PROTTEC

ADVANCING INNOVATION AND KNOWLEDGE TRANSFER

Identification of and Improvement to Technology Transfer Best Practice

Work Package 2 - Appendix 2

European Regional Development Fund

The European Union Investing in Your Future

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Summary of desk-based assessment of evident best practice for knowledge transfer from both France and the UK

The desk-based assessment of best practice in knowledge transfer finds that recent years have seen significant developments in the effectiveness of knowledge transfer in both France and the UK; and that this transfer is dependent on a complex series of interactions between industry and university.

In summary, the assessment notes that numerous factors influence the effectiveness of knowledge transfer activities. For best practice, an awareness of the most influential of these should be central to any knowledge transfer activity programme. They include:

- people play the most critical role in the success of technology transfer and the best forms of knowledge transfer involve human interaction (Argote and Ingram, 2000; Lambert Review, 2003).

- individuals who understand the 'market' are a major determinant of success with university/industry interactions (Stevens and Bagby 2001).

- organisational and managerial behaviours and skills are critical factors in facilitating the university-industry technology transfer process (Siegel, et al, 2003)

- the skills and actions of individual project leaders are key to the successful exploitation of public research (Martin 2008).

- knowledge transfer activities targeted at large companies and institutions, have an impact on SMEs through the supply chains of these corporations (PACEC report 2008).

- trust is a central element in alliances and joint ventures; and allows access to resources and a willingness to work things out through mutual problem-solving (Dhanaraj, et al, 2004; Uzzi, 1997).

- the ease of knowledge transfer is dependent on the type of knowledge in question: it is more difficult to transfer tacit knowledge than codified knowledge, which suggests that tacit knowledge requires more motivation, effort, and ability to transfer than codified knowledge (Reagans and McEvily 2003).

- tacit knowledge transfer is more dependent on the right person, with the right connections in the right place, ultimately limiting the number of people who can contribute to the process (Reagans and McEvily 2003).

There are also numerous barriers to success. The assessment finds that to overcome these barriers and improve university/industry knowledge transfer, it is necessary to:

- design flexible university policies on technology transfer (Horng and Hsueh 2005)

- improve staffing practices in the technology transfer office (Horng and Hsueh 2005)

- devote additional resources to university/industry technology transfer (Horng and Hsueh 2005)

- enhance the reward for engaging in university/industry technology transfer (Horng and Hsueh 2005)

- universities should improve their understanding of the needs of their true 'customers' i.e., firms that can potentially commercialise their technologies (Siegel, et al, 2003)

- streamline university-industry technology transfer policies and procedures (Siegel, et al, 2003)

- hire licensing officers and technology transfer office managers with more business experience and devote additional resources to the technology transfer office and patenting (Siegel, et al, 2003)

- switch to incentive compensation in the technology transfer office (Siegel, et al, 2003)

- hire managers/research administrators with a strategic vision, who can serve as effective boundary spanners (tie to boundary spanning literature) (Siegel, et al, 2003)

- recognise the value of personal relationships and social networks, involving scientists, graduate students, and alumni (Siegel, et al, 2003)

- when establishing collaborative research partnerships determine at the outset the ownership and exploitation rights for any intellectual property (IP) that may be generated (Lambert Review 2003)

- improve job-specific experience (Riege and Zulpo 2007) and hire technology managers with university experience (Siegel, et al, 2003)

- industry should be proactive in their efforts to bridge the cultural gap with academia (Siegel, et al, 2003)

- explore alternative means for tapping into university-industry technology transfer social networks (Siegel, et al, 2003)

- make time available for academics to undertake knowledge transfer activities (PACEC report 2008)

- more knowledge transfer with small and medium-sized enterprises (Sainsbury Review 2007)

- increase the number of Knowledge Transfer Partnerships in the UK (Sainsbury Review 2007)

The assessment also highlights that it is often difficult to quantify the complex series of interactions between universities and industry, and indicators of university performance, in terms of technology transfer to industry, often concentrate on only a few types of knowledge transfer. Therefore, a unified system for quantifying knowledge transfer across a range of channels would be helpful.

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