

# Knowledge and technology transfer profile builder in STEM

A self assessment guide for further education providers

Teaching and Learning

**LSIS** LEARNING AND SKILLS IMPROVEMENT SERVICE



# Transferring knowledge, driving innovation

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## Foreword

This Knowledge and Technology Transfer (KTT) profile builder has been developed by the New Engineering Foundation (NEF) in partnership with the STEM consortium\* for the LSIS Teaching and Learning Programme. It is part of the response to *Innovation Nation*\*\* that announced an operational intention to “build capacity of the FE sector to support businesses to raise their innovation potential”.

However, it is recognised that much needs to be done to lock further education (FE) into the emerging tier of KTT alongside universities and research institutions. They will need to attain the employer responsive Training Quality Standard, ensure that college facilities are fit-for-purpose and flexibly available and that the FE workforce can develop modern subject knowledge in parallel with an appreciation of commercial and business concerns.

This KTT profile builder will support both the individual teacher and the organisation in developing the dual professionalism of up-to-date content and effective teaching, integrated with an in-depth understanding of their local and regional market places. The outcome will be a strategic KTT action plan derived from mapping and analysis of the STEM (Science, Technology, Engineering and Mathematics) assets in any college or consortium, based on the watchwords of collaboration, specialisation, benchmarking, highly visible communication and the development of a learning community.

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\* The STEM Consortium delivers the LSIS STEM Programme on behalf of LSIS and draws on the knowledge and experience of its key partners: National Science Learning Centres; The Royal Academy of Engineering (RAEng); National Centre for the Excellence in the Teaching of Mathematics (NCETM); and Tribal Education. They also work closely with other STEM organisations and initiatives including the New Engineering Foundation (NEF) and the STEM Cohesion Programme, which delivers support to learners by bringing together government, industry and organisations.

\*\* Innovation Nation, the white paper published on 13 March 2008, sets out the Government’s aim to make the UK the best place in the world to run an innovative business or public service. The paper argues that innovation is essential to the UK’s future prosperity and the ability to tackle major challenges like climate change, and that the power of Government spending must be harnessed to create demand for new innovative products and services.

# The Challenge

The Government's *Innovation Nation* white paper (Department for Innovation Universities and Skills - March 2008) sets out initial plans for the FE sector to participate and expand Knowledge and Technology Transfer (KTT) activities which will support business innovation and develop innovative thinking. The white paper built upon the eight recommendations identified in the Sainsbury Science Review *Race to the Top* (October 2007).

The recent NEF study *Knowledge and Technology Transfer Reviewing Existing Knowledge Transfer in Further Education* explored the readiness of the FE sector to engage in KTT activities and recommended a series of actions to help accelerate the development of KTT between the FE sector and business over the next three years. One of the key recommendations was to establish hubs of knowledge transfer and business innovation in partnership with regional development agencies and other relevant agencies (Knowledge Transfer Exchange Nodes – KTENs) have been developed throughout the country and the learning from these projects has been used to develop this guide.

The FE provider sector has a real competitive advantage in promoting innovation to local businesses, particularly small and medium-sized enterprises (SMEs). FE providers are ideally placed to provide practical expertise and business-oriented problem-solving that many companies are searching for. In addition to universities, FE providers complement a community's knowledge base and can provide real value to business.

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# Knowledge and technology transfer (KTT)

Knowledge transfer describes how knowledge and ideas move from the knowledge source to the potential users of the knowledge, for example transfer of ideas, research results and skills between universities, colleges and other research organisations, business, the third sector and/or the wider community.

Knowledge transfer is principally about the flow of information from the knowledge source to business, although it clearly creates opportunities for the bidirectional exchange of knowledge and skills.

The result of knowledge transfer is the embedding of a new capability or skill. Knowledge transfer activity can be varied in FE and will often involve FE and business representatives applying and sharing their collective expertise to addressing important business or community problems.

For example:

- Staff exchanges, secondments and placements (the NEF Industrial Fellowship scheme)
- Mutual access to specialist facilities – industrial and/or provider (e.g. Burnley College and composite manufacturers)
- Consultancy services (e.g. joint course or product developments)
- Incubation facilities and services (e.g. Lichfield College)
- Joint FE provider-industry process and market development (e.g. Digital Switch Over, where Blackburn College became a market maker)
- Regional development and regeneration
- Public service activities (e.g. Bridgwater nuclear decommissioning).





# Innovation – the successful exploitation of new ideas

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Innovation is about finding smart ways of addressing a problem that result in clear benefits. It is about creating value and/or new opportunities.

This normally happens as a result of ideas exchange through strategic collaborations and partnerships:

- creating new or enhanced applications of technologies, tools and processes
- spotting and seizing the opportunity and aligning it to the FE provider's capability to create a 'compelling offer'
- leveraging and developing strategic and collaborative partnerships to harness expertise and deliver effective solutions
- above all, being creative and bringing together disciplines, applications and sectors in such a way to foster powerful opportunities.



