

REPORT TO: Employment, Learning, Skills and Community
Policy and Performance Board

DATE: 9 June 2010

REPORTING OFFICER: Strategic Director, Environment & Economy

SUBJECT: Topic Group – Workforce and Skills for the
Science, Technology and Advanced Manufacturing
(STAM) Sector in Halton

WARDS: Boroughwide

1.0 PURPOSE OF THE REPORT

- 1.1 To update members on the work undertaken since July 2009 in identifying the current, and modelling the future, skills needs of the science, technology and advanced manufacturing sector in Halton and on the establishment of a STAM routeway aimed at supporting local residents into employment within the STAM industries.
- 1.2 The recommendations will help support the development of a clearly defined routeway of opportunities within STAM related sectors and will allow Halton's young people and adults, particularly those who are long term unemployed, to gain the skills needed to take up these employment opportunities.

2.0 RECOMMENDATIONS:

- a) That the recommendations outlined in section 5 of the report are progressed.**

3.0 BACKGROUND

- 3.1 The Borough of Halton already has a vital critical mass in the science, technology and advanced manufacturing sector. For example:
- *Daresbury Science and Innovation Campus; one of the UK's two premier large-scale research facilities*
 - *Daresbury Innovation Centre; high specification incubation facilities for small technology based businesses and university spinouts*
 - *The Cockcroft Institute; the National Centre for Accelerator Science*
 - *The Heath Business And Technical Park; the former global headquarters of the ICI now home to over 175 individual businesses many in the fields of science and research.*
 - *The presence of a great many existing businesses, many based at The Heath, at the cutting edge of science and innovation*

- *The embedded skills base of the existing chemical industry*
- *Proximity to the Northwest's premier FE and HE facilities*
- *An unrivalled position at the heart of the Northwest's communications network*
- *A portfolio of existing facilities and development land to attract new and expanding companies in the sector.*

3.2 The sector has therefore been recognised, alongside logistics and distribution, as key to the future prosperity of the Borough. Within this context, it was vital to explore the current access to appropriately skilled individuals that would be required to work in the STAM sector and to understand the employment opportunities that the STAM industries in Halton would afford.

3.3 It was equally vital that training pathways for young people in the borough were examined, alongside any gaps, and that an appropriate STAM routeway be proposed/developed.

4.0 SUPPORTING INFORMATION

4.1 The topic commenced with the formation of the Skills for the STAM Sector Steering Group, closely followed by a piece of research undertaken by Amion Consulting (autumn 2009) to:

- (a) Establish the skills and employment needs of inward investing science companies in Halton; and
- (b) To assess the potential of young people and adults, including the long term unemployed, in being able to access future jobs in these sectors.

An e-mail questionnaire was sent out to all 161 businesses in the sector in Halton and followed up by telephone. A total of 32 interviews were undertaken (of which 8 were conducted face-to-face and 24 by telephone). A further 12 interviews were undertaken with stakeholders.

4.2 The STAM research was completed in January 2010 and this was shared with PPB Topic Group members at its March 2010 meeting. The main recommendations within the report focused on the development of a STAM routeway, which in turn would be made up of the following elements:

- *Careers education and advice*
- *Engagement, advice and support; and*
- *Pre employment skills (including training) and workforce development*

A copy of the Executive Summary is attached at Appendix 1.

5.0 Topic Group findings/recommendations

5.1 Taking into consideration the findings of: the STAM research; discussions with council officers during Topic Group meetings; and an

improved knowledge base acquired of the recruitment and training needs for the STAM industries in Halton, the joint Topic Group concluded the following:

(a) The development of a STAM routeway detailing the opportunities and qualifications available in the borough to enable a young person or adult to acquire the right skills and experiences to gain employment in the STAM sectors;

(b) A launch event to promote the STAM routeway and enthuse local people about working within the STAM industries;

(c) The involvement of all schools with this agenda, particularly in relation to information, advice and guidance ;

(d) The merging of Halton's Science Action Group (HSAG) with the Skills for the STAM sector Steering Group – to bring greater coherence to the STAM agenda.

5.3 Members agreed the development of the routeway was central to this topic group but emphasised the need to promote careers in STAM at the earliest opportunity.

6.0 FINANCE IMPLICATIONS

6.1 Working Neighbourhoods Funding was used to fund the STAM research and a small amount of funding was made available to support some STAM initiatives in schools. The development of the STAM routeway will also be funded through WNF at a cost of £2000. The launch event will be a joint 'partnership' event so any additional financial implications should be minimal.

