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The National HE STEM Programme

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Association of Civil Engineering Departments Conference

12 November 2009

The HE STEM Programme

- Two streams of activity:
 - Demand-raising and Widening Participation
 - Higher-level skills & employer engagement
- Funding Received: ~£21.0 million
- Disciplines: Chemistry, Engineering, Mathematics, and Physics

Priorities for Activity

- Activities to widen participation within the STEM disciplines at HE level amongst students of traditional age
- **HE curriculum developments focusing upon course delivery and design, assessment, student support, and knowledge and skills**
- **Activities to encourage those currently within the workforce and society without a Level 4 qualification to engage in further study to develop enhanced knowledge and skills**

Principles of Working

- HE Programme should not ‘duplicate work undertaken by others’
- HE Programme activity within schools & colleges must be ‘HE-specific and bring real added value’
 - Consistent approach towards targeting
- Focus upon influencing the core long-term practice of HEIs rather than the funding of short-term activities (sustainability)

To Date: The HEFCE Pilot Projects

- Commissioned by HEFCE in 2005 and running until July 2009 (more maths grads to January 2010)
- Four (regional) pilot projects to raise demand for HE provision:
 - Chemistry for our Future (RSC)
 - Stimulating Physics (IoP)
 - London Engineering Project (RAEng)
 - More Maths Grads (MSOR Network)
- Activities to be rationalised and integrated for national roll-out

Aims and Objectives

“To contribute to the development of a national Higher Education STEM sector which:

- Engages collaboratively to increase and widen participation,
- Promotes, supports and champions the STEM disciplines, and
- Is increasingly responsive to the skills needs of both employers and employees

In order to support the development of a strong, diverse and sustainable workforce that will meet the economic needs of the UK for the 21st century.”

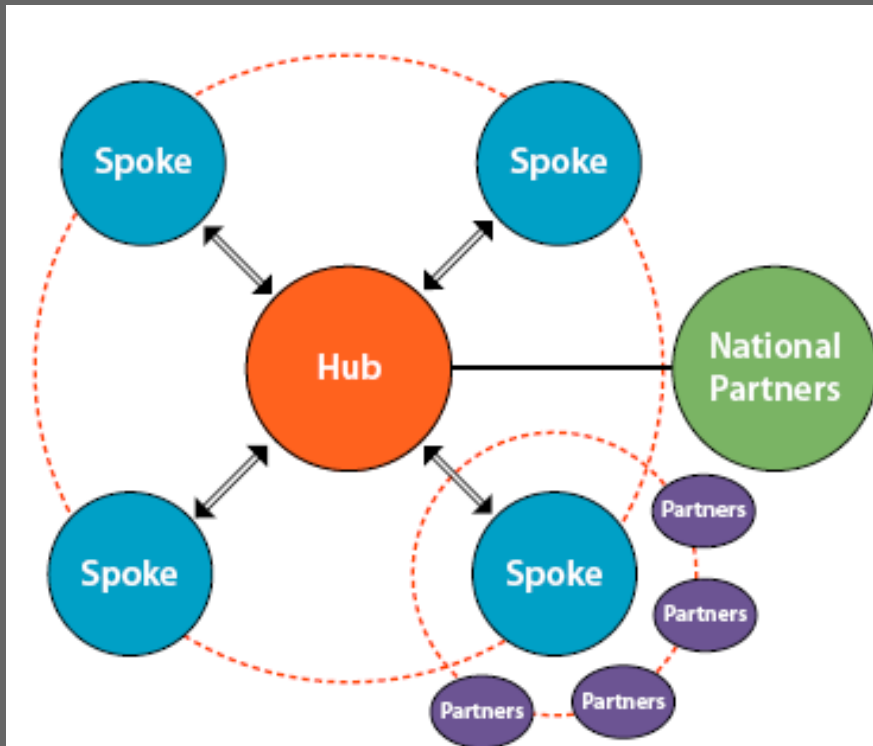
Key Principles

- Sustainability – all activity must lead to a long-lasting and sustainable legacy
- Partnership – work collaboratively with national initiatives, organisations and stakeholders
- Collaboration - encourage and broker collaborative activity between HEIs
- Encourage innovation
- Ensure a holistic approach to increasing and widening participation – HEIs placed at the core of activity

Programmes of Activity

- Increasing and widening participation:
 - Outreach, enhancement & enrichment
 - WP
 - Student support
 - Careers
- Higher-level skills:
 - Undergraduate curriculum
 - Graduate skills
 - Workforce upskilling