# Introduction

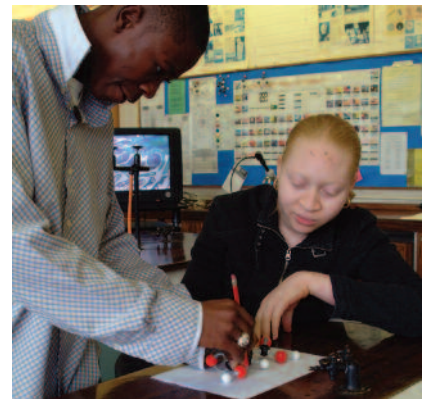
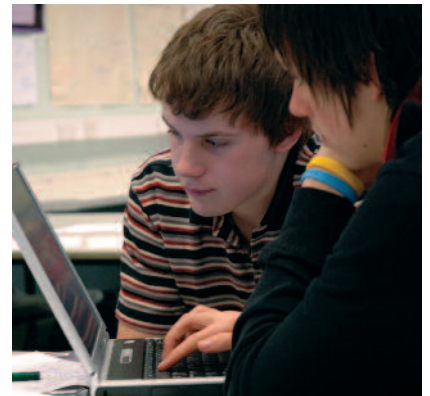
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This guide concentrates on two aspects:

- the internal organisation, processes and procedures
- the responses of your organisation to the external factors and opportunities presented by working with the business community and how these can contribute to increasing KTT.

This guide has been prepared with the intention of assisting senior management teams with an assessment of their curriculum areas. To preserve resources, senior management teams may choose to focus on those curriculum areas where opportunities for knowledge transfer are to be prioritised. From the experience of FE providers with KTENS, a focus on STEM curriculum areas has led to positive results.

By going through the process presented in this guide, an FE provider will be better positioned to develop an action plan, comprising a set of innovative activities that enable the provider to develop KTT activities.



# Innovate 2 educate (I2E)

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Delivered by the New Engineering Foundation (NEF) working in partnership with the Knowledge Transfer Partnerships (KTP) Programme, I2E is designed to provide an introduction to knowledge transfer and to contextualise knowledge transfer in FE.

The objectives of the programme are:

- to develop a clear understanding of what knowledge transfer means in the FE context
- to raise awareness of knowledge transfer and innovation amongst key decision makers in FE and demonstrate the practical opportunities available
- to increase the number of knowledge transfer activities in FE
- to increase the number of FE-based KTPs.

Aimed at vice principals and heads of STEM departments, the workshops develop a clear understanding of what knowledge transfer means in the FE context and demonstrate how knowledge transfer can provide practical opportunities for FE providers. Feedback from these events has been integrated into the development of this self assessment guide.



# The benefits of knowledge transfer and innovation

The potential benefits for FE providers, arising from successfully implemented knowledge transfer and innovation, can be grouped into three important areas:

## KTT impact – strategy

Decisions to increase the depth or breadth of knowledge transfer activity may result in:

- strategic partnerships with other FE providers, or universities
- strategic partnerships or more pro-active relationships with industry groups (regional, national or sectoral), and with employers of significance to the local or regional economy
- increased interest may arise from other curriculum areas, once the benefits of knowledge transfer activity become evident.

## KTT impact – curriculum

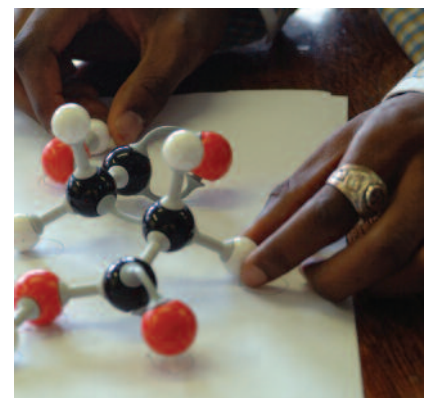
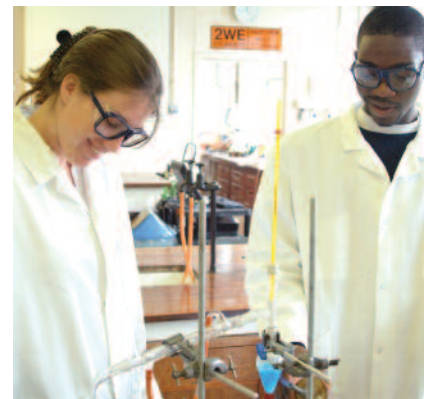
Additional and new STEM learners can be engaged. This may be through attracting learners interested in careers in STEM-based industries, or by engaging new learners through provision arising from provider-employer partnership. Benefits may be derived from:

- new curriculum or programme development in emerging or growing sectors (such as bioscience, advanced materials, emerging technology, renewables and digital manufacturing)
- the retention and achievement of STEM learners, arising from sector-driven provision
- providing continuing profession development (CPD) opportunities for staff which result in improvements to the core curriculum leading to learners being more prepared for the challenges of the sector.

