78% in 2010). The most successful (those needs which are being met) are at Operator Level (50% of organisations) and team leader level (51% of organisations).

Practical skills areas that are currently being met in organisations focus upon teamwork skills (68% of organisations), problem solving (61%) practical testing skills, business improvement techniques, basic mathematics and exporting skills.

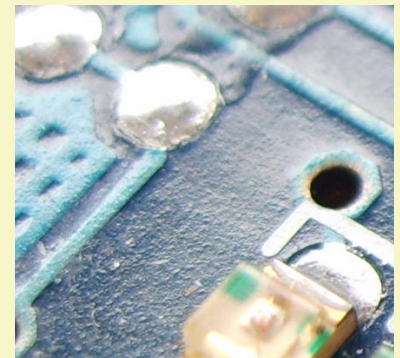
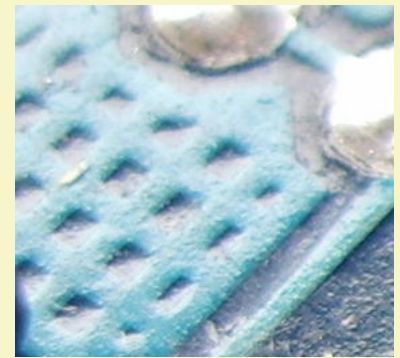
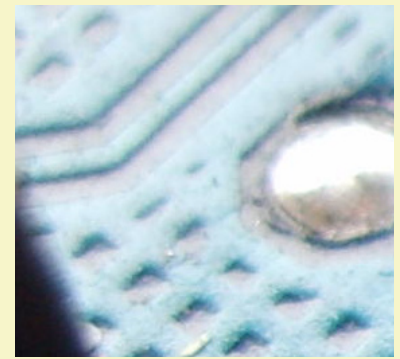
Roles not being met

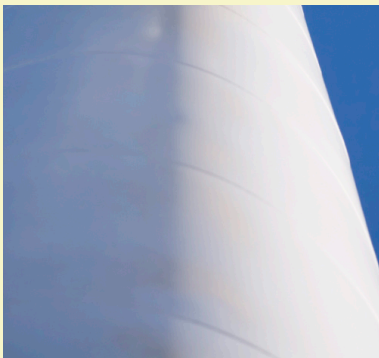
In the companies where needs weren't being met these were at Operator Level (14%) and in specific technical roles; such as skilled engineers, draughtsmen, technical design engineers and metallurgical engineers.

Technical Skills/knowledge needed

In 2008, 20% of companies identified Foundry practice, basic and advanced metallurgical/materials training as particular needs. Most needs were sector-specific, for example metals and alloys for use in offshore applications.

In 2010, 22% of companies cited training needs including the development of Technical Knowledge in the following, CNC Machining/Programming, Non Destructive Testing (NDT). Also required were Welding & Joining, Laboratory Skills, Instrumentation, Furnace Operation, Engineering, Technical Skill, Design, Forging, Construction, Metals and Casting.





Recruitment

The recruitment of materials science/metallurgical graduates appears to have become a little easier (or demand has fallen); 38% of companies experienced difficulty in 2008 compared with 22% in 2010. Other hard-to-recruit disciplines reported in 2010 are Mechanical Engineers (19%) Materials Scientists (15%) Electrical Engineers (10%) and Manufacturing Engineers (11%).

Several specific roles were cited as difficult to recruit to and these were:-

- Experienced Draughtsmen
- Foundry Engineers/Operatives*
- Skilled Moulders*
- Project Engineers
- Marketing Managers
- High Calibre Apprentices
- Sales personnel,
- Electrical Fitters*
- (cited in 2008 *)

19% of organisations registered in the 2010 audit that they had difficulty recruiting managers and supervisors.

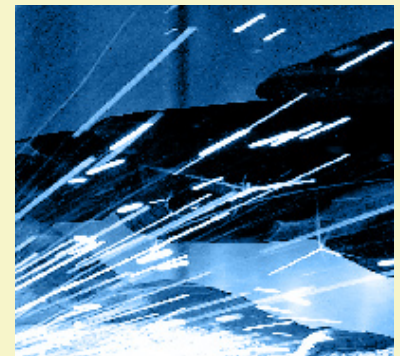
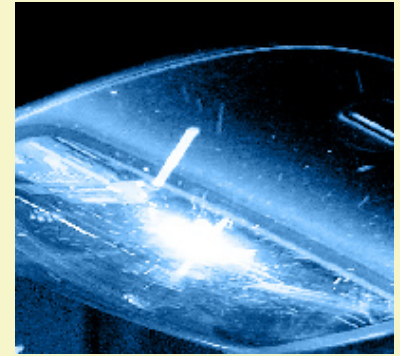
Mechanisms of recruitment

In the 2008 audit Newspapers were the most used mechanism of recruitment (25%) the major mechanism is now recruitment agencies (57%) with companies using combinations of mechanisms of which the popularity is reflected in this order ; personal recommendations ,website, newspapers, direct university/college contact, 'other' and specialists journals being used by 20 organisations from our population of 209.

1. Introduction

In 2008 the National Metals Technology Centre (NAMTEC) carried out a national technical skills audit in order to collate industry-relevant data on behalf of a sector that was short of skilled employees – this report presents an update of that survey.

The metals industry continues to remain short of skilled employees. However, NAMTEC through the Special Metals Forum (SMF) and the Titanium Information Group (TIG) and the Advanced Engineering Materials (AEM) network is working hard to investigate the reasons for these shortages. As part of this is the need to compare current activity levels with the baseline identified in 2008. Establishing this information is critical if the sector is to create an effective response to the current shortages and related issues.



2. Methodology

A questionnaire was designed (see Appendix 1) in conjunction with the Learning and Skills Development Manager at NAMTEC to establish information in the following areas:

Company details, size, main areas of business and the sectors they supply to,

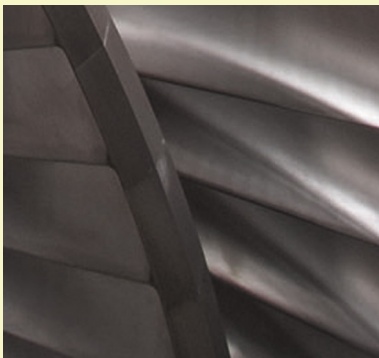
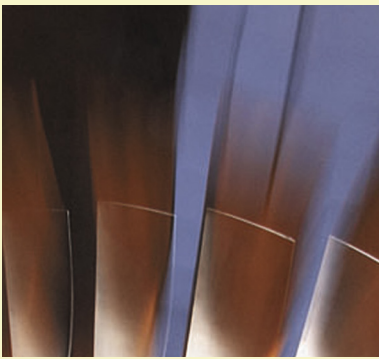
Apprenticeships, extent of company support to them and the disciplines supported,

Further Education/Higher Education support and interest in HNC/HND/ Foundation Degrees and Graduate and Post Graduate Training. This included the extent of current support and future interest in such provision,

Workforce Development, technical skills and knowledge that are in short supply; and

Recruitment, the disciplines and levels at which companies have difficulty recruiting

The data were gathered via an online survey hosted by Research Toolkit Limited. Personalised email invitations were sent to approximately 2,300 contacts from the NAMTEC contacts database. The email provided background information related to the audit and included a link to a covering letter written by Richard Wright (Chair - Special Metals Forum Skills Group) and Anita Sunderland (Learning and Skills Development Manager, NAMTEC). Analysis was carried using industry-standard software (Snapsurveys). The data collection period spanned September 2010 to December 2010. In total, 209 survey responses were received.

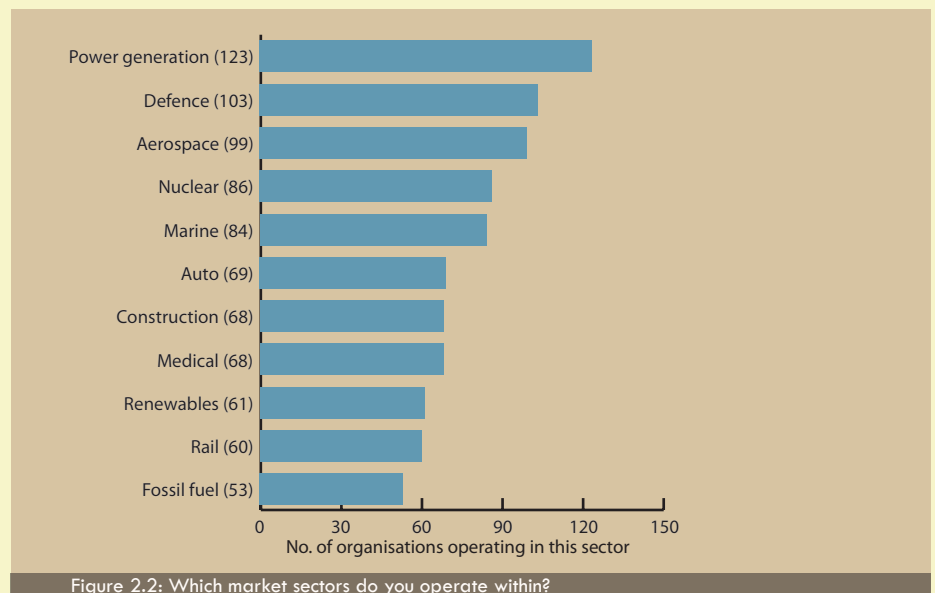


3. Company details

209 organisations associated with metals manufacturing, from around the UK, responded to the online survey. We received responses that presented an entire organisational response, as well as those that represented the view of business units/subsidiaries from within larger organisations. Figure 2.1 shows that the majority of responses came from those presenting an organisational overview.



Organisations operate in a range of market sectors, but are dominated by those that operate in the areas of power generation, defence, and aerospace (see Figure 2.2) 'Other' business areas include: oil and gas (16 organisations), engineering (8 organisations), manufacturing (7 organisations), steel and steel producer (5 organisations), food/food and drink (5 organisations) energy storage, metals/metals processing (5 organisations).



The most cited areas of business activity listed by respondents were **manufacturing, machining, fabrication, casting and forging** (see Figure 2.3). This mirrors well with the previous audit, carried out by NAMTEC in 2008. 'Other' business activities, respondents listed the following: design and manufacture (13 organisations), heat treatments (9 organisations), research/technical support (9 organisations), engineering/engineering design (9 organisations), consultancy (4 organisations).

