

The Governance of Knowledge

The role of the territory and Institutions for the production and dissemination of knowledge

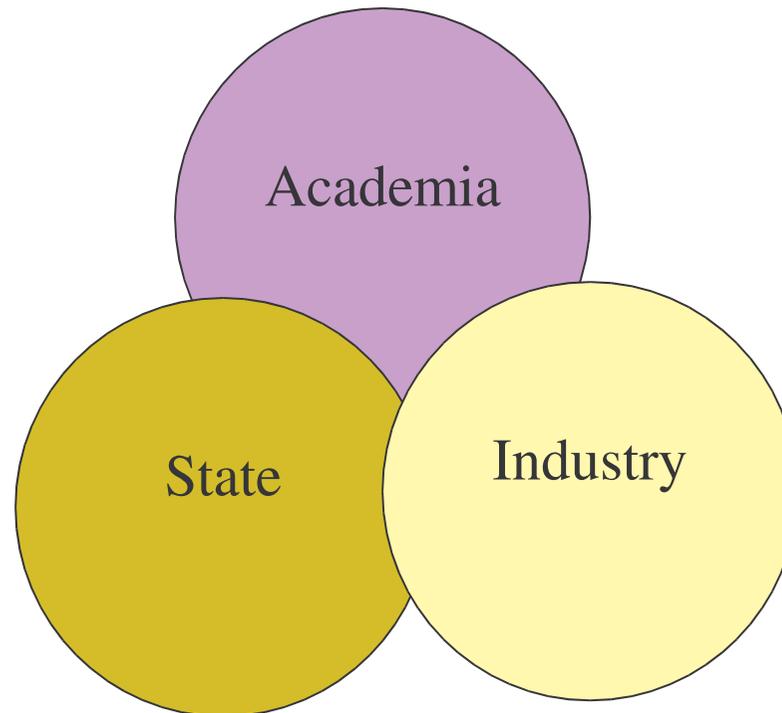
The European
scientific
community is one of
the world leaders in
terms of R&D

The European
productive structure
is not competitive
enough in high tech
sectors

**European
Paradox**

The necessity to increase the relationships and the connections between University and Enterprises. The role of governments and regional institutions.

The TRIPLE HELIX Model



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Innovation and Sectors

Relapsing fields	High tech setors	Emerging sectors	Mature setors
Key actors			
Large companies	Less present in EU than in USA and JAPAN		
Universities and Research Centres		Poor link with applied research	
Territorial systems and clusters			Incremental innovation Resistance to innovation

New industrial research needs overlap different fields of knowledge. The governance of knowledge.

Relapsing Fields	High-tech sectors	Emerging sectors	Mature sectors
Key actors			
Big groups	Less present in UE then in USA and JAPAN	→ ↑	← ↓
Universities and Research Centres	↓ ←	Poor link with applied research	→ ↑
Territorial systems and Clusters	↑ →	↓ ←	Incremental innovation Resistance to innovation

Dilemmas and possibilities between institutional areas

	Universities	Companies	Government
Research programmes	Conditioned by companies Learning and encouragement	Adequate to the market needs	Appropriate to the economic and social development
Patents	Conflict with open science	Necessary to protect themselves	Useful as knowledge measure
Spin-offs	The university becomes enterprise	Possible complementarities	New entrepreneurship
Scientific productivity	Can be stimulated by the collaboration with companies	Higher interest to applied results rather than to publications	As a mean to widespread knowledge
Information	Low as for the companies needs	Low as for academic research abilities	Low on both dimensions
Coordination costs	Sometimes very high compared to the resources	Bearable	Usually supported as collective wellness
Managerial ability	Low	High	It depends on
Implementation timing	Usually long	Lower compared to universities	Intermediate between universities and companies
Geographical area	Very wide	Wide as for big companies. Local if SMEs	It could exceed a given government level
Companies' competitiveness	Sometimes ignored	Main goal	Among the main objectives
Knowledge creation	It is in their mission	They can contribute to academic research	It creates knowledge by recombining
Territorial elements	Higher emphasis to the local context	Territorial specialisations	Local specialisations in international contexts

The ERIK experience. Policy recommendations.

Developing research fields pertaining to territorial talents

The analysis of the ISR practices presented within the ERIK Network has made it clear that such influence is undoubtedly positive. In particular, the advantages are higher when research is developed in the proximity of a productive area in a territory around which research groups have crystallized

Although the good practices *3TNET*, *OLIOTEC*, *OPTOMED* and *TITANE* have implemented specific technologies strictly connected to their referring industrial fabric, they have at the same time developed technological researches which have an international relevance and which can be applied to contexts different from the local one.