## KTT impact – income

Additional income can be leveraged from business, government departments, agencies and some charities. Such income may be derived from:

- Knowledge Transfer Partnerships (KTP)
- shorter KTPs
- specific KTT projects with employers, providing consultancy, and developing partnership projects
- agreements with employers which result in additional recruitment to apprenticeships, work-based learning and core programmes.





# How to use this guide

## Who should use the guide?

To achieve significant and sustained benefits from this assessment process, it is essential for the senior management team to be involved. This guide is intended to be used by anyone with management responsibility in an FE organisation, to provide a perspective on the characteristics which can lead to improvements in performance.

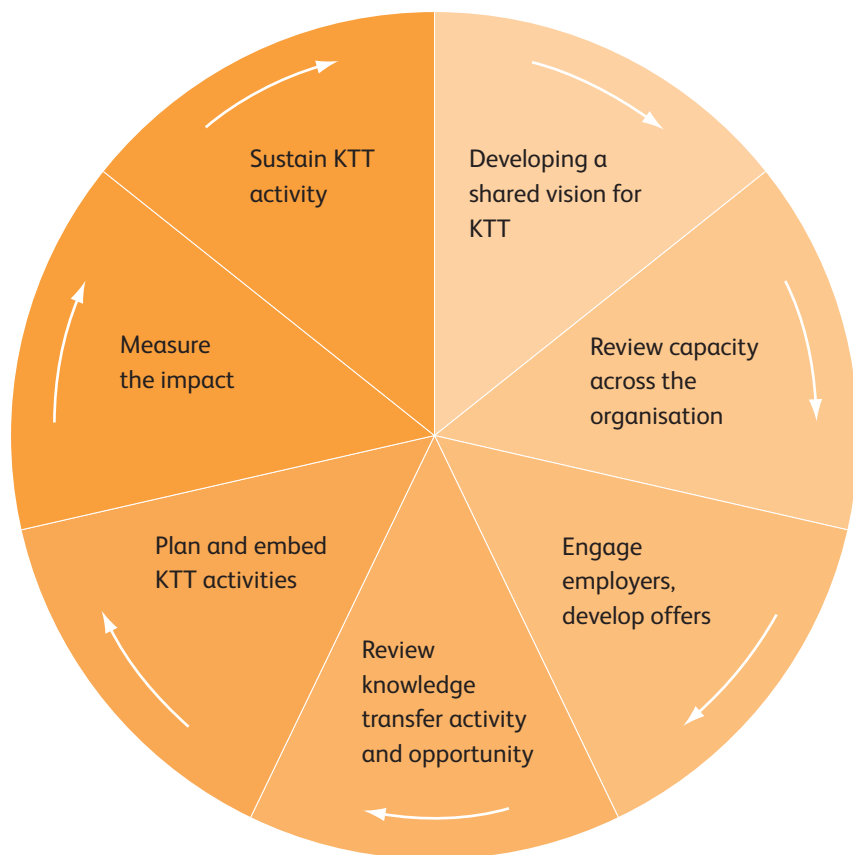
## To which areas of activity could this process be applied?

This review process is intended to be applied to the whole organisation with a focus on the STEM curriculum areas.

## Do we need any help?

Experience has shown that some external assistance from a facilitator can add value to the process of using the guide and may be helpful in identifying sources of further information and support. However, this guide can be used by an FE provider without any external help.

The seven stages of the cycle of knowledge transfer have been derived from think tanks with input from FE providers and facilitated by the NEF. The cycle of knowledge transfer has been tested at I2E workshops.



# Seven steps to embed knowledge transfer

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## 1 Developing a shared vision

At this initial stage you need to consider how you will ensure common understanding of KTT. You will also need to think about how you can embed this understanding into your vision, mission and strategic planning and how you will ensure that KTT is complementary to the other core activities and specialisms of your organisation.

## 2 Internal capacity review

Now you are ready to address how prepared your organisation is to take advantage of the opportunities that KTT and innovation can offer.

### Self assessment of STEM areas – select your focus

At this point we recommend that you concentrate on STEM areas because of the focus of the STEM curriculum, knowledge transfer is often critical to employer relationships and to curriculum development. There is considerable formal as well as informal knowledge transfer that is worth monitoring. This can provide an excellent foundation for developing more formal KTPs.

Step 1, and the corresponding scorecard, is intended to be applied to the overall organisation. Now in Step 2, you are guided to apply the scorecard to each of the STEM areas.

## 3 Employer engagement

How do you engage with business and industry?

KTT is part of the employer engagement process and good employer engagement can provide an ideal foundation for knowledge transfer. This profile builder should enable you to see where formal and informal KTT activity is in your organisation.

