

D2.2 Regional Knowledge Models – Key findings

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Yorkshire and Humber (UK)

- Three key universities (Leeds, Sheffield and York) are the main visible knowledge creators within the region. These universities are engaged in considerable knowledge transfer with organisations external to the region. However, there is an apparent low level of knowledge commercialisation and utilisation by firms within the region. Furthermore, there is little evidence of direct knowledge transfer between the higher education and business communities or of business sector engagement with organisations external to the region.
- There are a range of public sector funded intermediaries, many of which are linked to the region's higher education sector. At both a national and regional level there is considerable investment in university knowledge transfer functions. However, there is criticism of the effectiveness of business support mechanisms as facilitators of knowledge transfer. Also, there is little evidence of knowledge transfer from (potential) commercialisers to knowledge creators in the region or of regional knowledge spillovers.
- The key policies relating to knowledge supply and creation are unsurprisingly those involving the region's higher education sector. The overarching regional framework set by the sector is the strategic plan signed-up to by the region's universities. A key feature of this plan is to ensure that the region's higher education sectors is represented by and contributes to the regional and sub-regional agenda, as well as providing an intelligence gateway for and about higher education in the region. These policies are also recognised by the group of 'elite' universities, as part of the White Rose Research Triangle, and within the region's overall economic strategy.
- Within both the UK and Yorkshire and the Humber, policies relating to knowledge demand and absorption tend to be an implicit feature of other policies targeted at the private sector, rather than explicit policies in themselves. At a national level, R&D policies in the form of tax credits and co-funded R&D initiatives are one implicit measure aimed at stimulating knowledge demand. Another is the Small Business Research Initiative, which is attempting to improve the knowledge and R&D interface between SMEs and the government. Within Yorkshire and the Humber, Yorkshire Forward's cluster policy is an important potential means of improving the knowledge demand absorption capacity of targeted businesses within the region.

Central Macedonia and East Macedonia/Thrace (Greece)

- The priority issue appears to be the creation of a critical-mass for RTD (stock of know-how) in terms of infrastructure, engagement of capable skills, entrepreneurial spirit and imaginative policy leadership that will put into use the combined resources effectively making innovation a self-sustaining process and allow for its faster evolution.
- There is a need to diversify primary production towards greater specialization combined with the introduction of agro/biotechnologies and synergies with other sectors like life-sciences and environmental technologies towards the combined promotion of pharmaceuticals, specialised foodstuff, health and different types of tourism as a clustered composite product/service.
- There appears to be sufficient investment, human skills and infrastructure in order to create this critical-mass. A dilemma is posed regarding the strategy, in that the above mentioned hypothetical strategy might constitute wishful thinking and that creation of a critical-mass might not necessarily require such complex sectorally focused strategies but could arise as a result of horizontal strategies like the triple-helix interaction, the play-out of market forces and state-of-the-art scientific practices. What seem to be the major barriers are the institutional and cultural bottlenecks that could greatly be ameliorated with decisive policy actions.
- Any chosen strategy will have significant requirements in specialised personnel, links with the scientific community and innovative entrepreneurship that does not correspond to the ageing country-side of small land holdings in traditional crops often relying on subsidies. It would further be constrained by the predominance of the small merchant class, self-employed (32% of the workforce in industry and services compared to 12% for EU15) and civil servants that dominate the employment make-up of the population at regional level coupled with entrepreneurial quality limitations on the side of the business community. The transition from this environment has been slow and new dynamic businesses are not appearing fast enough to take-up the slack.
- Finally, the regional definition for RTD policy might also prove important for achieving the required size that will secure economies of scale and the critical-mass. In this respect the policy planning space for RTD could be taken to be the region of CM and EMTH, with Thessaloniki at the core, or even the whole of the NUTS1 region of Voreia Ellada taken together in order to achieve economies of scale and economy in the allocation of resources rather. An obstacle, according to some research performers, could be a perceived limited lack of complementarities between the economy of Thessaloniki and the other Prefectures even though all could gain in the future. Synergies in the future with neighbouring countries would be useful

although such a discussion might be premature at this time. Nevertheless, a broader RTD market could resolve many of the issues through market forces that could see an opportunity in the gains arising from agglomeration.