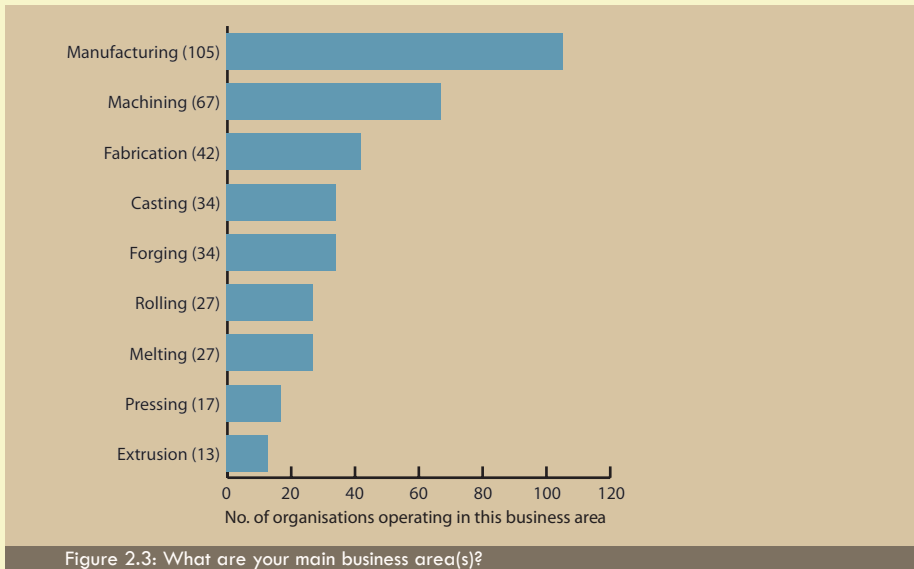


Figure 2.3: What are your main business area(s)?

Most organisations surveyed in this audit (76%) operate within the UK and internationally (see Figure 2.4). A considerable change on the 2008 audit is that now only 22% of organisations operate solely in the UK (in the 2008 audit this figure was 60% of organisations).

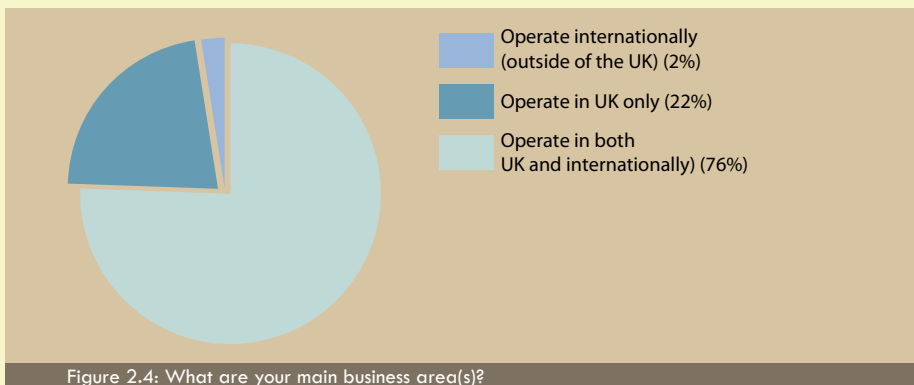
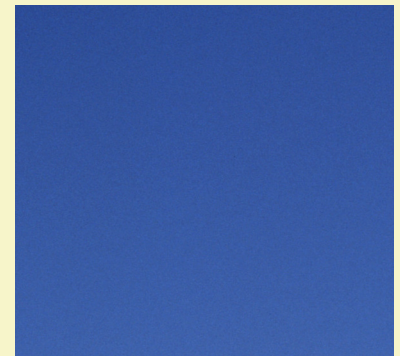
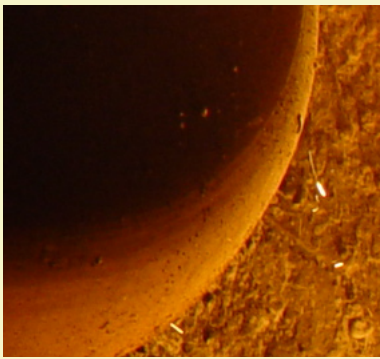


Figure 2.4: What are your main business area(s)?





The majority of organisations (55%) responding to the survey employ between 20 to 250 staff (see Figure 2.5), which maps closely to the responses received for the 2008 audit (where 52% of company responses were located within this category).

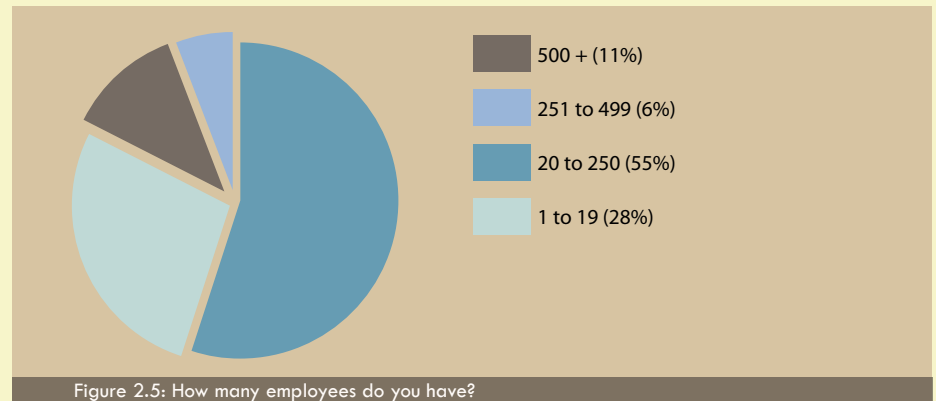
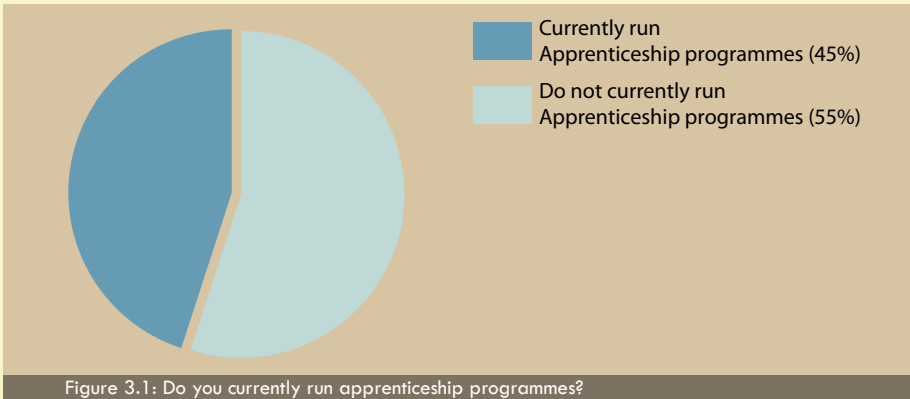


Figure 2.5: How many employees do you have?

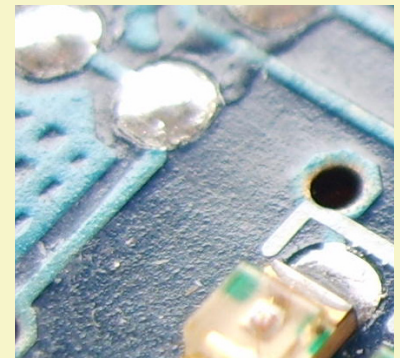
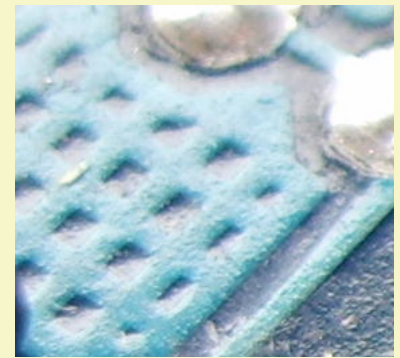
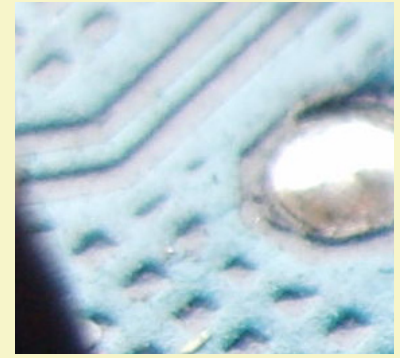
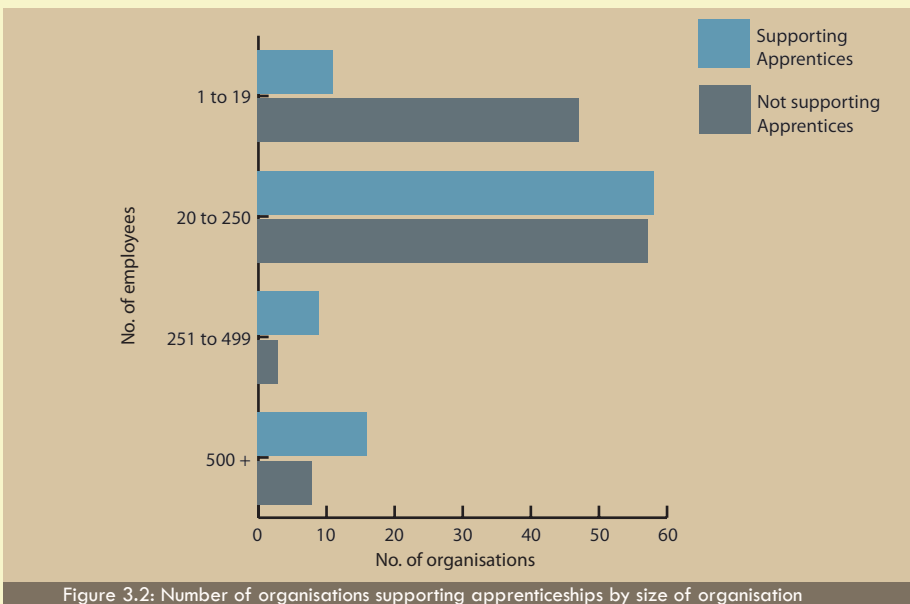


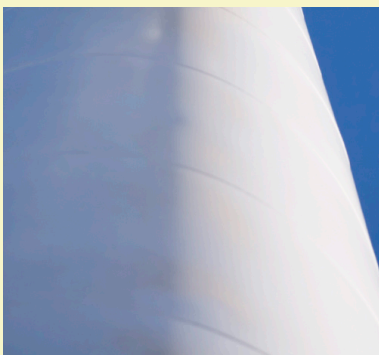
4.Apprenticeships

A little less than half (45%) of organisations currently run apprenticeship programmes (see Figure 3.1), which is similar to the proportion supporting apprenticeships in the 2008 audit (48%).



In terms of organisational size, the greatest number of apprenticeships are supported in organisations with 20 to 250 employees (58 organisations in this category currently support such programmes) - see Figure 3.2). This represents almost half of companies, within this category, who responded to our survey. This matches the 2008 audit where almost half of the respondents in this category also supported apprenticeships (27 out of 66 responding organisations).





More than half of organisations supporting apprenticeship programmes provided assistance in the areas of General Engineering (65 organisations stated that they supported apprenticeships in this area), and Mechanical Engineering (60 organisations). Electrical Engineering apprenticeships are supported least by organisations in our survey (26 organisations support apprenticeships in this area) - see Figure 3.3. In terms of 'Other' apprenticeships supported, organisations cited areas such as: foundry, metallurgical, fabrication/welding, silversmithing.

