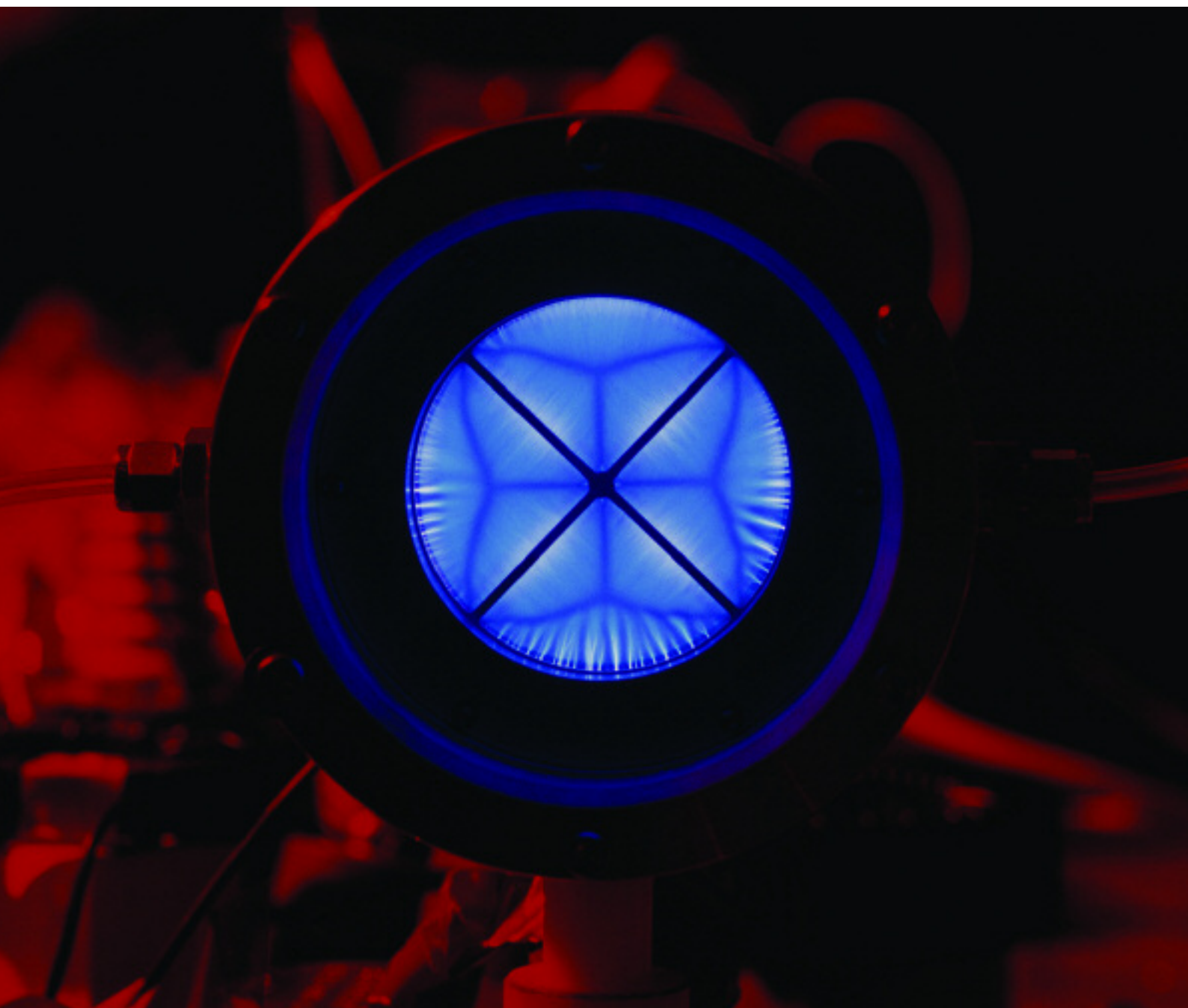


## **Innovation and Knowledge Exchange:**

The National Role of Universities and Research Establishments  
based in the Greater South East of England

Summary Report

July 2005





## Introduction

In 2004 a number of agencies came together to commission a study to examine the impact of the university and research establishments in the Greater South East<sup>1</sup> upon innovation and knowledge transfer across the UK as a whole. The background to the study was the shared Treasury, Department of Trade and Industry (DTI) and Office of the Deputy Prime Minister (ODPM) public service agreement target to improve the economic performance of all English regions and reduce the gap in growth rates between the regions. Innovation has been identified as one of the major drivers of growth and one of the priorities for action in this area is the need to strengthen inter-regional knowledge transfer.



