

The Sector Skills Council for Science,  
Engineering and Manufacturing Technologies

semta



Engineering Skills Balance  
Sheet - Northern Ireland  
An analysis of Supply  
and Demand issues



Department for  
**Employment  
and Learning**  
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# Engineering Skills Balance Sheet - Northern Ireland

## An analysis of Supply and Demand issues

### Key Findings - June 2008



This document sets out the critical skill supply and demand issues facing the Engineering sector within Northern Ireland and the associated actions required by key stakeholders to address these issues. It has been produced by Semta for the Department for Employment and Learning to inform the implementation of the Semta Sector Skills Agreements. The Engineering Training Council (ETCNI) represents the interests of Semta in Northern Ireland.

#### Sector profile

- Northern Ireland accounts for 3% of all UK Engineering employment and 2.5% of all UK Engineering establishments.
- The Engineering industry in Northern Ireland employs over 33,200 people (39,600 including self employed and casual labour) in 1,780 establishments.
- The largest sectors in terms of employment are the electrical and electronics sector and the metals sectors.
- Northern Ireland has above average concentrations of employment in the aerospace and electronics sectors when compared to the UK.

#### Workforce demographics

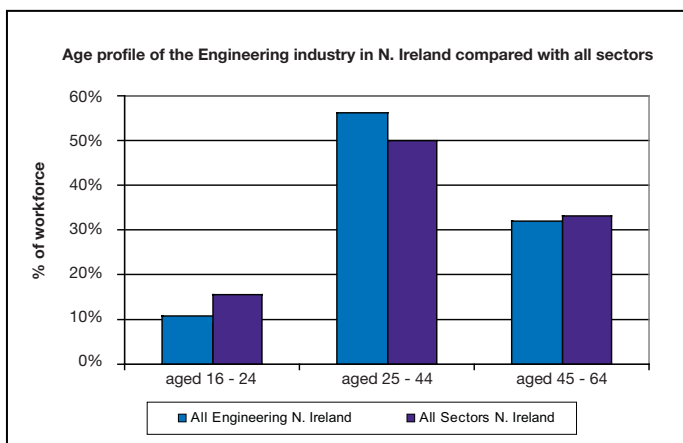
- 96% of the Engineering workforce is employed on a full-time basis.
- 82% of the Engineering workforce is male.
- In the future, an ageing workforce and recruitment of young people will be an issue for the Engineering industry in Northern Ireland. 56% of the Engineering workforce in Northern Ireland is aged 25-44 compared with 50% in all sectors in Northern Ireland and 48% in the UK. Only 11% of the Engineering workforce in Northern Ireland is aged 16-24 compared to 16% for all sectors in Northern Ireland.

#### Employment trends and future projections

- A net increase in employment is likely in a number of Engineering sectors in Northern Ireland. Over the period 2008-2014 projections point to a net requirement for over 8,000 new employees (1,350 per annum) to replace those who leave their jobs because of retirement or other reasons.
- It is expected that there will be a shift in the occupational structure of the workforce away from manual and unskilled jobs towards higher level managerial, professional, sales and customer services jobs.

#### Competitiveness and Productivity

- The Engineering sector accounts for 8.1% of total Gross Value Added (GVA) within Northern Ireland. The average GVA per employee for the Engineering industry in Northern Ireland was £40,000 in 2005, significantly higher than the figure of £33,000 for all sectors of the economy in Northern Ireland.

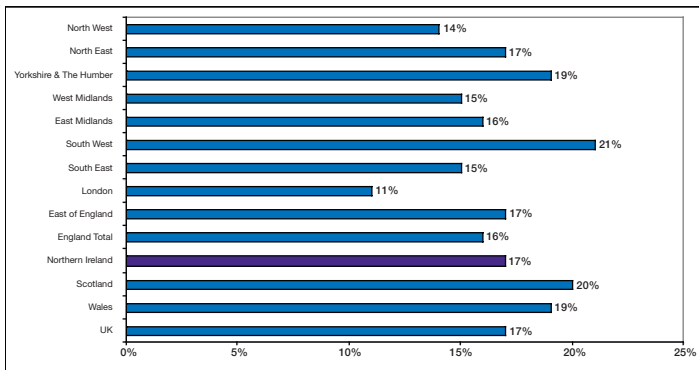


Source: Annual Population Survey 2006

## Recruitment – Skills shortages

- Over 2,500 people were recruited into the Engineering industry in Northern Ireland between March 2006/7.
- There were an estimated 535 hard-to-fill vacancies within Engineering establishments in Northern Ireland over this period, the majority relating to skilled trades/craft (56%) and professional (16%) vacancies.
- It is estimated that these hard-to-fill vacancies cost the Northern Ireland economy over £21 million in lost GVA.
- The main reasons cited for hard-to-fill vacancies were a lack of applicants with required qualifications and skills, a lack of applicants with required work experience and a general lack of applicants.