## 4 Reviewing existing knowledge transfer

Knowledge transfer exists in every learning organisation – it is often informal and not monitored or exploited. Knowledge transfer provides real opportunities for you to build closer and more productive relationships with the employers you work with. It could provide opportunities for staff to work with employers, enabling knowledge to be exchanged and then have a real impact on teaching and learning.

It can also provide income generating opportunities – both in terms of income from specific activities designed for employers as well as opportunities for developing KTPs.

This section will ask you to begin to estimate where and how much knowledge transfer is happening both informally and formally.

## 5 Planning and embedding KTT

These are the steps that you need to undertake in order to embed knowledge transfer and put together an action plan.

## 6 Measuring the impact and effectiveness of knowledge transfer activities

Once knowledge transfer is embedded as part of your mission and vision and as part of the culture of your organisation, it is important to think about how you could measure the impact and effectiveness of KTT activities on your organisation. It is important that the senior management team sets targets that relate to the areas where knowledge transfer can make an impact: strategy, curriculum, income, people.

## 7 Ensuring the sustainability of knowledge transfer

Now you have successfully embedded knowledge transfer, how are you going to ensure the sustainability of KTT activities?

# Your action plan

This section is down to you. Look over this profile builder and think about the lessons you have learned and how you can now ensure the momentum that knowledge transfer has created can carry on.

**Good luck!**

“Sheffield College is in the process of further refining its approach to Services for Business in the form of a new innovative Business Gateway. From the benefits gained in the recently completed KTEN project, we want to use the KTT approach to significantly improve our capability in supporting business growth, especially in the STEM related curriculum areas. The KTT profile builder appears to be just the right and timely tool for us.”

The key to successfully embedding KTT is to ensure there is clear and consistent understanding of the term within the FE provider and in business. The KTT profile builder describes in simple terms the overall meaning of KTT in a format that leads you to visualise how your college would embed a KTT infrastructure.”

The importance of your organisation’s ability to respond to businesses in a flexible and innovative way is highlighted throughout, as is the need to carry out an honest and robust initial assessment that is led by senior management but has the engagement of delivery staff at its core. If the process is planned and managed carefully there are many benefits, as outlined in the guide, to be gained through engaging in KTT.”

Julie Byrne, Executive Director,  
Sheffield City College



# Step 1 Developing a shared vision

## Scorecard

Score

|  |  |  |
|--|--|--|
| <p>What are your specialisms or unique selling points (USPs)?</p>  | <p>1 _____</p> <p>2 _____</p> <p>3 _____</p> <p>4 _____</p>  |  |
| <p>How well are these specialisms/USPs communicated to staff?</p>  | <p>Score 1 for poorly or not often<br/>Score 4 for clearly and regularly</p> <p>1      2      3      4</p>               |  |
| <p>How well are the specialisms/USPs communicated to businesses and industry bodies in your area?</p>  | <p>Score 1 for poorly or not often<br/>Score 4 for clearly and regularly</p> <p>1      2      3      4</p>               |  |
| <p>How does the frequency and quality of the CPD activities of your STEM staff keep them updated and relevant to businesses in your community?</p> | <p>Score 1 for infrequent or low quality<br/>Score 4 for frequent and appropriate</p> <p>1      2      3      4</p>      |  |
| <p>Does KTT feature prominently in your strategic plan?</p>  | <p>Score 1 for KTT being low profile<br/>Score 4 for KTT being prominent</p> <p>1      2      3      4</p>               |  |
| <p>Does innovation feature prominently in your strategic plan?</p>   | <p>Score 1 for innovation being low profile<br/>Score 4 for innovation being prominent</p> <p>1      2      3      4</p> |  |
| <p>Is KTT prominently reflected in your STEM departmental SAR/business plans?</p>  | <p>Score 1 for KTT being low profile<br/>Score 4 for KTT being prominent</p> <p>1      2      3      4</p>               |  |
| <p>Is innovation prominently reflected in your STEM departmental SAR/business plans?</p>   | <p>Score 1 for innovation being low profile<br/>Score 4 for innovation being prominent</p> <p>1      2      3      4</p> |  |
| <p>Does the governing body share a positive commitment to KTT and innovation?<br/>(See suggested action point 1)</p>                               | <p>Score 1 for not particularly<br/>Score 4 for shared and positive</p> <p>1      2      3      4</p>                    |  |



**Now let's focus on your STEM areas**

Score

|   |  |  |
|---|--|--|
| What are your specialisms or unique selling points (USPs)?  | 1 _____<br>2 _____<br>3 _____<br>4 _____   |  |
| How well are these specialisms/USPs communicated to staff?  | Score 1 for poorly or not often<br>Score 4 for clearly and regularly<br><br>1      2      3      4               |  |
| How well are the specialisms/USPs communicated to businesses and industry bodies in your area?  | Score 1 for poorly or not often<br>Score 4 for clearly and regularly<br><br>1      2      3      4               |  |
| How does the frequency and quality of the CPD activities of your STEM staff keep them updated and relevant to businesses in your community? | Score 1 for infrequent or low quality<br>Score 4 for frequent and appropriate<br><br>1      2      3      4      |  |
| Does KTT feature prominently in your strategic plan?  | Score 1 for KTT being low profile<br>Score 4 for KTT being prominent<br><br>1      2      3      4               |  |
| Does innovation feature prominently in your strategic plan?   | Score 1 for innovation being low profile<br>Score 4 for innovation being prominent<br><br>1      2      3      4 |  |
| <b>Total score: shared vision supportive of KTT and innovation</b>  |  |  |

**Suggested action points**

- 1 Briefing and awareness raising with your governing body and senior management team.