6.2 If the final routeway determines a number of 'gaps' in qualifications or provision available to support the journey to a career in the STAM industries, then the STAM group will need to determine any financial implications associated with this and ensure negotiations with the Skills Funding Agency take place at the earliest opportunity to ensure the most effective use of public funds.

7.0 IMPLICATIONS FOR THE COUNCIL'S PRIORITIES

7.1 Children and Young People in Halton

Supports key objectives D and E.

The routeway resource will be of use to school children of all ages and their parents and can assist young people in choosing their options at age 14.

7.2 Employment, Learning and Skills in Halton

Supports key objectives B, C and D.

This PPB topic clearly focused on future employment opportunities within the STAM industries in Halton. The associated recommendations will have implications on employment, learning and skills priorities and resources and need to be embedded into future skills strategies.

7.3 A Healthy Halton

Supports key objectives B, C and E.

7.4 A Safer Halton

None applicable

7.5 Halton's Urban Renewal

Supports key objectives A, D and E.

This PPB topic brief, whilst focusing on the people side of the STAM industries, was set within the context of the science developments taking place in the borough, as detailed in 3.1. Implications on Halton's urban renewal sit alongside the employment, learning and skills implications.

8.0 RISK ANALYSIS

8.1 None applicable

9.0 EQUALITY AND DIVERSITY ISSUES

9.1 The STAM Steering Group operates within the LSP framework, which in turn operates under the Council's Equality and Diversity policy.

10.0 LIST OF BACKGROUND PAPERS UNDER SECTION 100D OF THE LOCAL GOVERNMENT ACT 1972

10.1 There are no background documents under the meaning of this Act.

Executive summary

1. Introduction

AMION Consulting was appointed by Halton Borough Council to undertake a skills assessment of the science, technology and advanced manufacturing sectors (STAM) sectors with the aim of establishing the sector's future skills and recruitment needs in Halton.

The approach to the assignment has included:

- modelling the potential demand for labour from the sector in the period up to 2030 and profiling the forecast skill requirements over the period;
- undertaking interviews with Halton-based STAM businesses to explore views on future prospects for employment; skills needs - both now and in the future; methods of recruitment; the quality and level of training and recruitment support currently available; and the relationship between businesses and the education sector;
- a series of interviews with stakeholders – including in particular an assessment of links with the sector and the availability and take-up of existing training and skills provision; and
- identification of appropriate routeways for young people and local adult residents.

An e-mail questionnaire was sent out to all 161 businesses in the sector in Halton and followed up by telephone. A total of 32 interviews were undertaken (of which 8 were conducted face-to-face and 24 by telephone). A further 12 interviews were undertaken with stakeholders.

2. The Context

The Government recognises that the STAM sector is key to the future economic growth of the country and has published a number of policy and strategy documents setting out a framework on how the education sector can contribute to its growth.

The sector consists of 5 sub-sectors: bioscience; chemical; digital; engineering; and research and development. The STAM sector is strongly represented in the Halton Borough with key employment sites at The Heath and Daresbury.

Halton, however, also has areas where the levels of worklessness are significantly above the regional and national average. In addition, it has a significantly higher percentage of residents possessing no qualifications than regional and national averages, and also lags behind on higher level skills.

3. Current and future demand for skills

Cambridge Econometrics has estimated that total employment in Halton in 2009 was just over 61,000 jobs and forecast (on a trend basis) an increase to 62,800 by 2020 and 65,000 by 2030.

Projections for the STAM sector, however, show a decline from 6,168 to between 4,114 and 4,411 by 2030. This decline is due to a significant forecast shrinkage in the chemicals sub-sector of between 2,600 and 2,642 jobs. All other sub-sectors are forecast to be increasing their employment (with the exception of Engineering which is projected to remain constant).

Notwithstanding this overall shrinkage, there will be a significant amount of workforce churn during the period – with a 'replacement' labour demand of some 5,400 jobs. Overall, net total labour demand would, therefore, be some 3,300 – 3,800 jobs.

The consultation process broadly supported these projections with:

- 50% of businesses questioned stating that their workforce would stay the same over the next 2 years;

- over 62% projecting an increase over the two to five year period; and
- 42% over 5 to 10 years.

