

SIEMENS Industrial Turbomachinery Ltd, Lincoln

Background

Siemens Industrial Turbomachinery Ltd is based in Lincoln and, with 1,600 employees, is the largest private employer in the county. Part of Siemens' Energy Sector, the company designs, manufactures, installs and provides life-time support for gas turbines used for Industrial Power Generation and in the Oil and Gas Industry. The location of the business is rural and, over time, it has been quite hard to recruit the right skills from within the county. The overriding objective of Siemens' work with schools is, therefore, the development of greater interest in the right skills to enable students to enter careers in engineering.

Currently the business has 63 apprentices and 17 graduates at various stages of training. In 2003, there was a decline in the number of suitably qualified applicants for the Siemens Advanced apprenticeship programme, reflecting a steady decline nationally in the number of young people interested in Science, Technology, Engineering and Maths subjects which has impacted on the recruitment, not only of apprentices, but also graduates.

The education programme strategy, policy and procedure were developed with the overall aim of raising the aspirations and academic achievement of young people. The programme is operated in Lincolnshire with the main focus on the City of Lincoln and, in particular, areas recognised as having social deprivation and unemployment issues.

Links with primary schools

Research has identified that interest in science, technology, engineering and maths needs to be cultivated from an early age.

Links with the Lincolnshire and Rutland Education Business Partnership has enabled Siemens to work with primary schools in the county by supporting activities which include the annual Knex challenge. This competition provides primary school children with an introduction to the exciting world of design and engineering by inviting them to produce a specific design solution for a problem posed, and then build it using K'Nex.

Science Clubs are an initiative funded by the Government at secondary school level, but Siemens engineers operate after school science clubs in primary schools within the City, again to excite young people about the STEM related subjects and show how they can be linked into the real world.

Links with secondary schools

Siemens also works with 28 secondary schools from within Lincolnshire and in particular schools in the City, and has supported 3 schools to bid and achieve Specialist Status in science, technology and engineering.

To develop the partnership with the Specialist Status Schools, all staff from head teacher to the administrative staff visited the site to familiarize themselves with the business and look at ways of developing a working partnership for the future, and this has been the basis for collaboration on a number of projects.

Annually, 450 days work experience is completed by school pupils aged 15/16 upwards. Almost all of these placements are in engineering areas. Again partnership working helps, with all the health and safety checks and co-ordination of schools and dates being undertaken by the Lincolnshire and Rutland Education Business Partnership.

Industrial visits are usually linked to the curriculum, for example GCSE or A level in engineering. Students look at specific elements of a subject area and discuss with relevant engineers and, if appropriate, they undertake a tour of the main manufacturing facility. Linking the visits to the curriculum works for the business and the school, forming a focus for both parties, and enables evaluation of what is delivered to take place.

Science and Engineering Ambassadors is a national programme operated via STEMNET; and we provide 28% of the Ambassadors for Lincolnshire. These are engineers who work with primary and secondary school pupils to explore what STEM has to offer and encourage engineering to be considered as a career.

The company now operates an annual Female into Industry Challenge:

In 2003, twenty Year 8 girls from 10 schools in Lincolnshire worked on a challenge to design and make a desk tidy using CAD, manufacturing equipment and traditional hand skills. The girls were supported by first year apprentices who act as mentors and role models for the two days. On the evening of the second day the main influencers of students' careers choices - parents and teachers - are invited to a buffet reception, where they see photographs of the girls working over the two days and hear the girls give presentations on their experiences. This feedback provides the business with immediate evaluation of the project.

A year later, the same group of students is invited to return to undertake a one day challenge to make a clock. Written evaluation takes place, by post, following the day and the offer of an engineering work experience placement is made to each participant, when they are in Year 10. Also permission is sought to hold the names of the students on file to send them details of our apprenticeship programme at the appropriate time.

50% of the girls from 2003 returned in 2004 to take part in a one day event and in 2005 45% of the group returned to undertake work experience. This resulted in 22% of the original 2003 group applying for apprenticeships in 2006.

A small budget, along with creative thinking, enables many initiatives to be undertaken. Alongside the budget and 50% of the time of a lead member of staff, the key resource is the skills, expertise and willingness of our employees. Other initiatives include:

- Managers being selected to become governors at the specialist status schools we have supported and developed working relationships with.
- Engineers, graduates and apprentices supporting the Science and Engineering Ambassadors programme.
- Works staff supervising school students undertaking work experience placements.
- A number of employees, from all levels across the business, volunteering to become school governors and also providing support for visits to site by students.

BENEFITS for the business

- Since 2003, Siemens in Lincoln has seen a 30% increase in suitably qualified applicants for their advanced apprenticeships.
- 22% of the original Females Challenge group has applied for positions on the company apprenticeship programme.
- 19% of those who completed a work experience placement in 2005 applied for a position on the apprenticeship programme in 2006 and in 2007 this increased to 21%.

Other benefits include:

- Employees not normally involved in supervisory roles undertake Supervision for Work Experience, developing skills which give career progression opportunities in the future and generate staff motivation.
- Staff are encouraged to become SEAs, offering personal development which includes improvement in confidence, communication and presentation and organisational skills.
- For engineers working towards incorporated or chartered status, Science and Engineering Ambassador work supports them to achieve one of the Engineering Council objectives.
- All employees who come into contact with students, teachers and partners from education gain awareness of systems and processes of an academic world, making them more aware professionally and personally.
- Development on education initiatives demonstrates to staff the commitment of the business to community involvement and has in the past resulted in graduates selecting us as an employer of choice because of the programme.

- Receipt of the Business in the Community Big Tick for the last 6 years, the Institution of Mechanical Engineers Manufacturing Excellence National Award in 2006, and the Top+ Award for Corporate Citizenship in 2008 has enhanced the statements made in the policy and procedure.

BENEFITS for the education community

Close links with Specialist Status Schools has enabled Siemens to work with students who have shown an interest and commitment to engineering and manufacturing.

Students are inspired and motivated by the opportunities demonstrated by company employees on completion of GCSE's, providing the right grades are achieved.

Teaching staff are benefiting not just in technology departments but Modern Foreign Languages – copies of the company in-house newsletter are provided in German. The Art Department was commissioned to produce art-work for customer support centre of the business.

Specialist schools are not the only ones to benefit. Reading partners aims to raise literacy levels of primary pupils by people from business going into schools once a week and listening to a small group of pupils read. We have supported the re-introduction of the programme by working with Business in the Community and the Education Business Partnership. Initially the partnership generated additional funding from Lincolnshire Co-operative and following the success of the programme for 2 years Lincolnshire County Council has agreed to fund the programme again, to the benefit of over sixty students in Lincoln.

The Education Programme in Lincoln has developed since it began in 2003 to the extent that Siemens is no longer just a Lincoln business providing support for the local community but is recognised nationally as having genuine commitment to the education of future generations.

Critical factors to the success of the programme include:

- Embedding their school links policy in the culture of the business
- Investing the time and expertise of employees from across the business, as well as money
- Demonstrable business benefits that have encouraged ongoing commitment.