You might also want to consider developing:

- KTT champions – You might want to enable each curriculum area to develop an individual to champion and develop KTT
- KTT focused action research projects – You might want to consider providing a small grant to each department to enable the development of a KTT project or to develop a mini KTTEN.

## Step 2 Internal capacity review, assessment of STEM areas

### Scorecard

Score

|  |   |  |
|--|---|--|
| <p>Who has overall responsibility for KTT and innovation in your organisation?<br/>Please provide contact details.<br/>If no-one has overall KTT responsibility see Suggested action point 2.1</p> | <p>Name _____<br/>Title _____<br/>Tel. _____<br/>Email _____</p>  |  |
| <p>Where do you think the majority of KTT activity is located?<br/><br/>Which departments are actively engaged with KTT?</p>   |   |  |
| <p>Does KTT activity coincide with areas which are also engaging with target audiences?</p>  | <p>Score 1 for poor coincidence<br/>Score 4 for good coincidence</p> <p>1    2    3    4</p>            |  |
| <p>How visible are KTT and employer related activities?</p>  | <p>Score 1 for low profile<br/>Score 4 for highly visible</p> <p>1    2    3    4</p>                   |  |
| <p>Are curriculum managers aware of KTT and innovation and supportive of new, and updating current, provision?</p>   | <p>Score 1 for unaware or unsupportive<br/>Score 4 for aware and supportive</p> <p>1    2    3    4</p> |  |
| <p>Is your organisation seeking to source new technology to support KTT or new development activity in STEM areas?</p>   | <p>Score 1 for no<br/>Score 4 for yes on a significant scale</p> <p>1    2    3    4</p>                |  |
| <p>From the senior management team's perspective, how informative is the STEM LMI (low market intelligence)?</p>   | <p>Score 1 for less than required<br/>Score 4 for informative and relevant</p> <p>1    2    3    4</p>  |  |
| <p>Are staff in STEM related departments equipped with the knowledge, skills and attitude to support the development of KTT activity?</p>  | <p>Score 1 for not well equipped<br/>Score 4 for well equipped</p> <p>1    2    3    4</p>              |  |
| <p>Are STEM related departments adequately funded to develop and deliver innovation and KTT activity?</p>  | <p>Score 1 for not well funded<br/>Score 4 for well funded</p> <p>1    2    3    4</p>                  |  |

**Now let's focus on your STEM areas**

Score

|   |   |  |
|---|---|--|
| <p>Are departmental targets set for KTT activity and the development of new services in the STEM related areas?</p> | <p>Score 1 for no specific goals set<br/>Score 4 for clear, specific goals set</p> <p>1      2      3      4</p>  |  |
| <p>Is cross departmental collaboration on course or service development encouraged?</p>                             | <p>Score 1 for poorly or not often<br/>Score 4 for clearly and regularly</p> <p>1      2      3      4</p>        |  |
| <p>For STEM subjects, do employers or industry bodies contribute to your curriculum development?</p>                | <p>Score 1 for rarely or inappropriate<br/>Score 4 for frequent and appropriate</p> <p>1      2      3      4</p> |  |
| <p>Does your organisation have KTT champions in your STEM areas?<br/>(See suggested action point 2.2).</p>          |   |  |
| <p><b>Total score: internal capacity review</b></p>   |   |  |

**Suggested action points**

- 2.1
- Assign senior management team lead on KTT matters.
  - Assign KTT champion.
  - Brief managers. Establish mentoring of key staff in STEM related areas on KTT opportunities.
- 2.2 Arrange staff development.