The future demand for skills will be manifested in two ways - firstly through the types of skills demanded from new recruits and, secondly, through up-skilling of the existing workforce.

In terms of recruitment skills some 55% of employers will require a level 4 or above and 70% level 3 and above. Only 15% of jobs will be level 2 and below. In addition, employers are seeking key attributes including good employability skills (51%) and relevant previous work experience (43%).

Nearly 80% of businesses interviewed considered that their workforce was suitably skilled to meet their needs over the next 2 years, but over the medium to longer term 50% of businesses felt that they would need to up-skill.

Regarding the source of new recruits to the sector, practically all of the lower skilled jobs (level 2 and below) were recruited locally, with 50% of recruits requiring level 3 and above sourced from outside of Halton. The general view of employers interviewed was that people from Halton were not sufficiently skilled for the higher level jobs. The qualification profile of the local population would tend to support this view.

The overall consensus was that a significant number of businesses expected to grow in the medium to longer term with the majority of their employees being qualified to a minimum of level 3 (both existing staff and new recruits). Even amongst those businesses which were unsure whether they were going to recruit new staff, a majority stated that they would be up-skilling their existing workforce. Several businesses identified the need for support to help grow their business base and recruit new staff.

4. Existing provision and activity

The three key areas where STAM businesses are currently engaged with stakeholders are through:

- Raising awareness of the sector - through partaking in activities with the education sector such as: work experience placements; workplace visits; teacher placements; enterprise activities; apprenticeships; and the new 14-19 diploma.
- Recruitment to the sector – the extent of local linkages tends to vary with skill level. The majority of employers stated that they use specialist agencies to recruit to level 3 posts, but used lower budgets. Many businesses manage their recruitment in-house using methods such as dedicated internet sites.
- Up-skilling and training of staff. In the majority of cases (60%), this was organised, funded and, in some cases, delivered in-house. Overall, the availability of training was not considered to be an issue.

The Sector Skills Council (SSCs) have an important role to play in acting as an interface between employers and local stakeholders with employers within their related industries to develop national occupation standards and qualifications as well as managing the Train to Gain programme for their sectors. The SSCs covering the STAM sector includes Cogent (chemicals), SEMTA (engineering), E-Skills (digital) and Pro-Skills (manufacturing). All provide access to training resources for employers including the funding of second Level 2 and 3 qualifications as part of the Learning and Skills Council's Train to Gain Initiative.

5. The Routeway

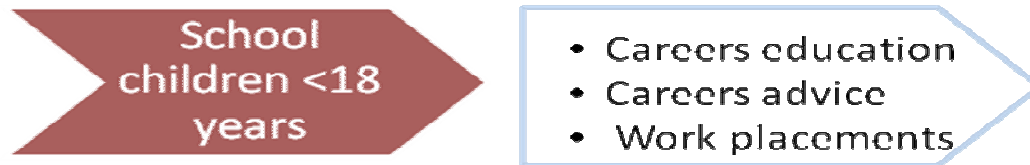
There are a number of core aims of the routeway, which would be the responsibility of different stakeholders to deliver. These are to:

- provide an interface between the STAM sector, local residents and training and support providers;
- provide relevant and innovative careers advice and education;
- provide proactive engagement, advice and support for individual residents;

- use both bespoke / tailored and traditional pre-employment skills provision, including existing training routes, to meet individual needs;
- support the development of the existing workforce; and
- provide support for local STAM businesses in terms of identifying and accessing relevant skills and training support (particularly bespoke), as well as pre-recruitment and recruitment support.

The three primary function areas of the routeway are outlined below:

(i) Careers education and advice



Careers education and advice is delivered throughout the education sector – from primary school to HE Institutions. A key factor from the consultations is that it needs to be innovative and engaging. Current provision is varied in terms of scale, relevance and effectiveness.

The following should be taken into account in planning future provision:

- better co-ordination of the contacts made between schools, intermediaries and local STAM businesses;
- a greater emphasis within careers education across all ages of school children on raising awareness of the wide spectrum of career opportunities available within the STAM sector;
- further development and roll-out of a number of existing initiatives which are considered to be good practice – including, in particular, those which involve collaborative working with businesses (for example, teacher placements, STAM Breakfasts and Children Challenging Industry); and
- explore the potential for developing new and better relationships with relevant specialist recruitment agencies and local Universities.