The ERIK experience. Policy recommendations.

Increasing the involvement of companies in the project planning and implementation phase

In the framework of ERIK Industry/Science Relations good practices, the creation of a partnership, particularly with the private sector, has been the most emphasised success factor.

However, the value scale in the good practices shows that, despite being present in the planning and implementation phase with the same frequency of universities and regional authorities, industry performs a minor role.

In the implementation phase Industry is the main actor only in 2 practices
Research and Technology Transfer in Health -Emilia Romagna e *TITANE*-Liguria

In order to propel the involvement of companies, *TETRA* (Flanders) is a fund created to stimulate technology transfer from universities to large groups of SMEs

The ERIK experience. Policy recommendations.

Enhancing and increasing structures in charge of facilitating the recognition of university research IPRs

Companies request knowledge jointly developed with universities to be appropriable.

European universities are historically devoted to open science and are unprepared for a systematic and efficient economic valorisation of their own research capacity and are not used to offering the companies with which they collaborate adequate guarantees in term of knowledge exploitation

Particularly important are services and infrastructures aimed at promoting the use of intellectual propriety developed by *OTTAGONO* (Sicily), *CRIA* (Algarve), *SBO* (Flanders), *Postdoctoral Fellowships* (Flanders) and *OPTOMED* (Tuscany), in order to address a lack pointed out by the good practices *INNOVATION SPACE* (Alentejo) and *SIDEUM* (Småland & islands),

The ERIK experience. Policy recommendations.

Enhancing the quantity and quality of information

Any policy based on interactive relations among universities, government and industry requires a huge amount of information which, on the contrary, is often lacking. The ERIK Network provides examples of valid platforms for promoting the spread of knowledge.

SIDEUM (Tuscany) and *CRIA* (Algarve) are platforms aimed at facilitating and promoting relations between research units and companies

Fachdialog (Lower Austria) is a platform for seminars aimed at intensifying dialogue among SMEs

VIS-TD (Flanders) aims to facilitate SMEs innovative process

The *Virtual Technological Park* (Emilia-Romagna) providing different "typical services" addressed to companies and health organisations

The ERIK experience. Policy recommendations.

Increasing the managerial capacity of universities and regional bodies

The knowledge governance required for coordination among three relevant institutional areas (universities, companies, regional bodies and agencies) can only be imposed by a certain managerial capacity which companies have always had, whereas universities and regional institutions have not.

In the analysed practices the role of external consultancy is much more present in the planning phase than in implementation. This shows the low managerial or planning level of the Triple Helix actors in some projects. Consultancy has been used by those regions which are institutionally less structured or in projects boasting accentuated specificities.

The ERIK experience. Policy recommendations.

Boosting companies' competitiveness

Nowadays, it is fundamental for university research to enhance competitiveness of the productive fabric.

Research and Technology Transfer in Health (Emilia-Romagna) aims at boosting competitiveness and at propelling SME development.

OTTAGONO (Sicily) aims at networking the system of agriculture companies, research centres and service companies to increase the efficiency of the value chain, with particular attention to the distribution network.

In *3TNET* (Tuscany) the use of new technologies in the final phase of textile product processing saves up to 70% of the time necessary, decreases costs by 30% and saves energy by at least 20%.

In *OLIOTEC* (Sicily) biotechnologies are applied to the productive process with the aim of obtaining higher added value products and software development to allow complete product traceability.

The ERIK experience. Policy recommendations.

Defining the division of tasks between project planning and implementation in a logic of integration and partnership between the two levels

The analysis of the good practices highlights the fact that the actors in charge of the project elaboration are often different from the ones implementing it. A specialisation and division of tasks in the knowledge production area is indeed taking place, between those producing project planning knowledge and those producing knowledge applied to research. Notwithstanding the evident advantages of such specialisation, the benefit of a constant dialogue between those planning the project and those proactively implementing should not be forgotten.

The ERIK experience. Policy recommendations.

Betting on human resources and on the enlargement of social capital

In the triple interaction, it is not only companies that increase their potential but also governmental bodies and universities. In the co-planning and co-implementation of projects, besides achieving the expected results, a sound institutional learning activity takes place where communication methodologies and languages improve alongside the knowledge and competencies of the human resources operating within these institutions.

The networks of institutions entwine with the networks of the other actors so making each other stronger. 76% of the good practices have indeed described a bottom-up approach to testify an evident effort towards the investment on local human resources.