# Focus on STEM areas

**Scorecard**

Score

|  |   |  |
|--|---|--|
| <p>Who is responsible for overall employer engagement in the STEM subject areas?<br/>Please provide contact details.</p>   | <p>Name _____<br/>Title _____<br/>Tel. _____<br/>Email _____</p>              |  |
| <p>Who is responsible for engaging with employers in each STEM department?</p> <p>Engineering</p> <p>Science</p> <p>Technology</p> <p>Mathematics</p> <p>Other</p>   | <p>Name _____<br/>Name _____<br/>Name _____<br/>Name _____<br/>Name _____</p> |  |
| <p>How are you engaging with employers?</p> <p>Employer forums</p> <p>Individual employer contacts via SMT or governing body</p> <p>Through industry representative bodies</p> <p>Through professional or trade bodies</p> <p>Work-based learning links</p> <p>Apprenticeships</p> <p>Other:</p> |   |  |



**Scorecard**

Score

|   | Score |
|---|-------|
| For STEM subjects, what type of activity do you deliver to employers? |       |
| Core curriculum   |       |
| Apprenticeships   |       |
| Work-based learning   |       |
| KTPs  |       |
| Shorter KTPs  |       |
| Use of specialist facilities  |       |
| Design service  |       |
| Other income generating activities                                    |       |

# Step 3 Employer engagement

## Scorecard

Score

|   |   |  |
|---|---|--|
| <p>Who is responsible for employer engagement?<br/>Please provide contact details.<br/>If no-one has overall employer engagement responsibility see Suggested action point 3.1.</p>   | <p>Name _____<br/>Title _____<br/>Tel. _____<br/>Email _____</p>  |  |
| <p>Where do you think the majority of employer engagement activity is located?</p>  |   |  |
| <p>Which departments are actively engaged with employer engagement?</p>   |   |  |
| <p>How are you making connections with employers?<br/>Please provide examples:<br/>Work-based learning<br/>Apprenticeships<br/>Regional government, RDA, LSC<br/>Train 2 Gain<br/>Brokers<br/>National programmes/KTENS<br/>FE pathfinder projects<br/>KTPs</p> |   |  |
| <p>Do you gather and analyse information from contacts in external organisations?<br/>(See suggested action point 3.2).</p>   | <p>Score 1 for no information collected<br/>Score 4 for good information and analysis<br/><br/>1    2    3    4</p> |  |
| <p>How well does your organisation use ad hoc employer comments on opportunities to improve, develop and create new provision or services?</p>  | <p>Score 1 for not well<br/>Score 4 for well<br/><br/>1    2    3    4</p>  |  |

Scorecard

Score

|  |  |  |
|--|--|--|
| <p>Does your organisation work with any of the following to increase its market intelligence and provide a route to market:</p> <ul style="list-style-type: none"> <li>• National Skills Academies</li> <li>• Sector Skills Councils</li> <li>• universities</li> <li>• employers on governing body</li> <li>• employers on advisory groups/forums</li> <li>• NVQ assessors</li> <li>• teaching staff</li> <li>• learners</li> <li>• business development unit?</li> </ul> |  |  |
| <p>Do you provide any of the following:</p> <ul style="list-style-type: none"> <li>• specialist employer training</li> <li>• short programmes designed specifically to meet an employer need</li> <li>• consultancy?</li> </ul>  |  |  |
| <p>Are these KTT activities provided as part of the formal offer to employers, or are they very much part of the informal offer?</p>   | <p>Score 1 for informal offering<br/>Score 4 for formal offering</p> <p>1      2      3      4</p>   |  |
| <p>Have you gained the Training Quality Standard (TQS)?</p>  | <p>Score 1 for no<br/>Score 2 for working towards<br/>Score 3 for expect to achieve TQS<br/>Score 4 for yes within next 6 months</p> <p>1      2      3      4</p> |  |
| <p>Have you measured employer responsiveness?<br/>(See suggested action point 3.3).</p>  | <p>Score 1 for no<br/>Score 4 for yes, on an annual basis</p> <p>1      2      3      4</p>  |  |

**Scorecard**

Score

|  |   |  |
|--|---|--|
| Does your organisation have a key account management structure to manage employer relationships?<br>(See Suggested action point 3.4).      | Score 1 for no<br>Score 4 for yes<br><br>1      2      3      4 |  |
| Does your organisation have a well managed and updated customer relationship management (CRM) system?<br>(See suggested action point 3.5). | Score 1 for no<br>Score 4 for yes<br><br>1      2      3      4 |  |
| <b>Total score: employer engagement</b>  |   |  |

**Now let's focus on your STEM areas**

**Suggested action points**

- 3.1 Assign the lead role for employer engagement to a senior member of staff.
- 3.2 A managed programme of communication with possible KTT partners provides an opportunity for 'cross selling' and 'upselling'. The objective would be to ensure that employers are at least aware of the range of KTT activities and aware of the benefits they could derive from working with the FE provider.
- 3.3 To measure 'employer responsiveness' your organisation could adopt the LSIS World Class Skills Framework. You could also refer to the Training Quality Standard framework and guidelines
- 3.4 Key account management (KAM) should be considered by your organisation as an effective model for managing the volume and breadth of communication with businesses and external contacts.

In particular, KAM as a two way process will ensure that employer needs are fed back into the college, that employers are made aware of relevant knowledge transfer activities and programmes, and that employer needs are met.