The study had four principal objectives: to identify the contribution made by universities and research establishments located in the Greater South East to knowledge transfer, to identify the spatial distribution of this contribution, the factors that affect this distribution and the implications of this for public sector policies. ECOTEC Research and Consulting Ltd was commissioned to undertake the work, which commenced in July 2004 and was completed in May 2005. The main findings of the study are summarised in the following sections.

A copy of the final report from the study can be obtained at [www.gose.gov.uk](http://www.gose.gov.uk) and [www.seeda.co.uk](http://www.seeda.co.uk)

### **The contribution to knowledge transfer of universities and research establishments in the Greater South East and the spatial distribution of this contribution**

Overall, some two-fifths of universities in the UK are located in the Greater South East, supplying some 33% of all graduates per annum. From the information available, between one third and a quarter of knowledge transfer activity undertaken in the Greater South East occurs with partners outside of the area. Universities located in the Greater South East are, on average, more likely to be involved in consultancy work with large companies but less likely to be engaged in consultancy work with SMEs, than other universities in England. Their propensity to engage in collaborative research with both large firms and SMEs is approximately the same. There are, though, strong differences between the three regions comprising the Greater South East.

Universities located in the Greater South East are more likely than other English universities to engage in Knowledge Transfer Partnerships (KTPs) and have significantly more Cooperative Awards in Sciences of the Environment (CASE) studentships. In both cases these schemes support the engagement of graduates on industry-relevant projects and the consequent exchange of knowledge.

<sup>1</sup> The Greater South East of England is here defined as comprising the three administrative regions: the South East of England, the East of England and London.

## Spatial distribution of contacts with businesses by sub-group

	Regional	Greater SE	Rest of UK	Overseas
PSRE	27%	14%	29%	31%
Leading four research universities	36%	20%	21%	23%
Remaining universities	59%	18%	12%	11%

Universities in the Greater South East are slightly less likely to generate spin-off businesses than universities in other parts of the UK, but the survival rates of those established are better than the UK average. Overall, some 191 spin-offs were established from universities located in the Greater South East of England in 2001-2, some 33% of all established in the UK that year. The most common form of spin-off is a company started by a graduate of the university, followed by a company with some Higher Education Institution (HEI) ownership. There are few known cases of spin-offs which have no HEI ownership or investment.

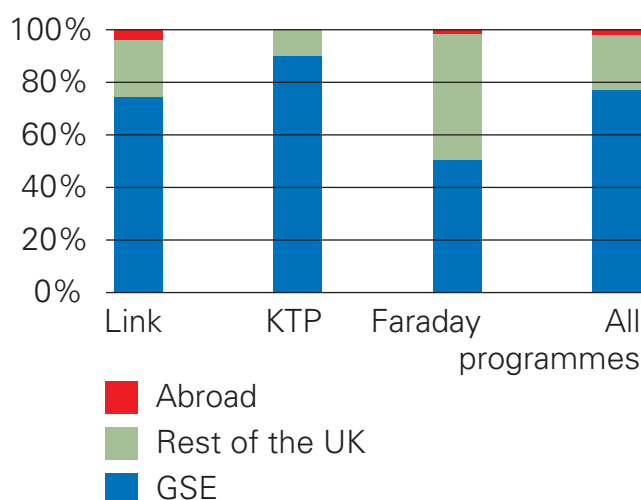
Two-thirds of graduates from universities located in the Greater South East remain in the area to find their first employment. Some 10% find work elsewhere in the UK and 8% overseas. The destination of the remainder is not known. Six months after graduating, approximately 25% of graduates educated in the Greater South East are in employment outside of the area.