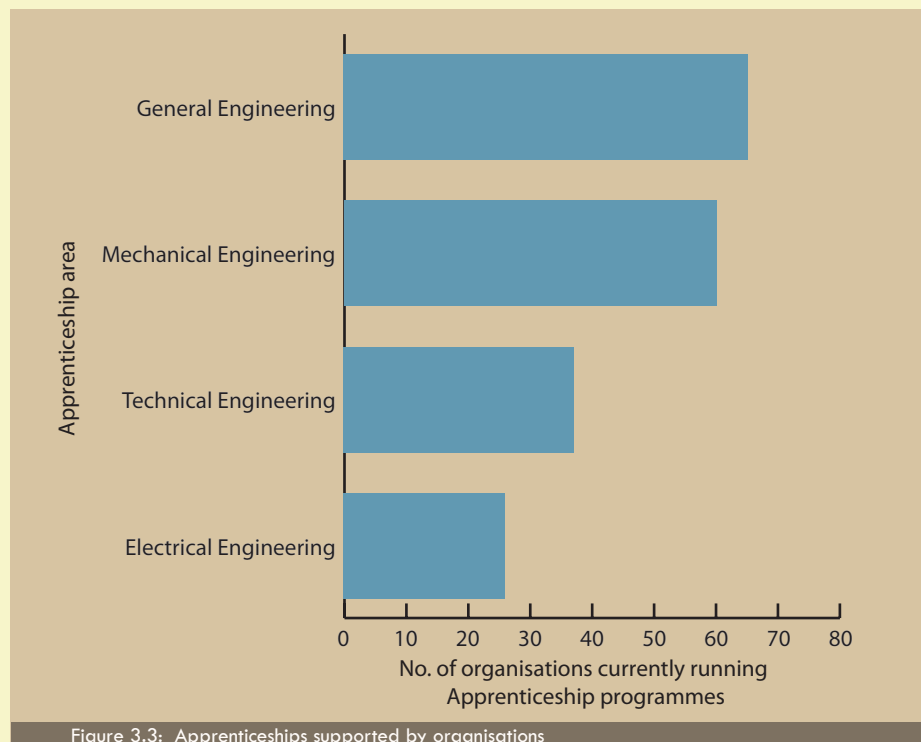


Figure 3.3: Apprenticeships supported by organisations

In terms of total numbers of apprenticeships supported by surveyed organisations, the most (680) were supported in the area of General Engineering. This was followed by 556 in Mechanical Engineering, 420 in Other Engineering (which includes fabrication, welding, metallurgical engineering, accounts/sales/administration), 193 in Technical Engineering, and 65 in Electrical Engineering. All organisations who support apprenticeships, offer support for up to three apprentices within their organisation (see Figure 3.4), and smaller numbers of organisations offer support for 4 to 6 apprentices. There are also a small number of organisations who support 7 or more apprentices (14 organisations in Mechanical Engineering and 12 organisations in General Engineering).

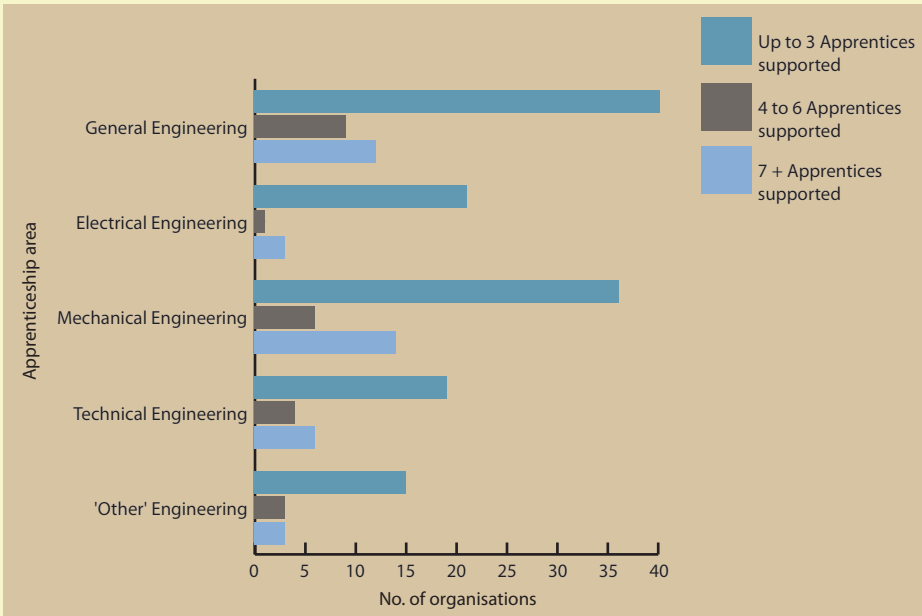


Figure 3.4: Type of apprenticeship supported by number of organisations

Of those who support apprentices, over half (57%) work with a preferred supplier (see Figure 3.5), which almost mirrors the proportion in the 2008 audit (where 61% expressed a preference for specific suppliers. Most work with local FE providers, some with commercial training providers, and a very small number work with the University sector.

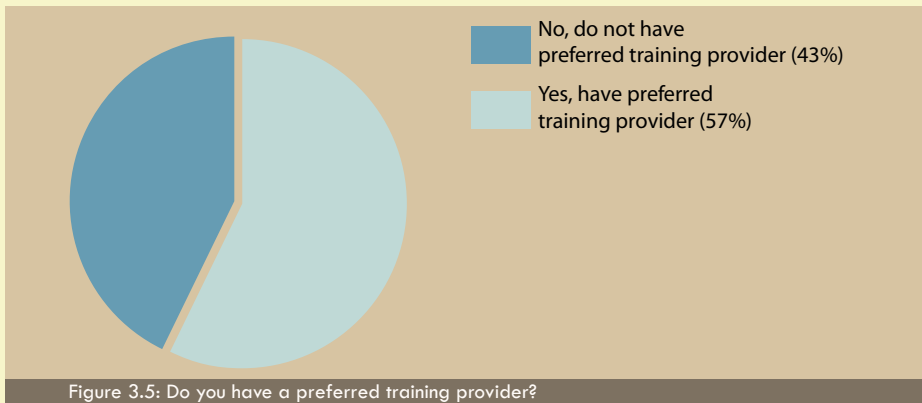
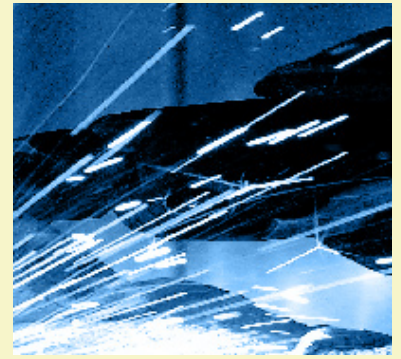
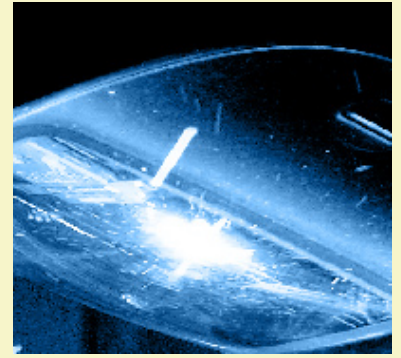
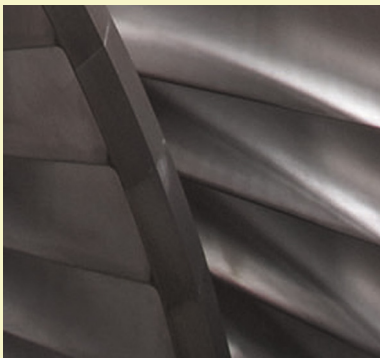
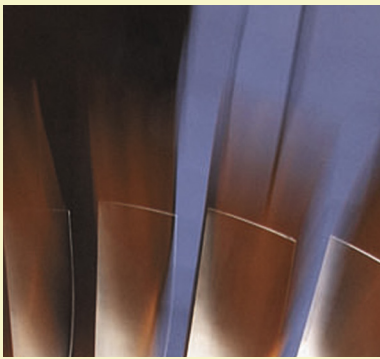


Figure 3.5: Do you have a preferred training provider?





115 organisations within our current survey do not support apprenticeships. Most of these organisations were not interested in finding out more about them, although a little over a third (38%) indicated that they would like to find out more information about how they could provide such training and development opportunities (see Figure 3.6).

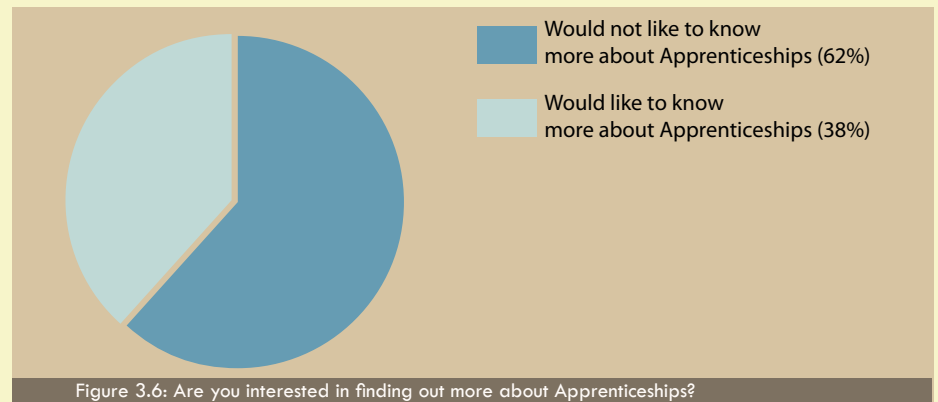
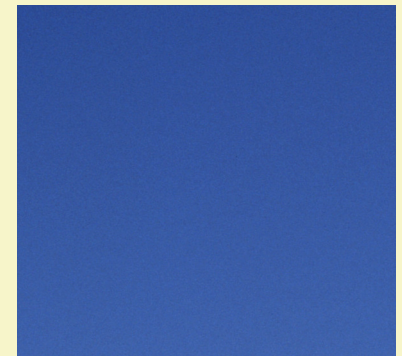
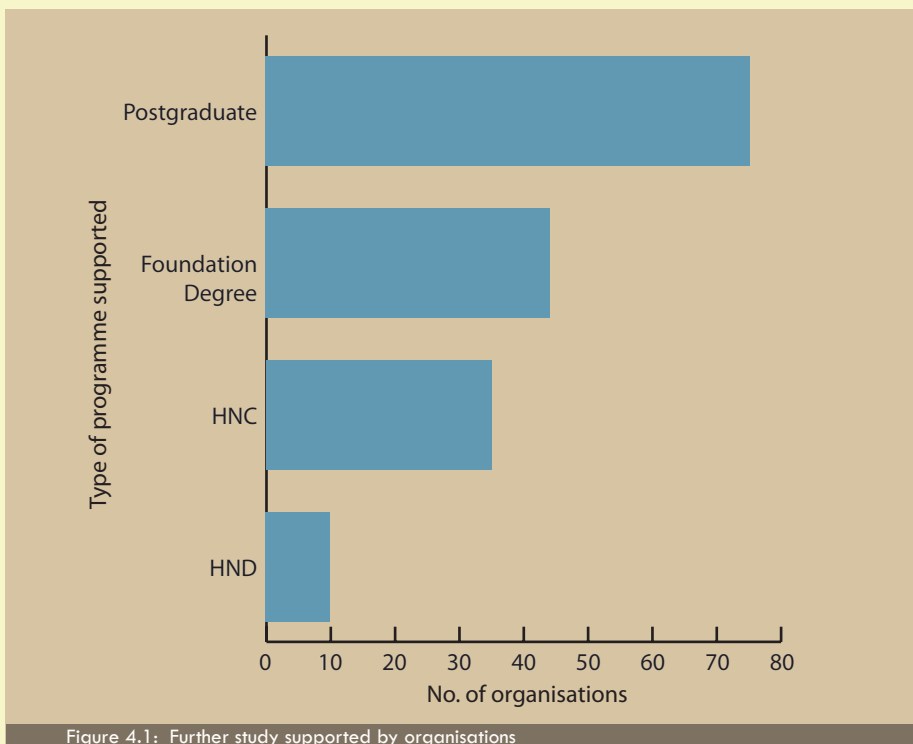


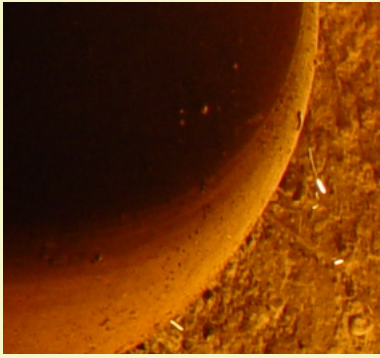
Figure 3.6: Are you interested in finding out more about Apprenticeships?