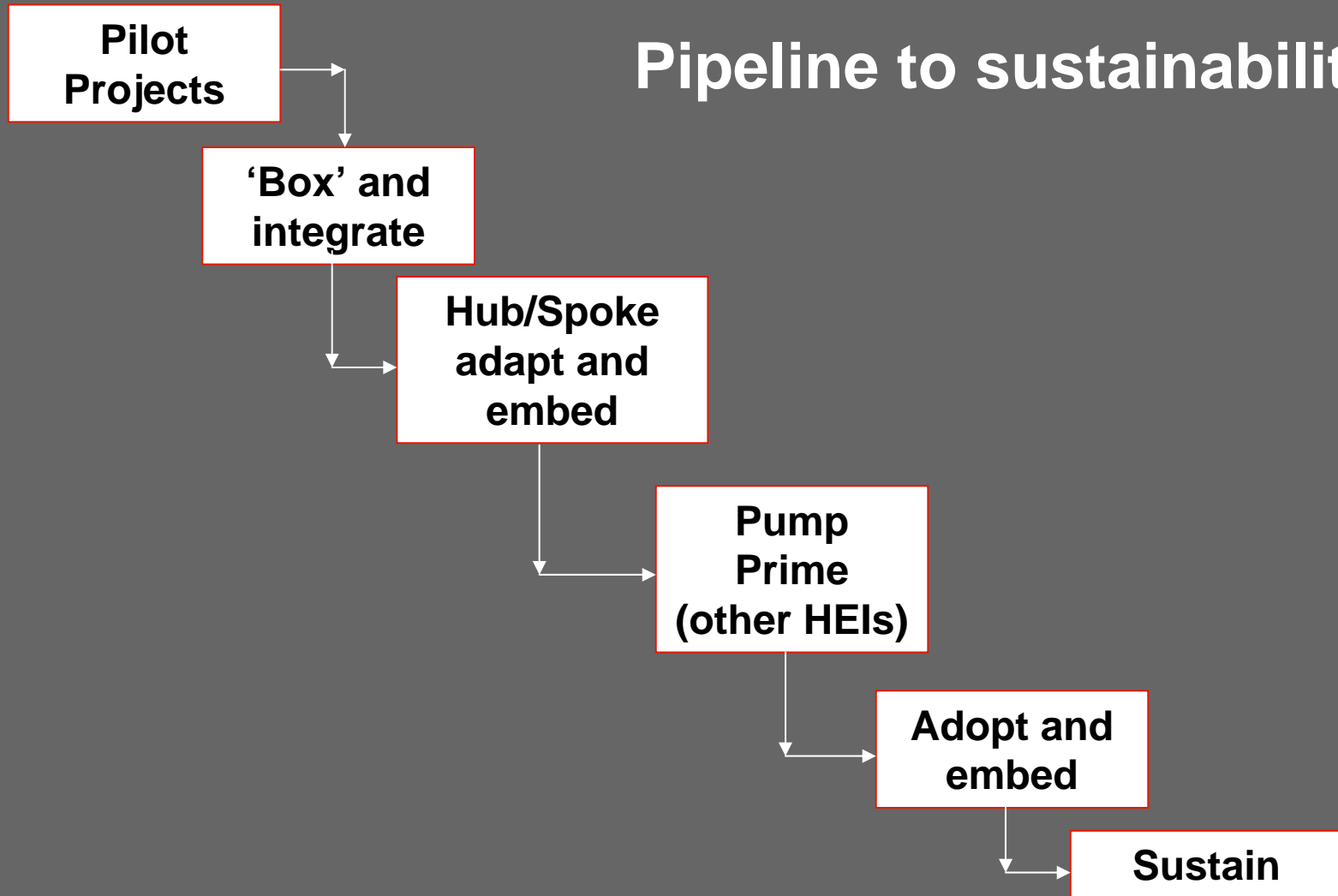
National Delivery



- Managed, monitored and co-ordinated by a 'hub' HEI at the University of Birmingham
- Practice transferred and embedded within HE sector by 'spoke' HEIs working in collaboration with national partners

Roll-Out of Pilot Project Activity

Pipeline to sustainability



Workforce Skills Development

- Phased introduction
- Initial period of consultation and scoping:
 - Review of current delivery methods
 - Review of current provision available
 - Review of employer demand
 - (All building upon previous work)
- Creation of a 'Workforce Development and Lifelong Learning Taskforce' to establish Programme priorities, strategy and activity

Outputs

- Threshold activities:
 - Roll-out and embedding of Pilot Project activities into core practice of HEIs
 - Development of collaborative programmes of activity.
 - Development of Higher Education curriculum to include tailored and flexible programmes of study accessible to those within the workforce

Outputs

- Aspiration:
 - A conduit for the transfer of practice from national initiatives into HEIs
 - Sustained (regional) partnerships
 - Employers involved in the development of the undergraduate curriculum
 - Facilitate sharing of effective practice
 - Institutional change: increased HEI ownership of activities to increase and widen participation
 - Increased responsiveness of HE sector to emerging agendas

Engaging the STEM Community

Special Interest Groups

- Ensure co-ordination of activity and minimise duplication of effort
- Primary functions:
 - Co-ordinate and communicate activity across HE sector
 - Develop activities of the Programme

Engaging the STEM Community

STEM Community Forum

- Provide linkage to appropriate stakeholders
- Promote Programme and disseminate outputs
- Advise on national initiatives and disciplinary developments
- Provide information for dissemination to HE community

More Information

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