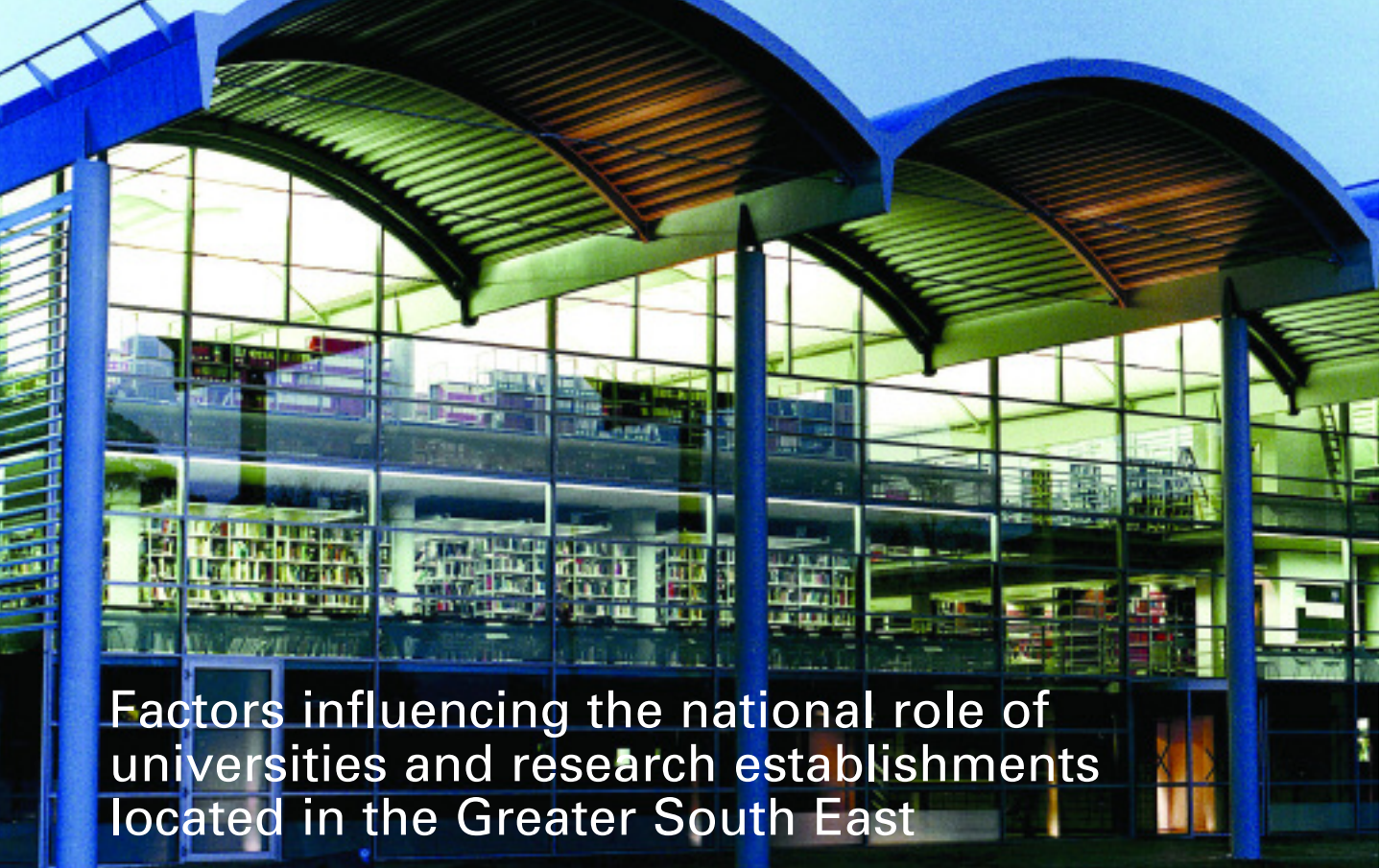
There is remarkably little information available from universities or departments as to the spatial distribution of their contacts with businesses, despite this being recorded in the biennial Higher Education Business Interactions Survey. On the basis of ECOTEC's study it appears that between one-third and a quarter of all collaborative research and consultancy is with businesses located outside of the Greater South East, split evenly between the UK and overseas.

There are differences between the public sector research establishments (PSREs), the leading research funded universities and the rest of the university sector (see table). The four universities that received the most funds were more nationally and internationally orientated than other universities, as were the PSREs.

The spatial distribution of knowledge exchange and innovation-related activities also varies by knowledge transfer mechanism. Programmes such as the Faraday Partnerships were found to have a wider spatial distribution than Knowledge Transfer Partnerships for example (see figure). Similarly, programmes such as the EU Framework Programmes have an international component by definition, although in this case the study was unable to ascertain the spatial pattern of participating partners.