5. HNCs/HNDs/Foundation Degrees/ Postgraduate provision

Of those organisations currently supporting staff in terms of further study, most (75) provide support at postgraduate level; the least-favoured programme of study is the HND (10 organisations currently support staff in this way (see Figure 4.1).

In total, 174 staff (in 35 organisations) are supported on HNC provision, 51 full-time and 123 part-time. At HND level 22 staff (in 10 organisations) are supported, all through part-time provision. At Foundation Degree level, 110 staff (in 44 organisations) are supported, 3 full-time and 91 part-time (in a small number of organisations numbers studying Foundation Degrees were not broken down by part-time or full-time (16 staff)). At post-graduate level, 272 staff (in 75 organisations) are supported, 46 full-time and 223 part-time (in a small number of organisations numbers studying at post-graduate level were not broken down by part-time or full-time (3)).





Postgraduate provision supported tends to focus around MBA programmes, other Masters level provision (including postgraduate certificates) and some BSc programmes). Support for such programmes is provided via release time from employment duties and some limited financial support. Institutions supporting these programmes include Sheffield University, Sheffield Hallam University, University of Nottingham, University of Leeds, Open University.

Foundation Degree provision supported includes mechanical engineering, materials science, power engineering, casting metallurgy. Institutions hosting these programmes include Sheffield Hallam University, Bradford University, Bradford College.



HND and HNC programmes include mechanical engineering, materials science and manufacturing engineering. Institutions hosting these programmes include Huddersfield University (Oldham Campus), Blackburn College, West Notts College, Rotherham College of Arts and Technology, Barnsley College, Doncaster College.

Our survey also asked if responding organisations would like to find out more about Foundation Degrees, HNC/HNDs; most responded that they did not wish to receive further information on any of these courses (71%).



Overall, 578 staff are supported in their organisation via postgraduate provision, HND/HNC courses, or Foundation Degrees. By far, the greatest area of provision is in postgraduate support (see Figure 4.2). In all areas, part-time provision is the most prevalent programme format. Full-time programmes are most popular in HND provision (see Figure 4.3).

We also asked organisational respondents if they would like to receive further or additional information about postgraduate opportunities for their staff; a little less than a third of respondents (29%) indicated that they would like to receive this information.

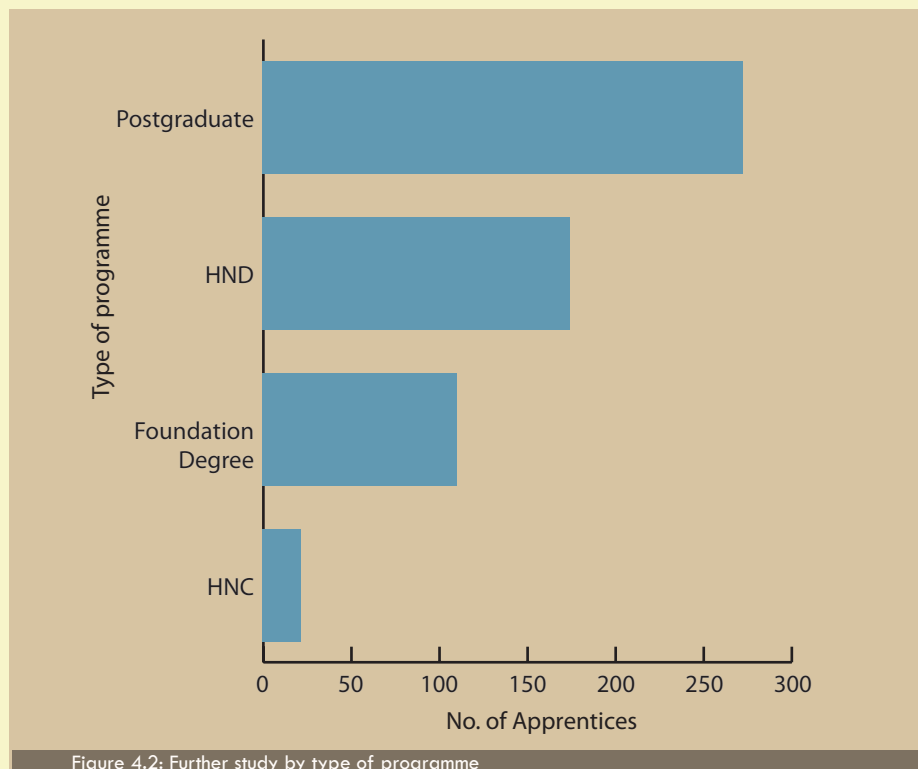
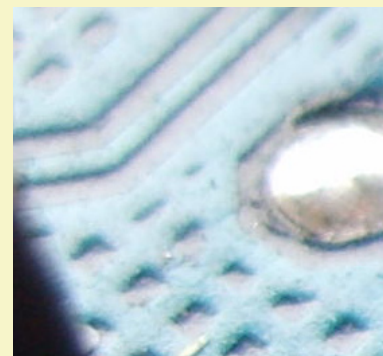


Figure 4.2: Further study by type of programme

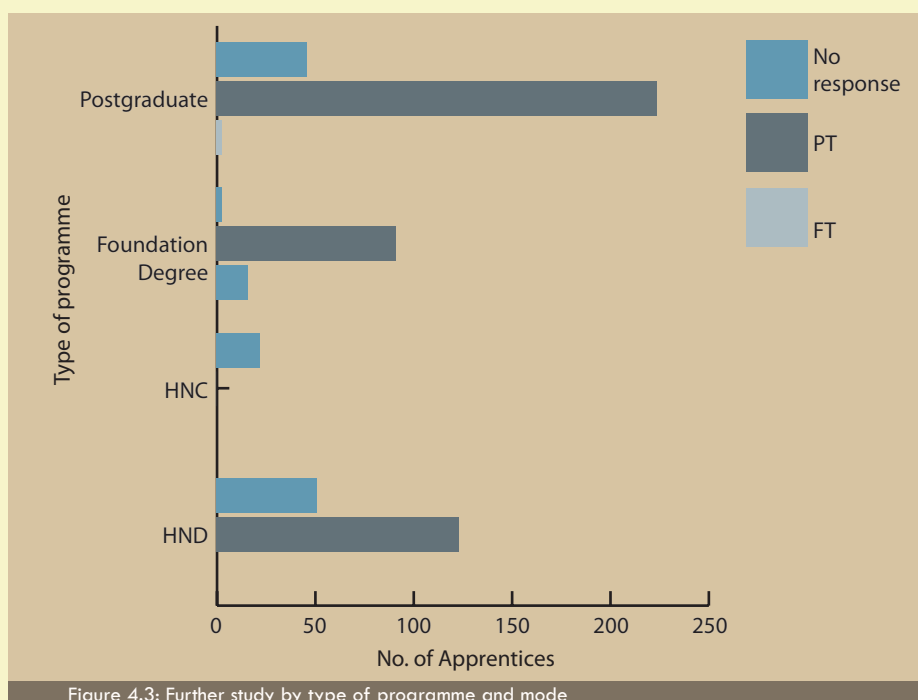
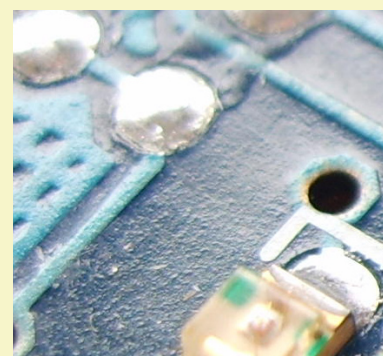
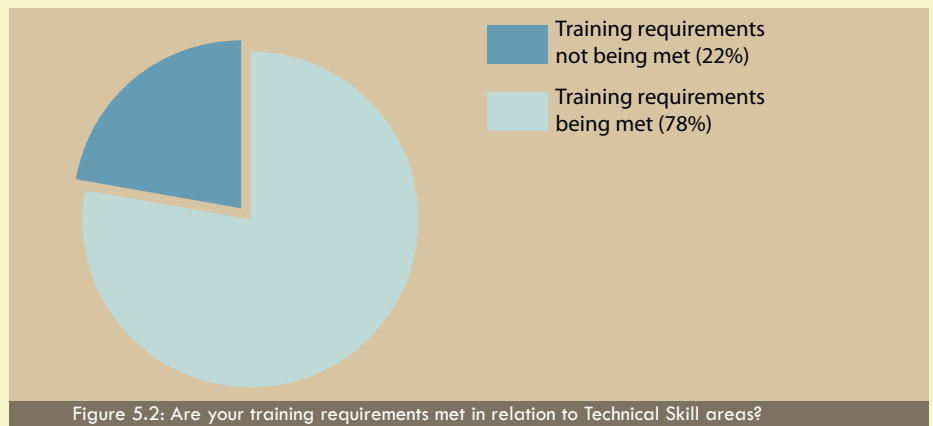
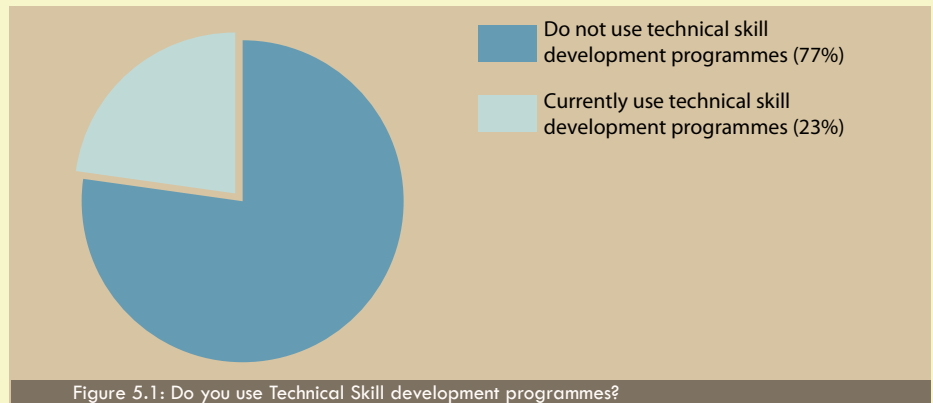
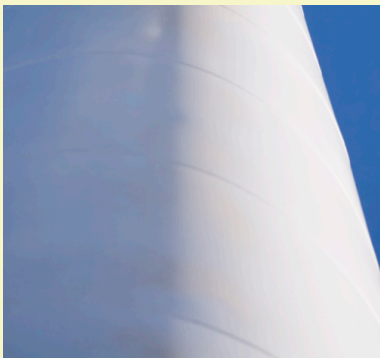