- 3.5 Customer relationship management (CRM) systems have the benefits of providing a record and enabling easy access to external contacts of importance to your organisation. As with any information system, it will require the data in it to be entered and updated. The best way of ensuring this is for the system to be developed as a tool to help business development managers, KAMs, the senior management team and heads of department to achieve their knowledge transfer objectives.

The designation of individual people within your organisation as the one key contact point with an employer is a key feature of KAM. Business development managers should be involved in the allocation process. That person will be responsible for ensuring that their contact knows about opportunities offered by your organisation, and is copied in on all formal communication with the employer.



# Step 4 Review existing knowledge transfer

**Scorecard**

Score

|  |  |  |
|--|--|--|
| <p>From your entries into the ‘employer engagement’ section above identify three priority areas where KTT activities are happening.</p> <p>Please provide names and contact details.</p> | <p><b>Subject area 1</b></p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> <p><b>Subject area 2</b></p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> <p><b>Subject area 3</b></p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> |  |
| <p>Are these KTT active areas providing:</p> <p>income</p> <p>curriculum</p> <p>staff</p> <p>strategy?</p> <p>(See ‘the benefits of knowledge transfer and innovation’ on page 6).</p>   | <p>Score 1 for poor value<br/>Score 4 for good value</p> <p>1    2    3    4</p> <p>1    2    3    4</p> <p>1    2    3    4</p> <p>1    2    3    4</p>   |  |

**Scorecard**

Score

|  |  |  |
|--|--|--|
| <p>Please identify any active partnerships with other providers/organisations who are involved in knowledge transfer.</p> <p>Please provide names and contact details.</p> | <p>Partnership knowledge transfer area 1</p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> <p>Partnership knowledge transfer area 2</p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> <p>Partnership knowledge transfer area 3</p> <p>Name _____</p> <p>Title _____</p> <p>Tel. _____</p> <p>Email _____</p> |  |
| <p>Do you have any active partnerships with other providers who are involved in knowledge transfer?</p>  |  |  |
| <p>Do you have any active partnerships with universities who are involved in knowledge transfer?</p>   |  |  |
| <p>Are you in regular contact with your local KTP adviser?</p>   |  |  |
| <p><b>Total score: review existing knowledge transfer</b></p>  |  |  |

**Suggested action points**

4.1 Explore the potential of developing KTPs – both full and short KTPs designed for FE providers.

Refer to [www.ktponline.org.uk](http://www.ktponline.org.uk)

## Step 5 Planning and embedding KTT

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The following steps will lead to KTT being embedded as a key activity.

### Embedding KTT

- 1 Assign responsibility to a senior management team member for KTT and communicate internally the commitment of the senior management team to gaining the benefits of KTT.
- 2 Brief senior management team and governing body on the benefits of KTT.
- 3 Define KTT for your organisation and build into the organisation's vision and mission statement.
- 4 Select key STEM areas where informal KTT exists that is suitable for more formalisation.
- 5 Think about suitable partnerships with FE providers.
- 6 Think about partnership with a university or another provider who is already involved in KTT – arrange exploratory meetings etc. Link with the local KTP Programme adviser.
- 7 Arrange staff development/capacity building activities. Think about the costing of KTT activity.
- 8 Appoint KTT champions in key STEM areas.
- 9 Build KTT objectives into performance management.
- 10 Consider and prepare to exploit marketing and public relations opportunities arising from new or increased knowledge transfer activity.
- 11 Review impact against management performance objectives.

# Step 6 Measuring and evaluating knowledge transfer activities

## Scorecard

Score

|  |  |  |
|--|--|--|
| <p><b>Impact: Income ( previous financial year)</b></p> <p>Number of KTPs</p> <p>Income derived from KTPs</p> <p>Number of shorter KTPs</p> <p>Income derived from shorter KTPs</p> <p>Income derived from other KTT activity (specific projects, consultancy for employers and/or partnership programmes)</p> <p>Income derived from agreements with employers, which have resulted in recruitment to apprenticeships, work-based learning or core programmes.</p> <p>Total measurable income from KTT activity</p> | <p>Number</p> <p>£</p> <p>Number</p> <p>£</p> <p>£</p> <p>£</p> <p>£</p> <hr/> <p>£</p>                |  |
| <p><b>Impact: Curriculum</b></p> <p>Has KTT activity resulted in significant changes or additions to the STEM curriculum?</p>  | <p>Score 1 for no<br/>Score 4 for yes, on a significant scale</p> <p>1    2    3    4</p>              |  |
| <p>Have these changes resulted in improvements to retention and achievement of STEM learners?</p>  | <p>Score 1 for no improvement<br/>Score 4 for significant improvement</p> <p>1    2    3    4</p>      |  |
| <p>Has KTT been a catalyst for new curriculum/programme development?</p>   | <p>Score 1 for no improvement<br/>Score 4 for yes, to a significant extent</p> <p>1    2    3    4</p> |  |
| <p><b>Impact: Staff</b></p> <p>Has KTT resulted in the creation of new jobs (over the previous financial year)?</p>  | <p>Number</p>  |  |
| <p>Has KTT resulted in CPD activities for your staff, particularly in the STEM curriculum areas?</p>   | <p>Score 1 for no<br/>Score 4 for yes, on a significant scale</p> <p>1    2    3    4</p>              |  |