- Despite the problems, many Greek companies including SMEs are increasingly willing to develop technological capacity and product quality and that Greek RTD performers are increasingly aiming to engage with the real economy. Many of the cited problems are due to the fact that the process of developing and infusing R&D as well as the transition of the corporate sector towards modern methods are at a relatively early stage. The Greek private corporate sector gained strength primarily over the last 15 years while the initiation of most RTD intermediaries and initiatives took place in the late 1990s. Other research performers particularly the Universities and TEs although growing more aware regarding their impact on the economy are still at an early stage in the transition process. Similarly, policy makers have been engaged with RTD policies relatively recently and in addition face problems arising from the overall mediocre state of Greek public administration. Even so, a momentum is present and a key role for policy makers is to sustain it and nurture it.

Thrace (Turkey)

- The public universities have been commercialising knowledge either through trainings or projects developed in cooperation with industrial firms. Two institutions, ITU and YTU, are sharing investment with industrial companies in order to establish a new company. The two do not need to market their knowledge; on the contrary they attract attention of both national and regional industrial firms. The representatives of those universities claimed to have received patents but could not give the numbers. Foundation universities give seminars and training to the SME but research has not started yet. The size and age of the universities are influential in knowledge requests. All the responses have agreed that finance is the main issue of RTD development in the region.
- KOSGEB was the only organisation taking role in national Innovation Governance and the organisation that believes in regional development. It is in the process of establishing a regional organisation, hence, they were enthusiastic about collaborating in the MIRIAD project. Clustering is one of the activities they would like to promote.
- Edirne and Kırklareli Municipalities are focused on the development of tourism rather than allowing the technology based organisations in those cities. Local authorities of Istanbul are enthusiastic to run research projects and approve implementation of national policies in the region without customisation. The difference in focus of policy

makers, confirmed the problem of economic disparities among the cities, which is an important issue in regional innovation.

- All the intermediary organisations interviewed are influential on national innovation governance. These are organisations that initiate and/or provide funds for the research projects. The survey respondents agreed on lack of awareness of innovation concepts and national policies in the industry and they ranked the “low level of education of capital owners” as the leading obstacle. They claim to have problems in knowledge transfer without demand; therefore the main responsibility of intermediary bodies is seen as mass training before initiating any research project.

South and West Bulgaria (Bulgaria)

- Bulgaria currently has a two-tier knowledge and innovation system - old state research institutes and universities on the one hand and numerous newly established private universities, non-governmental institutions and firms on the other. The two tiers fail to synergize on scarce public and private resources in the country. The old innovation infrastructure has not been reformed to address new and emerging needs of the economy and has remained primarily government financed without private support.
- Companies and newly emerging innovation structures on the other hand respond to international competitive pressure and trends and have established parallel innovation efforts, which usually are isolated and small scale. Market forces will surely find their way in imposing a new innovation system but this would likely take much more time, efforts and resources if the public and private sector are not working in a consensus.
- Traditionally the knowledge creation and transfer system in Bulgaria has been highly centralized with the dominant role of the state in governing the process. This model resembles the characteristics of the “Triple Helix I” (Etzkowitz, 1998) and has been observed in other former socialist economies as well. During the transition period through reducing the role of the state the national research and innovation system has shifted from Socialist type of a Triple Helix model to a “laissez-faire” type of model. The model has also to be described as non-linear one that takes both interactive and recursive terms into account.
- Demand for research and innovations from private firms was described as rudimentary and scarce. Survey of demand needs for research and innovations has not been conducted up to now within the frame of the current project. However both knowledge producers and intermediaries pointed that unrecognized importance of innovations for sustainable development among SMEs managers is as important factor explaining low demand as the lack of financial resources. Traditional forms of