## Percentage of Engineering establishments with hard-to-fill vacancies by region and nation

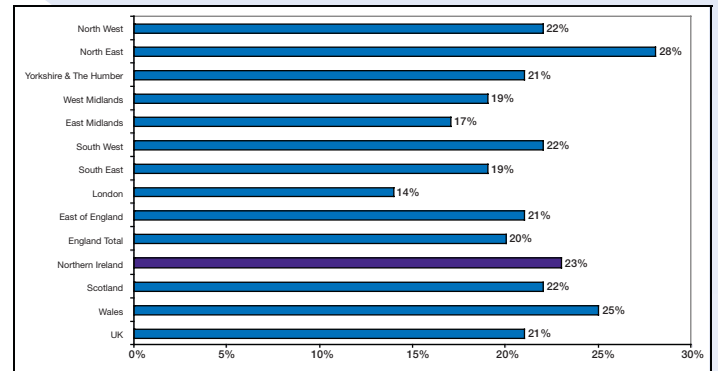


Source: Semta LMS Survey 2007

## Skills Gaps in the current workforce

- 23% of Engineering establishments in Northern Ireland reported skill gaps, higher than the proportion within the UK (21%).
- Employers in Northern Ireland expected skills gaps for operators, craftspersons and technicians would have the most significant effect on their business.
- The main skills cited as lacking in employees was technical and engineering skills at all levels; 72% of those Engineering establishments in Northern Ireland reporting skill gaps.
- The main technical skills gaps for the Engineering sector in Northern Ireland related to welding, CNC machine operations, mechanical engineering skills, metalworking and electrical engineering skills.
- The generic skills gaps highlighted were for management skills (4%), key or core personal skills (2%) and marketing or selling skills (2%).
- Together with changes in skill requirements, qualifications demanded by employers are likely to change, with an increasing requirement for intermediate and higher level qualifications. Over the period 2008-2014 there is expected to be a net requirement within the Engineering industry in Northern Ireland for about 1,700 people at NVQ Level 2, about 1,900 people at NVQ Level 3, about 1,600 at NVQ Level 4 and about 400 at NVQ Level 5.

## Percentage of Engineering establishments reporting skill gaps by region and nation



Source: Semta LMS Survey 2007

## Education and Training

- 31% of all Engineering establishments within Northern Ireland employed apprentices or recognised trainees (22% for UK Engineering). However, this varies considerably by size of establishment, ranging from 67% of those establishments employing 250 or more employees to only 16% of those employing less than 10 employees.
- The majority of Modern Apprenticeship starts in Northern Ireland during 2005/6 related to mechanical engineering (152 MA1 starts, 140 MA2 starts).
- In 2005/6 there were 975 first year engineering students in Higher Education from Northern Ireland studying in the UK. 735 of these engineering students were studying in Northern Ireland leaving a net outflow of 240 students.
- 56% of all Engineering establishments in Northern Ireland had arranged training over the last 12 months, mirroring the respective figure for the UK.
- The most frequently utilised type of training provider is company in-house training (51% of establishments in Northern Ireland) followed by commercial training providers (43%), FE colleges (35%) and equipment supplier/vendor training (32%). The providers least likely to be used are Higher Education institutions (8%) and employer associations, professional bodies or institutes (11%).



# Key Messages for Stakeholders

## Employers

- Future business for employers will rely on the good reputation and proven capability of their workforce.
- Need to increase investment in skills for their existing workforce.
- Global competition will increasingly require the workforce to have higher level skills.
- The age of the existing workforce will provide significant replacement challenges.
- Need to change existing recruitment practices and increase recruitment from ethnic minority groups, females and older workers from other sectors of the economy.

13% of Engineering employees in Northern Ireland have no qualifications and many more are under-qualified for their roles, including:

- 22% of Managers.
- 10% of Professionals.
- 73% of Technicians.
- 24% of Skilled Trades (Craft).
- 66% of Operators.

## Providers of Education and Training

The future Education and Training delivery network will need to have the capability and capacity to deliver appropriate workforce development to provide sector needs.

For the Engineering sector in Northern Ireland there is a potential upskilling requirement for more than 14,000 people across management and core technical occupations, consisting of:

- 950 Managers requiring development to Level 3 and above.
- 150 Professional Engineers requiring development to Level 4 and above.
- 1,650 Technicians requiring development to Level 4 and above.
- 3,300 Skilled Trades (Craft) requiring development to Level 3 and above.
- 8,200 Operators requiring development to Level 2 and above.

Additionally, there is an annual requirement for training about 1,350 new recruits across all occupations into the Engineering sector in Northern Ireland, to replace those retiring.

The future successful provider network will ensure:

- An increased focus on upskilling the existing workforce.
- Provision delivery is flexible, employer focused and responsive to employer needs.
- Skills are an integral component of total business development.
- They are able to meet an increasing degree of specialisation.
- The skills and knowledge of the training and delivery workforce are constantly updated.

## Individuals

Employers will require a capable workforce that will consist of:

- Operators capable of working at Level 2 including globally competitive work-practices.
- Skilled Trades (Craft) personnel capable of working at Level 3.
- Technicians capable of working at Level 4.
- Professional Engineers being capable of working at Level 4 and 5.
- Managers capable of working from Level 3 to 5.

The successful employee of the future will have to consider:

- The nature of manufacturing and engineering employment is changing.
- There will be an increased demand for higher level skills.
- Employers increasingly demand a broader range of skills including softer skills such as communication and team working.

## Funding and Planning Bodies

- Funding needs to be flexible enough to meet the wide range of employer needs.
- There is a need to demonstrate a strong link between skills investment and improved productivity and profitability.
- The need to invest in improving the capacity and capability of provider resources and staff.
- Provision and investment needs to align with the changing nature and needs of the sector.



## Find out more

For further information, please visit Semta's or ETC NI's website:  
[www.semta.org.uk](http://www.semta.org.uk) - [www.etcni.org.uk](http://www.etcni.org.uk)

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