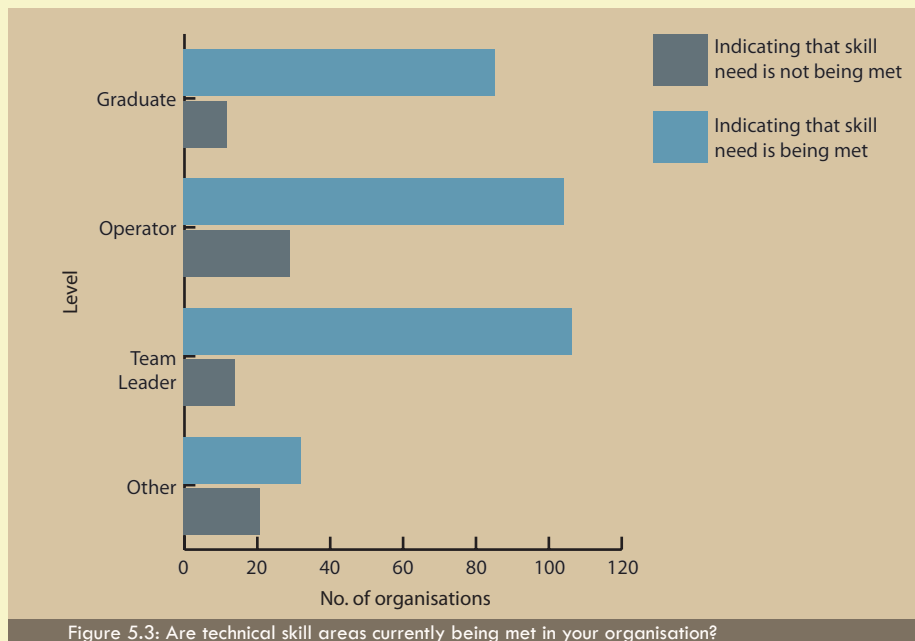
Figure 4.3: Further study by type of programme and mode

6. Workforce Development

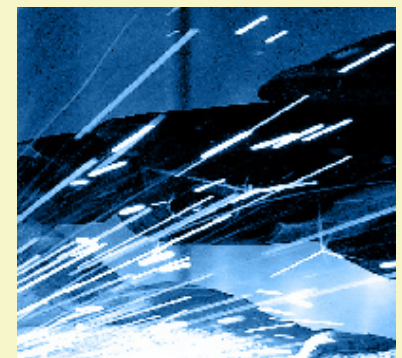
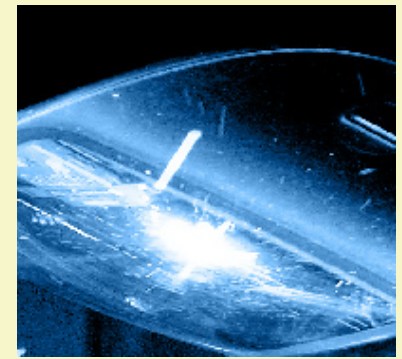
Over three quarters of responding organisations (77%) do not currently use technical skill development programmes (see Figure 5.1). However, most organisations (78%) also indicate that their training requirements in relation to Technical Skill areas are currently being met (see Figure 5.2). Although of the 22% of organisations who indicated Technical Skill areas were not being met, most (41 out of 46 organisations) were SMEs. Programmes and providers used for this service include: Metallurgy for non-metallurgists (NAMTEC), Nuclear Skills Passport (Nuclear Skills Academy), NVQs - national job-based training e.g. PCN, NAS410, modern apprenticeships, Birmingham City College, Metskills, ATL Training.



The technical skill areas that are most developed/being met in organisations are at the operator level (50% of organisations) and team leader level (51% of organisations) (see Figure 5.3). Of the smaller number of organisations who indicated that training requirements are not being met, most identified that these were currently at the operator level (14% of organisations). ‘Other’ technical skill areas listed by responding organisations include: skilled engineers, draughtsmen, technical design engineers, metallurgical engineer.



The practical skill areas that are most developed/being met in organisations are teamwork skills (68% of organisations), communication skills (63% of organisations) and problem-solving skills (61% of organisations) (see Figure 5.4). ‘Other’ practical skill areas listed by responding organisations include: practical testing skills, business improvement techniques, basic mathematics, exporting skills.



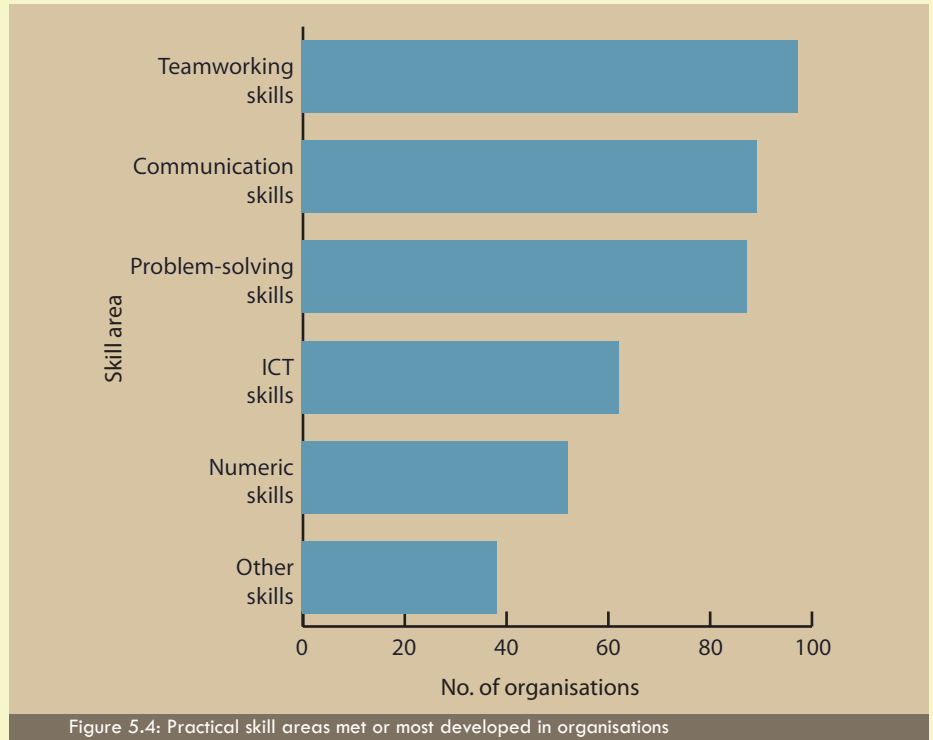
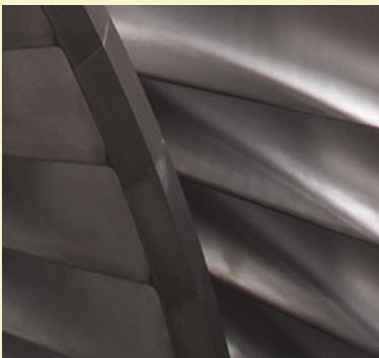
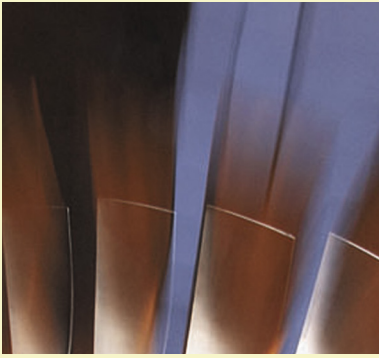


Figure 5.4: Practical skill areas met or most developed in organisations

89% of respondent organisations indicated that their current training needs included the development of Technical Knowledge.

The most sought after Technical Knowledge areas included CNC machining/programming and NDT (both being identified by over a third of respondents) (see Figure 5.5). ‘Other’ Technical Knowledge skill areas listed included: engineering (8 organisations), technical skill (6 organisations), design (4 organisations), forging (3 organisations), construction, metals, casting (2 organisations).

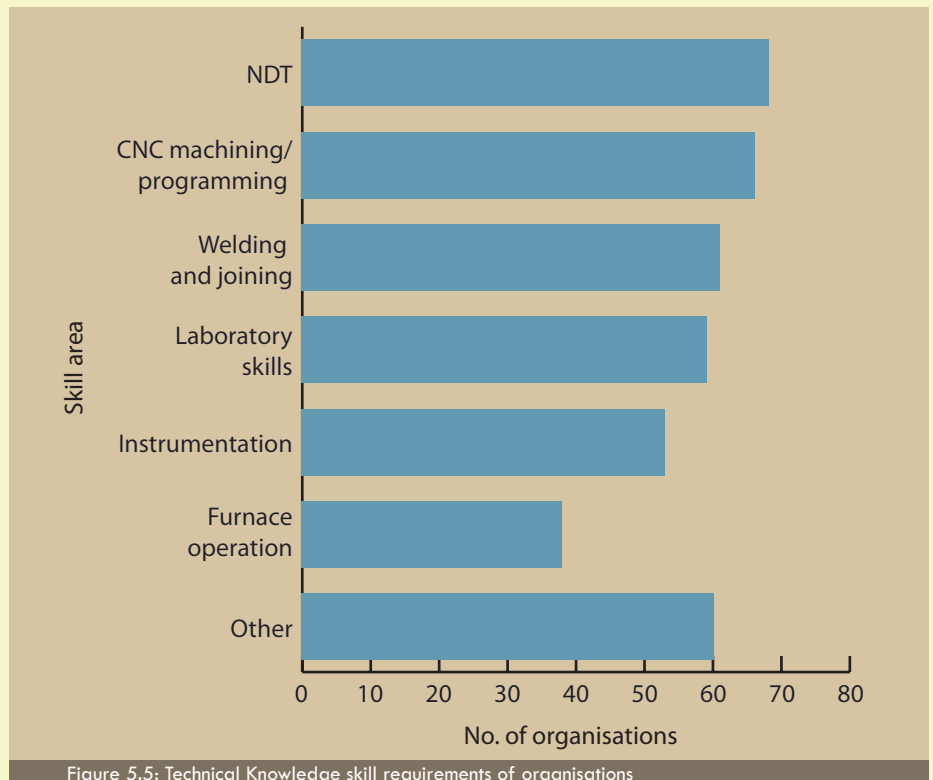


Figure 5.5: Technical Knowledge skill requirements of organisations

Almost three-quarters of responding organisations (74%) indicated that engineers/technical staff members had not expressed an interest in professional membership of the Engineering Council or the Science Council (see Figure 5.6). Of those who did indicate an interest (46 responding organisations), almost all indicated that this was at the level of Chartered Engineer).

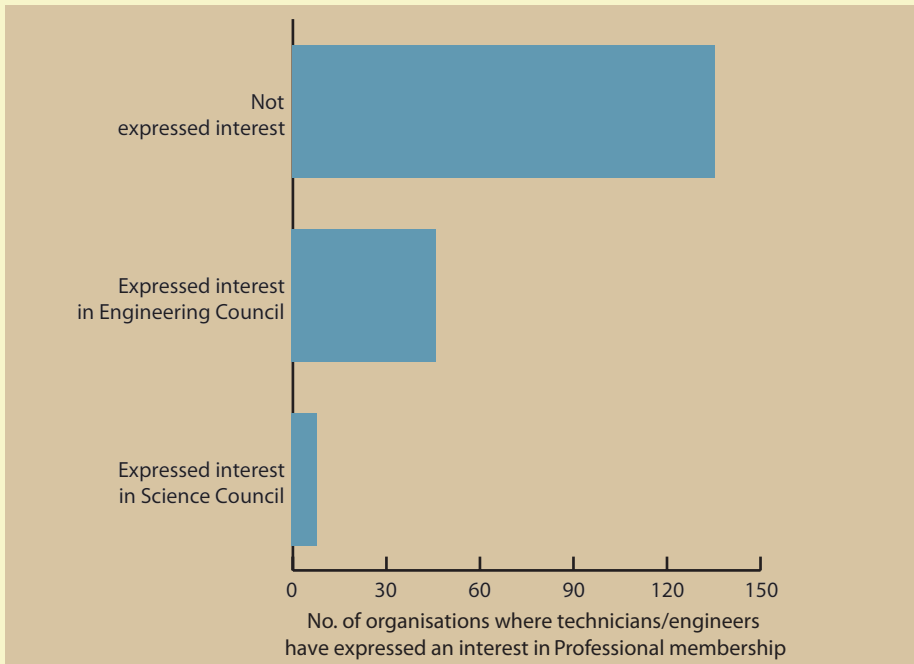


Figure 5.6: Have engineers/technicians have they expressed interest in Professional Membership with either the Engineering Council or the Science Council



7. Recruitment

The greatest need, in terms of recruitment expressed by responding organisations, is at the graduate level (see Figure 6.1). This need is greatest in relation to recruitment of metallurgists (46 organisations have difficulty recruiting at this level), followed by mechanical engineers (39 organisations have difficulty recruiting at this level). Of those who indicated difficulty recruiting to 'other' posts, these included: high calibre apprentices, sales personnel, experienced draughtsmen, foundry engineers and project engineers.

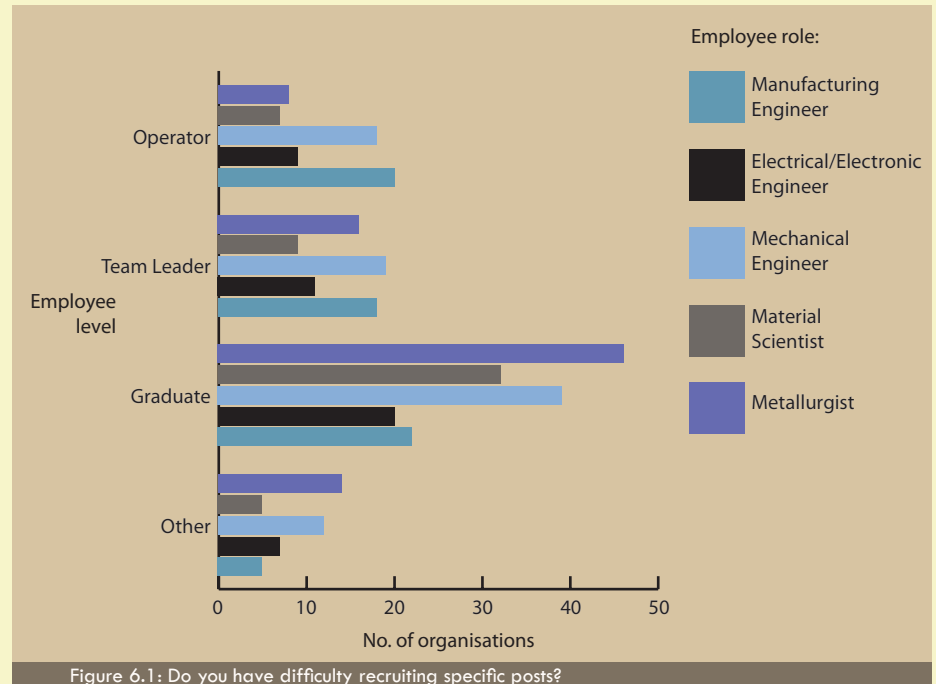


Figure 6.1: Do you have difficulty recruiting specific posts?

Approximately one-fifth (19%) of organisations indicated that they had experienced difficulty in recruiting managers and/or supervisors (see Figure 6.2). Some organisational responses also indicated that other posts were difficult to recruit to; these included: foundry operatives, marketing managers, high calibre apprentices, sales operatives, electrical fitters, and skilled moulders.

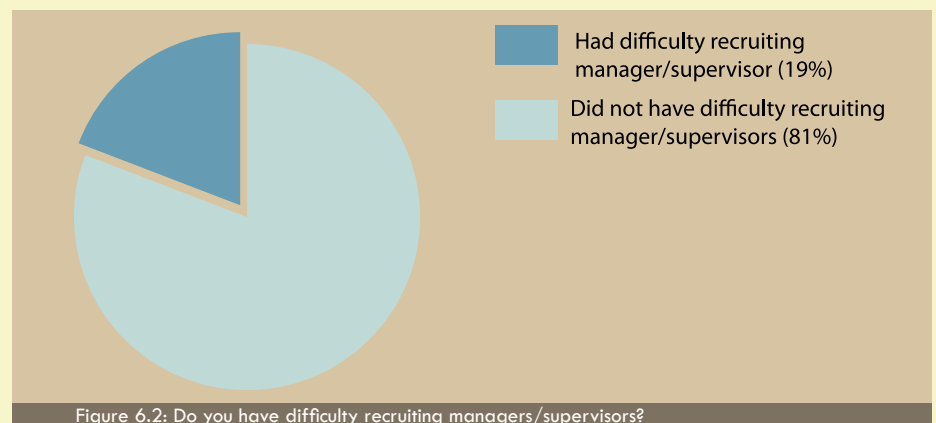
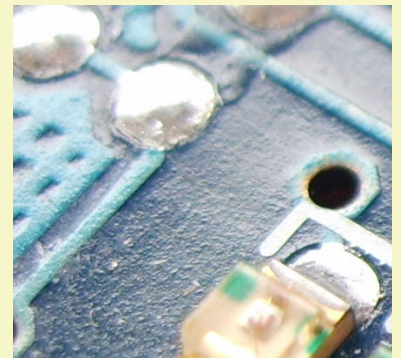
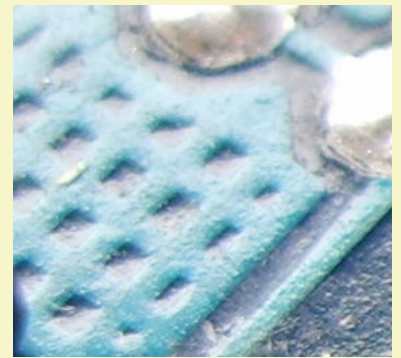
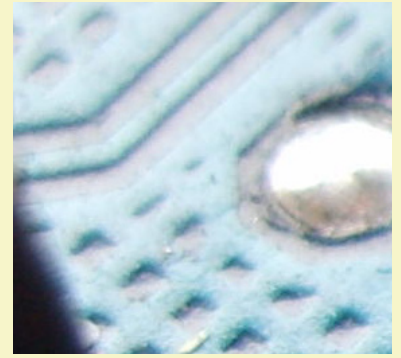
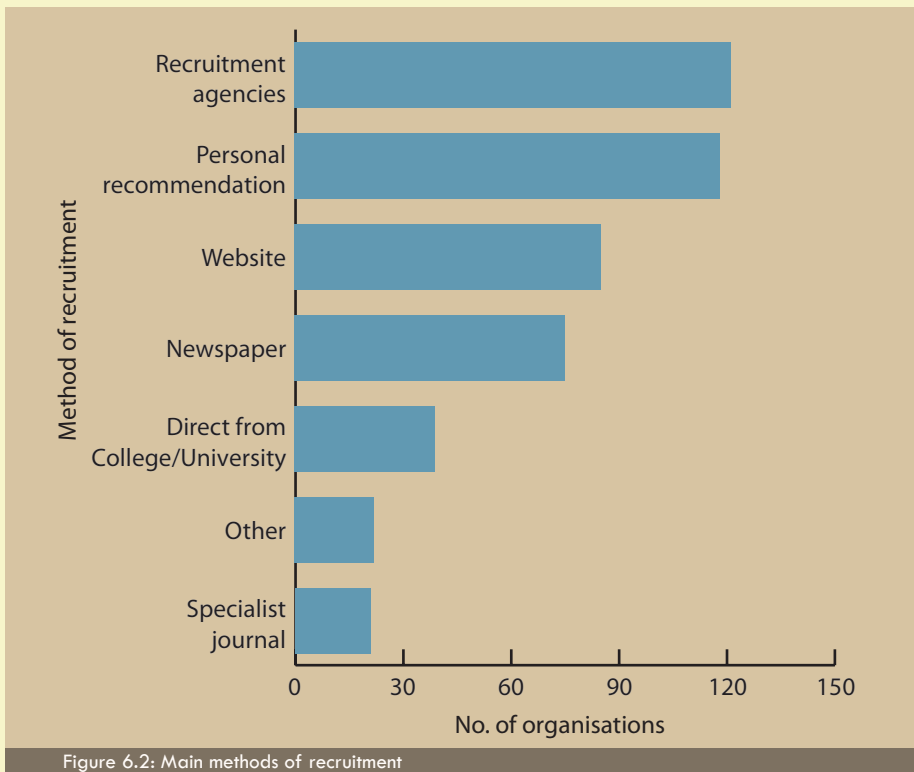


Figure 6.2: Do you have difficulty recruiting managers/supervisors?

The main methods of recruitment for organisations in this survey are recruitment agencies (121 organisations use this approach) and personal recommendation (118 organisations use this approach) (see Figure 6.2).



8. Recommendations

Apprenticeships

Where companies are not currently engaged with apprenticeships, but were interested in finding out more information, their company names have been shared with NAS (National Apprenticeship Services) to give assistance.

With the advent of increased undergraduate student fees the likelihood of high calibre GCSE and A level students seeking work which offers continuing education may be greater. This should assist with attraction of the 'High Calibre Apprentices' that companies are seeking. To support this, NAMTEC are currently working with employers in the development of an enhanced advanced apprenticeship scheme. To support this, NAMTEC are currently working with a group of employers to enhance the current training provision for advanced apprenticeships as part of a short term pilot project. This project aims to improve training provision (quality, consistency across providers, attraction and retention for example) and better align training provision with current and future business requirements.

Among the high, intermediate and generic skills and jobs that have been identified by UKCES¹ intermediate vocational skills and skilled trades within manufacturing and engineering were identified as jobs that matter to future UK economic growth.

The Government² are committed to expanding the number of adult advanced apprenticeships and to improving the programmes to ensure that Technician Level 3 becomes the level to which learners and employers aspire. To further help reinforce this development route for staff the progression into Level 3 apprenticeships will be made clearer as will the routes into level 4 Apprenticeships or Higher Education.

Further Education/Higher Education

The increased take up of post graduate study is beneficial for the sector but this should be maintained by ensuring the support to existing Part Time programmes continues to meet employers current and future needs. Ongoing employer engagement is pivotal in accomplishing this. Where Part Time programmes cease due to economic reasons, the surviving metals, materials and management programmes should seek to offer modules of relevance to those no longer able to study on their original intended path.

In 22% of companies that cited the development of Technical Knowledge being required (including metals) the opportunities for employees to engage in flexible part time FE/HE study should be marketed more widely. For example NAMTEC in partnership with University of Hull will have available a new qualification; University Certificate in Metallurgy (NQF Level 4) available for study from April 2011 onwards. This will provide the underpinning metallurgical knowledge for those working in the metals sector but that don't yet have a formal qualification.

1 UK Commission for Employment and Skills (UKCES) Skills for jobs: Today and Tomorrow. The National Strategic Skills Audit for England 2010 Volume 1 Key Findings

2 BIS (Department for Business Innovation & Skills) Skills for Sustainable Growth Strategy Document November 2010

UKCES³ references the future importance to economic growth of management and leadership skills, professional skills in a number of sectors including manufacturing (traditional and advanced especially for STEM skills, and in teaching and research. The companies supporting their employees in skills and knowledge development (technical and engineering) should be better placed to face and succeed in the global marketplace.

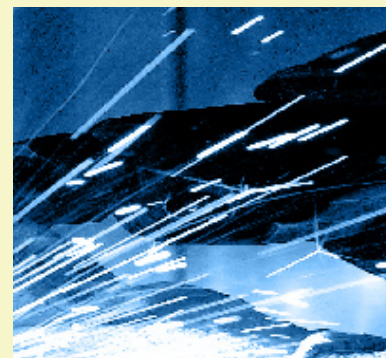
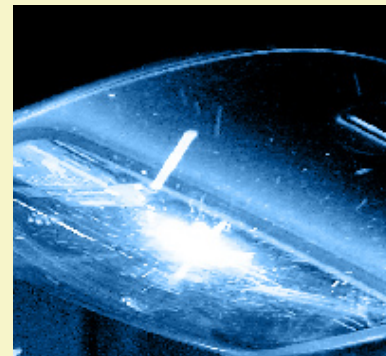
Significant progress has been made in the UK in raising the qualifications of the workforce and stimulating supply over the past 10 years so that the supply of highly skilled people is likely to place the UK in 10th in the Organisation of Economic Co-operation and Development (OECD) by 2020. This progress needs to be sustained³.

Technical Training Knowledge /Needs

NAMTEC should contact the 22% of companies who cited a wide range of as yet undelivered technical training needs. They should identify, where possible their specific requirements and at what level/s and assess whether as an organisation it can help the company directly or identify who/which organisation would be best for the company to engage with.

BIS in Skills for Sustainable growth (Nov 2010) recognises that the UK is currently weak in 'vital' intermediate technical skills that are increasingly important as jobs become more highly skilled and technological change accelerates. A number of measures are considered to help address the situation one of which is that 'at least £100million of Government investment will support training delivered to SME's each year. One mechanism is likely to be through Business Co Funding training with the growth and innovation fund; and although the criteria and mechanisms for these are not yet clear, NAMTEC will be seeking involvement, where appropriate, and communicating its intentions and seeking views from the SMF, TIG and AEM and its future membership networks.

3 UK Commission for Employment and Skills (UKCES) Skills for jobs: Today and Tomorrow. The National Strategic Skills Audit for England 2010 Volume 1 Key Findings




Appendix I: Technical Skills Audit questionnaire



Thank you for taking the time to complete our survey, which is being carried out by Research Toolkit on behalf of NAMTEC (click here to read a covering letter outlining the importance of this work produced by Richard Wright, Chair - Special Metals Group, NAMTEC; and Anita Sunderland, Manager - Training and Development, NAMTEC).

All responses will be treated in the strictest confidence, no individual company information shall be disclosed without the prior consent of the company. We only ask for Company-specific information in order to monitor response rates. Research Toolkit is registered with the Information Commissioner (registration number Z1305667) in the United Kingdom to collect and store research and evaluation data in accordance with strict national guidance. Click here to view Research Toolkit's data protection code of practice.

There are a number of screens or pages of questions, which should take around 5-10 minutes of your time to complete. The 'progress bar' in the top left-hand corner of the screen provides an indication of your progress through the questions. If you **are not** the most appropriate person in your organisation to tell us about training and skills, please tick the box below. Otherwise, please click 'Next' to continue.

 Company contact information

Name of individual to receive this survey:

Their email address:

 Section 1: Company information

Please tell us your name in the box below

Please tell us which company you represent

 Section 1: Company information

Are you responding on behalf of a business unit/subsidiary within a larger organisation or are you responding on behalf of the whole organisation? (please tick the appropriate box below)

I'm responding on behalf of a business unit/subsidiary

I'm responding on behalf of the whole organisation

 Section 1: Company information

Please tell us the name of the business unit/subsidiary you are representing

 Section 1: Company information

Which market sectors do you operate within? (please tick all that apply)

- | | | | |
|---------------------------------------|---|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Auto | <input type="checkbox"/> Defence | <input type="checkbox"/> Marine | <input type="checkbox"/> Renewables |
| <input type="checkbox"/> Aerospace | <input type="checkbox"/> Power generation | <input type="checkbox"/> Rail | <input type="checkbox"/> Nuclear |
| <input type="checkbox"/> Construction | <input type="checkbox"/> Medical | <input type="checkbox"/> Fossil fuel | <input type="checkbox"/> Other |

If 'Other', please tell us which sector this is in the box below

i Section 1: Company information

What are your main business area(s)? (please tick all that apply)

- | | | | |
|--|-----------------------------------|------------------------------------|--------------------------------|
| <input type="checkbox"/> Casting | <input type="checkbox"/> Pressing | <input type="checkbox"/> Forging | <input type="checkbox"/> Other |
| <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Melting | <input type="checkbox"/> Machining | |
| <input type="checkbox"/> Fabrication | <input type="checkbox"/> Rolling | <input type="checkbox"/> Extrusion | |

If 'Other', please tell us about this

i Section 1: Company information

Where does your company operate?

--Click Here--
UK only
Internationally (outside of the UK)
Both (UK and internationally)

Which market sectors do you operate within? (please tick all that apply)

- | | | | |
|---------------------------------------|---|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Auto | <input type="checkbox"/> Defence | <input type="checkbox"/> Marine | <input type="checkbox"/> Renewables |
| <input type="checkbox"/> Aerospace | <input type="checkbox"/> Power generation | <input type="checkbox"/> Rail | <input type="checkbox"/> Nuclear |
| <input type="checkbox"/> Construction | <input type="checkbox"/> Medical | <input type="checkbox"/> Fossil fuel | <input type="checkbox"/> Other |

If 'Other', please tell us which sector this is in the box below

i Section 1: Company information

What are your main business area(s)? (please tick all that apply)

- | | | | |
|--|-----------------------------------|------------------------------------|--------------------------------|
| <input type="checkbox"/> Casting | <input type="checkbox"/> Pressing | <input type="checkbox"/> Forging | <input type="checkbox"/> Other |
| <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Melting | <input type="checkbox"/> Machining | |
| <input type="checkbox"/> Fabrication | <input type="checkbox"/> Rolling | <input type="checkbox"/> Extrusion | |

If 'Other', please tell us about this

i Section 1: Company information

Where does your company operate?

--Click Here--
UK only
Internationally (outside of the UK)
Both (UK and internationally)

Are these Electrical Engineering apprenticeships?

- Yes
 No

If 'Yes', how many current Electrical Engineering trainees do you have (please tell us in the box below)?

i Section 2: Apprenticeships (focussed at NQF level 3 and predominantly part-time delivery)

Are these Mechanical Engineering apprenticeships?

- Yes
 No

If 'Yes', how many current Mechanical Engineering trainees do you have (please tell us in the box below)?

i Section 2: Apprenticeships (focussed at NQF level 3 and predominantly part-time delivery)

Are these Technical Engineering apprenticeships?

- Yes
 No

If 'Yes', how many current Technical Engineering trainees do you have (please tell us in the box below)?

i Section 2: Apprenticeships (focussed at NQF level 3 and predominantly part-time delivery)

Are these 'Other' Engineering apprenticeships?

- Yes
 No

If 'Yes', please tell us which type of 'Other' apprenticeships these are (please tell us in the box below)?

If 'Yes', how many 'Other' Engineering trainees do you have (please tell us in the box below)?

i Section 2: Apprenticeships (focussed at NQF level 3 and predominantly part-time delivery)

Do you have a preferred supplier for any of your apprenticeship programmes?

- Yes
 No

If 'Yes', could you tell us who this is (please tell us in the box below)?

i Section 2: Apprenticeships (focussed at NQF level 3 and predominantly part-time delivery)

Would you be interested in finding out more information/participating in a programme for Apprenticeships?

- Yes
 No

i Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Do you currently have staff studying towards a HNC qualification?

- Yes
- No

i Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Could you tell us the title(s) of these programmes?

Approximately how many students are currently engaged on these programme?

Approximately how many of these are full-time/block release?

Approximately how many of these are part-time?

Which Higher Education colleges/institutions are your staff currently associated with on these programmes?

Which Further Education colleges/institutions are your staff currently associated with on these programmes?

i Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Do you currently have staff studying towards a HND qualification?

- Yes
- No

i Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Could you tell us the title(s) of these programmes?


Approximately how many students are currently engaged on these programme?

Approximately how many of these are full-time/block release?

Approximately how many of these are part-time?

Which Higher Education colleges/institutions are your staff currently associated with on these programmes?

Which Further Education colleges/institutions are your staff currently associated with on these programmes?

 Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Do you currently have staff studying towards a Foundation Degree qualification?

- Yes
 No

 Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Could you tell us the title(s) of these programmes?


Approximately how many students are currently engaged on these programme?

Approximately how many of these are full-time/block release?

Approximately how many of these are part-time?

Which Higher Education colleges/institutions are your staff currently associated with on these programmes?

Which Further Education colleges/institutions are your staff currently associated with on these programmes?

 Section 3: HNC/HNDs/Foundation Degrees *focussed at NQF 4/5 and predominantly part time

Would you be interested in finding out more about the following programmes for your staff? (please tick the ones you are interested in)

- HNDs
 HNCs
 Foundation Degrees
 No thanks, I'm not interested in any of these programmes

[Click here for information on currently available HNC/HND courses.](#)

Foundation Degrees are gradually replacing HNC's as the route for part/full-time students to enter Higher Education/University. They are vocationally focussed, designed and delivered with employers and validated by Universities. For further information [click here.](#)

 Section 4: Graduate/Postgraduate training NQF level6/7/8

Do you currently support your staff to study at postgraduate level (i.e. beyond their HNC/HND/Foundation Degree, BEng/BSc)?

