

## EDITORIAL

## LOST IN TRANSLATION



Dr Scott Steedman

Successive governments have sought to exploit the UK's research strengths in science and engineering by stimulating collaboration between universities and industry. While many large engineering companies are active collaborators, not all are. Moreover, many small and medium sized enterprises (SMEs) find it difficult to work with universities.

The *Dowling Review of Business-University Research Collaborations*, published in July and led by Professor Dame Ann Dowling DBE FEng FRS, President of the Royal Academy of Engineering, makes important recommendations on how to address the complexity of public support for the innovation system and stimulate more involvement by SMEs in the translation of research into practice.

The *Dowling Review* points to the ongoing challenge of engaging companies that have never participated in collaboration but could benefit from doing so. The report recognises that, for many SMEs, even finding a research partner can be difficult as they do not have spare capacity to spend time searching out university expertise.

This is not a new problem. In 2004, the European Research Advisory Board (EURAB) published a study, *SMEs and ERA*

(European Research Area), that estimated that as many as 70% of SMEs had no or few research and development activities. These companies were described as basic SMEs whose performance is driven primarily by regulatory requirements.

At the other end of the scale, EURAB's study suggested that fewer than 3% of SMEs, classified as technology pioneers, had fully integrated research activities with universities and research institutes. In total, the study suggested that only around 10% of SMEs were pioneers or leading technology users, with the ability and motivation to participate in collaborative research.

In the UK, there are excellent examples of successful high-tech collaboration. Universities such as Warwick, Imperial, Manchester and Sheffield have all created physical hubs or centres since that have attracted major enterprise and innovative SMEs. Aston University pioneered the Innovation Voucher scheme for industry. The Catapults network, established by Innovate UK, is already demonstrating its worth, acting as a convenor for innovative SMEs.

The government is now considering the *Dowling Review's* 32 far-reaching separate recommendations, which touch on all aspects of university/research/business collaboration. The challenge will be to implement the *Dowling Review* for the benefit of SMEs that may be capable of adopting new knowledge, but do not have the experience or capability to specify research or to take an active role in collaboration. The EURAB study suggests that as many as 20% of SMEs could fall into this category, lacking expertise and enthusiasm to engage in collaboration. Could they be stimulated to become involved, perhaps as demonstrators within a consortium, or even directly through ad hoc projects?

The key recommendation in the *Dowling Review* that could deliver radical change for these companies is to simplify the support landscape. The review also describes the requirements of an effective national brokerage system to help businesses to identify potential research partners, facilities and sources of support for collaborative projects. As the review notes, at present, no UK-wide service exists that adequately addresses this need.

To deliver change on a large scale, a brokerage service would need to focus on the underrepresented tier of SMEs identified in the EURAB study, the 20% that may be interested but for whom capability, and lack of funds, time and information are all barriers to collaboration. An effective brokerage service could unlock opportunities for individual projects or extended participation in existing translation activity. Such a system would need to support its industry clients by providing guidance to researchers on what it takes to turn their work into something that non-specialists can use in a commercial environment.

For such SMEs, that advice must help them to specify their needs but also to facilitate rapid take-up of the research, which frequently requires extensive development before it can deliver any real commercial value.

HEFCE, Innovate UK and the Research Councils are working with the National Centre for Universities and Businesses to develop a broad-ranging online brokerage platform, but it remains to be seen if this service will provide an effective tool for the engineering sector. Meanwhile, could the Academy's own Enterprise Hub, given increased resources, expand the range of its activities to provide the engineering sector with this urgently needed mentoring service?

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