(ii) Engagement, advice and support



Although there are a number of organisations which provide support to individuals in returning to/seeking work, there are no sector specific organisations which would provide a holistic service in the STAM sector to both employers and local residents. It is, therefore, recommended that:

- a dedicated STAM ‘gateway’ is developed for local residents, ensuring that local people receive support, advice and skills development, in order to help them access employment opportunities as they arise plus subsequent continued workforce development support with the aim of enabling them to climb the career ladder; and
- the preparation of an ‘investors handbook’ for employers to promote the ‘gateway’ including information on training availability and market recruitment avenues.

The consultations demonstrated support for a ‘gateway’ approach which would provide a demand-led approach to the provision of advice and support to individuals through developing a proactive relationship with local STAM businesses to gather intelligence on emerging employment opportunities in the sector (utilising similar principles to that potentially being

developed through the Construction Employment Integrator¹). This information would be used to inform both the education sector and recruitment organisations (such as HPIJ and JCP).

(iii) Pre-employment skills (including training) and workforce development



key role of the HEP would be to ensure that individuals can acquire the skills necessary to access jobs in the sector and that there is appropriate provision to meet the workforce development needs of existing businesses. This will be sourced through a combination of:

- existing provision available through primarily local delivery organisations; and/or
- bespoke training, developed and tailored to meet the needs of the employers.

The approach being proposed is similar to that being delivered through the Logistics Gateway and will help ensure a comprehensive offer for employers.

It is, therefore, proposed that future provision should involve:

- the introduction of collaborative working as per the HEP model for logistics, with a protocol commitment among relevant partners/providers to working together to meet the needs of local STAM employers;
- development of a capability / mechanism for gathering regular local labour market information to inform local stakeholders/STAM skills group on an ongoing basis; and
- maximisation of links with Further and Higher Education to capture potential recruits with higher level skills.

6. Conclusions

The following are the conclusions from the report:

- (i) In terms of growth of the sector, the results of the modelling and consultations indicate that:
 - a. in the short term, there is a degree of uncertainty among businesses in the sector regarding growth, however many are more optimistic in the medium and longer term with many identifying the need for new recruits in two to five years
 - b. in the medium to longer term, all sub-sectors are projected to grow with the exception of the chemical sector which is anticipated will reduce significantly.
- (ii) The bioscience, R&D and digital sectors are projected to require a highly skilled workforce (level 4 and above).
- (iii) With the projected reduction in the chemical sector there will be a reduced number of level 2 and below employment opportunities.
- (iv) Employers, generally, would like to recruit locally. However, they do not consider local people to have the higher skill levels required to meet the needs of their business and tend to recruit from a wider catchment.

¹ The Construction Employment Integrator (CEI) is an approach which seeks to co-ordinate interventions in order to capture demand; provide access to opportunities to local people; promote workforce development; and enable employment planning through Labour Market Intelligence. To achieve this, the CEI uses tools such as community benefit clauses; client tracking systems; integration of funding routeways / skills register; SME capacity register; and a skills forecasting model. While not all appropriate for STAM, use of certain elements of the CEI model could be explored (for example, the skills forecasting model).

- (v) Due to this perception many employers do not target recruitment for higher level skill positions (Level 3 and above) from the local resident population. As a consequence, these jobs are lost to local people.
- (vi) In the digital and engineering sectors in Halton, there is a prevalence of small and medium sized businesses. This has implications for both the development of links with the education sector and the promotion of workforce development – given the capacity constraints that often confront small businesses.
- (vii) Smaller businesses are sometimes reluctant to assume the risks associated with expansion and in particular taking on additional employees. They often require a combination of business support and recruitment advice to overcome these barriers.
- (viii) There is a range of various awareness raising activities being delivered within schools at all levels and some example of very good practice (e.g. CCI). There is a need for greater co-ordination in order to streamline and maximise linkages with the STAM sector. In addition, the potential for additional resources to support rolling out the identified good practice should be explored.
- (ix) Although 54% of businesses consulted did not have a workforce plan, there was wide recognition of the need for continuing development of workforce skills. Many businesses pursue this in an informal and ad hoc manner.
- (x) The potential for developing extended work trials (e.g. for one day per week) for the more disaffected groups (including for example NEET group) should be explored with Connexions.
- (xi) There is a continuing need to promote the sector as a career option including increasing careers education within schools. There is, however, a lot of very good practice already being undertaken in Halton which needs to be developed further (for example, the STEM breakfasts).