- Yes
 No

 Section 4: Graduate/Postgraduate training NQF level6/7/8

Could you tell us how you do this (for example which courses or programmes do you enrol them for)?

Approximately how many students are currently supported in this way?

Approximately how many of these are full-time?

Approximately how many of these are part-time?

Which Universities/institutions are your staff currently associated with on these programmes?

 Section 4: Graduate/Postgraduate training NQF level6/7/8

Would you be interested in finding out more information/participating in a programme as part of Graduate/Postgraduate staff development?

- Yes
 No

AEM Futures provides companies with a flexible attraction, selection and development programme through undergraduate and graduate solutions to deliver future talent. Would you be interested in this service?

- Yes
 No

NAMTEC is undertaking a national market perception analysis later in the year that will seek to gain a better understanding of the key issues facing Advanced Engineering and Metals companies in the UK. Would you be willing to take part in this work, which will involve completing a short survey?

- Yes
 No

 Section 5: Workforce Development

Do you currently use technical skill development programmes?

- Yes
 No

 Section 5: Workforce Development

Which ones do you currently use (name of programme and provider)?

Would you be interested in finding out more information/participating in a programme as part of Graduate/Postgraduate staff development?

- Yes
 No

AEM Futures provides companies with a flexible attraction, selection and development programme through undergraduate and graduate solutions to deliver future talent. Would you be interested in this service?

- Yes
 No

NAMTEC is undertaking a national market perception analysis later in the year that will seek to gain a better understanding of the key issues facing Advanced Engineering and Metals companies in the UK. Would you be willing to take part in this work, which will involve completing a short survey?

- Yes
 No

 Section 5: Workforce Development

Do you currently use technical skill development programmes?

- Yes
 No

 Section 5: Workforce Development

Which ones do you currently use (name of programme and provider)?

 Section 5: Workforce Development

Are your company training requirements (in terms of technical knowledge/skills) met within the marketplace?

- Yes
 No

 Section 5: Workforce Development

At what level is this? (tick all that apply)

- Operator
 Team Leader
 Graduate
 Other

If 'Other', please tell us what these are.

 Section 5: Workforce Development

Are these in practical skill areas?

- Yes
 No

 Section 5: Workforce Development

Can you please provide details of the practical skill areas? (tick all that apply)

- Communication skills
- Teamworking skills
- Numeric skills
- ICT skills
- Problem solving skills
- Other

If 'Other', please tell us about these here.

 Section 5: Workforce Development

Do your training needs include the development of technical knowledge?

- Yes
- No

 Section 5: Workforce Development

Can you please give us details of the types of technical knowledge required? (tick all that apply)

- CNC machining/programming
- Welding and joining
- NDT
- Laboratory skills
- Furnace operation
- Instrumentation
- Other

If 'Other', please tell us about these here.

 Section 5: Workforce Development

If you employ engineers/technicians have they expressed interest in Professional Membership with either the Engineering Council or the Science Council?

- Yes, expressed an interest in Engineering Council
- Yes, expressed an interest in Science Council
- No, they haven't expressed an interest

 Section 5: Workforce Development

At what level is this?

- Engineering technician
- Incorporated engineer
- Chartered engineer

 Section 5: Workforce Development

Do you currently have preferred training providers?

- Yes
- No

 Section 5: Workforce Development

Could you tell us who these are and the types of training support they provide?

 Section 6: Recruitment

Do you have difficulty recruiting **Metallurgists**?

- Yes
- No, not required

 Section 6: Recruitment

At what level is this? (tick all that apply)

- Operator
- Team Leader
- Graduate
- Other

If 'Other' above, please tell us about this?

 Section 6: Recruitment

Do you have difficulty recruiting **Materials Scientists**?

- Yes
- No, not required

 Section 6: Recruitment

At what level is this? (tick all that apply)

- Operator
- Team Leader
- Graduate
- Other

Do you have difficulty recruiting **Electrical/Electronic Engineers**?

- Yes
 No, not required

 Section 6: Recruitment

At what level is this? (tick all that apply)

- Operator
 Team Leader
 Graduate
 Other

If 'Other' above, please tell us about this?

 Section 6: Recruitment

Do you have difficulty recruiting **Manufacturing Engineers/Technologists**?

- Yes
 No, not required

 Section 6: Recruitment

At what level is this? (tick all that apply)

- Operator
 Team Leader
 Graduate
 Other

If 'Other' above, please tell us about this?

 Section 6: Recruitment

Do you have difficulty recruiting **Managers and supervisors**?

- Yes
 No, not required

 Section 6: Recruitment

Do you have difficulty recruiting to **Other** posts?

- Yes
 No, not required

If 'Yes', please tell us about these posts?



Section 6: Recruitment

What are your main methods of recruitment? (please tick your top three approaches)

- Newspaper
- Website
- Specialist journals
- Recruitment agencies
- Direct from College/University
- Personal recommendation
- Other

If 'Other' above, please tell us about this?

Thank you for taking the time to give us this information, please click submit to send this to us.

Appendix 2: Comparison of 2010 Audit results with NAMTEC 2008 National Technical Skills Audit and National Strategic Skills Audit for England 2010 (UKCES)

Area	NAMTEC 2008	NAMTEC 2010	External References
Respondee Sector	Construction 60% Automotive 54% Energy 44% Aerospace 40% Defence 36% Marine 32% Rail 32%	Power Gen 59% Defence 49% Aerospace 47% Construction (33%) Marine 40% Rail 29%	Input from SAMI, IER & Sector Skills Council Cluster reports including SEMTA ¹ (SSC for Science, Engineering & Manufacturing Technologies UK). 35 reports in total.
Main business areas	Melting, forging, rolling, pressing, fabrication, casting	Manufacturing, machining, fabrication, casting & forging.	
Area of operation	60% UK Based only, 40% International Operations.	22% UK only 76% UK + International 2% International only.	95% Companies employ less than 10 people and account for ¼ of jobs 0.2% of companies employing 250 + people and account for over ½ of jobs
Company size	50% 20-250 employees 27% 1-19 8% 251-499 27% 500+	55% 20-250 employees 28% 1-19 6% 251-499 11% 500+	Manufacturing accounts for 1 job in 8 in UK. Construction 1 job in 12.
Support to Apprenticeships	48% running apprenticeships 47 % wanted further info.	45% running apprenticeships. Chiefly supported by org 20-250 employees. General Engineering most supported apprenticeship (680) Preferred supplier cited in 61% cases. 38 % of those not supporting Apprenticeships wanted information.	
Support to FE/HE	19% supported post grad study. 43% companies involved in HNC/HND/FD programmes Mechanical/electrical & materials/metallurgical.	36 % organisations supporting post grad study MSc/MBA. 21% support FDs. 17% support HNCs. Total Number staff supported 578.	Occupations employing highest number of people are in the 3 highest skills groups. Jobs that matter to future economic growth are mainly in the high skill occupations (managers, professionals, technical occupations & in personal service occupations) Science & technology professionals & technicians , high priority needs include, Traditional and Advanced Manufacturing, Low Carbon & Environmental Sciences.
Not supporting	37% companies not involved in apprenticeships/FE or HE activity	37% (78 respondents) of companies not involved in any activity. 77% do not use technical skill development programmes.	

¹ UK Commission for Employment and Skills Skills for Jobs: Today and Tomorrow The National Strategic Skills Audit for England 2010 Volume 1 Key Findings

Area	NAMTEC 2008	NAMTEC 2010	External References
<p>Technical training needs</p>	<p>80% companies believed technical/knowledge skills needs met by existing provision. Of the remaining 20% Needs identified: Foundry Practice Basic/advanced metallurgical/materials training Sector specific e.g. metals for use in offshore applications.</p>	<p>78% companies believed technical/knowledge skills needs being met by existing provision. Mostly at operator level (50%) and team leader level (50%). Most developed/used provision: Teamwork Skills Communication Skills Problem Solving Practical Skills Testing skills, Business Improvement techniques Basic mathematics Exporting skills.</p> <p>22% companies training requirement not being met. At Operator level 14%. <i>Technical areas:</i> Skilled Engineers Draughtsmen Technical design engineers Metallurgical engineer.</p> <p>89% respondents current training needs included the development of technical knowledge. Most sought after: CNC Machining /Programming/NDT (1/3 companies needed these Welding & Joining Laboratory Skills Instrumentation Furnace Operation Engineering Technical skill Design Forging Construction Metals Casting</p>	

Area	NAMTEC 2008	NAMTEC 2010	External References
<p>Recruitm't</p> <p>Hard to recruit staff</p>	<p>Recruitment Graduates</p> <p>38% companies struggling to recruit</p> <p>Metals/materials graduates, 23% electrical engineers</p> <p>20% manufacturing engineers</p> <p>19% Mechanical Engineers</p> <p>Team Leader level</p> <p>7% difficulty with electrical/electronic, 8% mechanical engineers, 5% manufacturing engineers, 4% metallurgical, 2% material science 1% other team leaders</p> <p>Operator Level</p> <p>8% companies electrical/electronic vacancies</p> <p>6% mechanical engineers</p> <p>8% manufacturing engineers</p> <p>Technician level</p> <p>4% Electrical/Electronic engineers</p> <p>3% Mechanical Engineers</p> <p>1.5% Manufacturing Engineers</p> <p>2% metallurgical& Material Science</p> <p>1.5% CAD Technicians & Instrument Technicians</p>	<p>Recruitment Graduates</p> <p>22% companies have difficulty recruiting metallurgists.</p> <p>19% Mechanical Engineers</p> <p>15% Materials Scientists</p> <p>10% Electrical Engineers</p> <p>11% Manufacturing Engineers</p> <p>Other difficult to recruit posts</p> <p>High calibre apprentices</p> <p>Sales personnel</p> <p>Marketing managers</p> <p>Electrical fitters</p> <p>Experienced draughtsmen</p> <p>Foundry engineers</p> <p>Skilled Moulders</p> <p>Project engineers</p> <p>19 % had difficulty recruiting managers and/or supervisors.</p>	<p>Skills Shortages</p> <p>Affect 3% establishments mainly employing < 25 staff. These are in technical/professional occupations and skilled trades.</p> <p>Skills Gaps</p> <p>50% of workplaces are deficient in Professional/Technical Occupations & Skilled trades in every sector but manufacturing one of the highest sectors .</p> <p>Generic skills gaps; customer handling, team working and oral communication skills.</p> <p>Skills gaps affect 1 in 5 employers; 7% of workforce exhibit skills gap (around 1.7 million workers not fully proficient)</p>
<p>Mechan'sm of recruitment</p>	<p>Mechanisms of recruitment</p> <p>Newspaper Ads 25 %</p> <p>Companies</p> <p>Personal Recommendations (20%)</p> <p>Recruitment Agencies (22%)</p>	<p>Mechanisms of recruitment</p> <p>Recruitment Agencies 57 % Organisations</p> <p>Personal recommendation 56%</p> <p>Website 90 Orgs</p> <p>Newspaper 65 orgs.</p> <p>FE/HE Direct Contact 15 orgs.</p>	