### Formal research programmes: Location of participating businesses by programme





## Factors influencing the national role of universities and research establishments located in the Greater South East

Of the various factors influencing the national role of universities and research establishments located in the Greater South East, the following were found to be significant:

- most HEIs in the Greater South East do not see proximity as the critical factor influencing the spatial pattern of their business linkages. It has an influence when contacts are being initiated but thereafter it is not seen as significant by either businesses or researchers in terms of their working relationship. Where it is more influential is in terms of student placements and for programmes such as KTPs, whereby closer proximity is regarded as desirable by all parties to stimulate regular personal contacts between the business, academic partner and student. Collaborative research programmes, particularly those stimulating leading edge research, appear to be least influenced by considerations of proximity. This is ascribed to the fact that researchers in these fields have well-developed networks that are widely dispersed

- the location of particular industrial sectors, or concentrations of research-orientated organisations, is a more significant influence on the geography of knowledge exchange and innovation-related activities. In this respect universities and research establishments 'follow the market'



- the limited capacity and resources available in universities and research establishments for developing business linkages also has an influence on the contribution made. All other things being equal individuals seek out new contacts in places where they have the greatest expectations of success and costs of acquisition are least. This tends to work against developing linkages in more distant regions where they have little or no existing knowledge
- networks perform a valuable role in bringing academics, researchers and businesses together, raising mutual awareness of opportunities and overcoming some of the capacity constraints identified. Most networks take a regional focus, although there are some important national sectoral networks. Regional networks tend to work against desires to develop a wider geography of knowledge exchange and innovation. Networks, such as the London Technology Network, that are starting to bring in businesses from outside of the region are to be encouraged
- efforts to stimulate knowledge transfer activity tend to be blind to the geography of this activity. This means that the national contribution is perceived in terms of the firms worked with, rather than their location. There are signs that where geography is taken into account this tends to emphasise development within the region in which a university is located. This was the case for all universities that had a geographical component to their targets for knowledge transfer activities
- demand for co-operation and collaboration by firms influences the national contribution made by universities and research establishments to knowledge exchange and innovation. Whilst large firms tend to argue that geographical location is not a factor in their decision-making, for SMEs this was seen as a more significant factor.





## Implications for public sector policies

There is no strong spatial element to public policy interventions at present. The principle focus is on building the capacity of universities and research establishments to engage with businesses, wherever they are located, and on stimulating demand by business to engage in collaborative relationships. Where a spatial dimension to policy emerges, the emphasis is on the development of the region. In some cases performance measurement systems reinforce this message. This can lead to the region being favoured in the development of new business contacts. If the intention is to increase the contribution that universities and research establishments located in the Greater South East make to knowledge exchange and innovation across the UK, then the spatial dimension will need to become a more explicit element in policy initiatives.

In developing policies for knowledge exchange and innovation, public policy makers will do well to consider the influence that the size of a firm can have on the geography of the relationships established. To reach SMEs in more distant regions may require a different approach than to reach those located in closer vicinity or to reach large and

multi-national companies. The different geographies of the various knowledge exchange initiatives is also worth noting. One of the challenges facing policy makers in this area is to find means to strengthen access to the knowledge generated by universities and research establishments more broadly.

Strengthening the capacity of organisations to act in the field of knowledge exchange and innovation is an important dimension to securing a strong national contribution by universities and research establishments. Advances have been made in both universities and research establishments and these should be secured through continuing support. Actions should also be taken to strengthen the capacity of public bodies that are engaged in promoting this agenda, particularly with reference to the wider benefits that universities and research establishments can make to knowledge exchange and innovation.

In order to strengthen the national contribution made by universities and research establishments located in the Greater South East to knowledge exchange and innovation, ECOTEC recommend that:

- a stronger, more explicit, focus on developing inter-regional knowledge exchange initiatives be implemented and that the emphasis of the regional development agenda is carefully considered
- a stronger focus on building relations outside of the region be encouraged through existing knowledge exchange initiatives, such as Business Fellows and networks, building on emerging good practice such as the approach of the London Technology Network
- the geography of different forms of knowledge exchange activity be considered in developing new initiatives for collaborative and co-operative working between universities, research establishments and businesses
- particular attention is given to stimulating the national contribution that universities that are not part of the Russell Group can make to knowledge exchange and innovation



- London, the South East and the East of England regions continue to work together to develop a global 'science-based region', building linkages to other parts of the UK in order to secure the long-term national contribution of knowledge exchange and innovation by their universities and research establishments
- better data provision and reporting be encouraged in order to improve our understanding of this important area
- longer-term funding for 3rd stream activities be introduced to provide the base on which to build a strategic approach to this important area
- a stronger discourse is encouraged between researchers, academics, business leaders and employees to encourage knowledge exchange and innovation, rather than relying upon co-operative and collaborative bilateral arrangements.

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