**Scorecard**

Score

|   |   |  |
|---|---|--|
| <p>In the areas where KTT has been established, has this resulted in greater staff motivation and retention</p>   | <p>Score 1 for no<br/>Score 4 for yes, on a significant scale</p> <p>1      2      3      4</p>               |  |
| <p><b>Impact: Strategic</b></p> <p>Has KTT resulted in strategic partnerships with other providers?</p>   | <p>Score 1 for no or without benefits<br/>Score 4 for yes and with benefits</p> <p>1      2      3      4</p> |  |
| <p>Has KTT resulted in strategic partnerships with one or more higher education institute?</p>  | <p>Score 1 for no or without benefits<br/>Score 4 for yes and with benefits</p> <p>1      2      3      4</p> |  |
| <p>Has KTT resulted in strategic partnerships with one or more significant employer?</p>  | <p>Score 1 for no or without benefits<br/>Score 4 for yes and with benefits</p> <p>1      2      3      4</p> |  |
| <p>In those areas where KTT has been established, has this had a knock on effect in developing a significantly greater interest in KTT from other curriculum/programme areas?</p> | <p>Score 1 for no<br/>Score 4 for yes, on a significant scale</p> <p>1      2      3      4</p>               |  |
| <p><b>Total score: measuring and evaluating knowledge transfer activities</b></p>   |   |  |



## Resources

### LSIS

The Learning and Skills Improvement Service is the new sector-owned body, to develop excellent and sustainable FE provision across the sector.  
Tel. London: 0870 060 3278  
Tel. Coventry: 024 7662 7900  
[www.lsis.org.uk](http://www.lsis.org.uk)

### The LSIS STEM Programme

The LSIS STEM Programme offers unique support for the learning and skills sector, working with managers and teachers in all settings – colleges, work-based learning, prison units, adult education and many more.

Tel: 0845 602 9154  
Email: [info@lsisstem.org.uk](mailto:info@lsisstem.org.uk)  
[www.excellencegateway.org.uk/STEM](http://www.excellencegateway.org.uk/STEM)

The LSIS STEM programme is being delivered by a consortium of leading organisations involved in STEM education:

National Science Learning Centre  
[www.sciencelearningcentres.org.uk](http://www.sciencelearningcentres.org.uk)

Royal Academy of Engineering (RAEng)  
[www.raeng.org.uk](http://www.raeng.org.uk)

The National Centre for Excellence in the Teaching of Mathematics (NCETM)  
[www.ncetm.org.uk](http://www.ncetm.org.uk)

### Knowledge and Technology Transfer in Further Education

New Engineering Foundation  
[www.neweng.org.uk](http://www.neweng.org.uk)  
Tel: 020 8786 3677

### KTP Online

A leading programme helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base.

Tel: 0870 190 2829  
[www.ktponline.org.uk](http://www.ktponline.org.uk)

## Glossary

|      |  |
|------|--|
| CPD  | Continuing Professional Development              |
| KAM  | Key Account Management                           |
| KTEN | Knowledge Transfer Exchange Node                 |
| KTP  | Knowledge Transfer Partnerships                  |
| KTT  | Knowledge and Technology Transfer                |
| NSAs | National Skills Academies                        |
| RDAs | Regional Development Agencies                    |
| SAR  | Self Assessment Review                           |
| STEM | Science, Technology, Engineering and Mathematics |
| SMEs | Small to Medium Sized Enterprises                |

Learning and Skills Improvement Service  
Friars House, Manor House Drive  
Coventry CV1 2TE  
+44 (0) 870 1620 632

[www.lsis.org.uk](http://www.lsis.org.uk)

## Learning and Skills Improvement Service

The Learning and Skills Improvement Service aims to accelerate the drive for excellence in the learning and skills sector, building the sector's own capacity to design, commission and deliver improvement and strategic change. This will help realise our vision that every learner acquires the skills, knowledge and appetite for learning, living and working and that every provider is valued by their community and employers for their contribution to sustainable social and economic priorities.

*Strategic Ambitions*, which we published in July 2009, demonstrates how we will contribute to delivering core improvement principles and sets out our new ways of working to engage the sector in everything we do to make LSIS a truly sector-led organisation. You can find this document and other information about LSIS activities and services at [www.lsis.org.uk](http://www.lsis.org.uk)

## Disability equality policy

LSIS is committed to promoting equality for disabled people and we strive to ensure that all our communication and learning materials are available in various formats including large font, audio or braille. Please let us know if you consider yourself disabled and require reasonable adjustments made to support you.

The LSIS STEM Programme consortium members:



This guide has been produced in partnership with: