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# Promoting Linkages between University and Enterprises: the Case of the Algarve Region

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## Abstract:

Innovation has assumed an increased importance in Regional Development theories. This communication hopes to contribute to the understanding of the Algarve Regional Innovation Systems, a peripheral region in the National and European framework, where an economic growth is supported by Tourism, which leaves it out of the group of poorest regions when the GDPpc indicator is taken in account.

A synthesis of the recent Regional Innovation Strategies for the Algarve is presented including the previous experiences of Ettirse and INOVA Algarve. From this late programme emerged CRIA – Regional Centre for Innovation of the Algarve, focused in the promotion, transfer and commercial approach to technology and knowledge in the academy, consolidating the linkages University-Enterprise. This paper tries to understand the actions carried on by this organism and its role in the development of the region.

**Key words:** Innovation; Triple Helix, Regional Innovation Strategies, Technology-Transfer

## 1. The Innovation Process and the Role of Universities

Innovation is assuming a growing importance as a key factor for competitiveness. Nevertheless this concept is not consensual evolving from the classic linear view of technology to a highly complex process. Recent tendencies show that Innovation can be seen as a process and its result, a multi-dimensional concept with a large group of partners involved.

New realities are often explained by the 5<sup>th</sup> generation models of Innovation, Rothwell (1992) [10], where Networked Innovation is characterized by actors that interact (some times not physically), and share knowledge and other factors. The concept of networks is present in recent

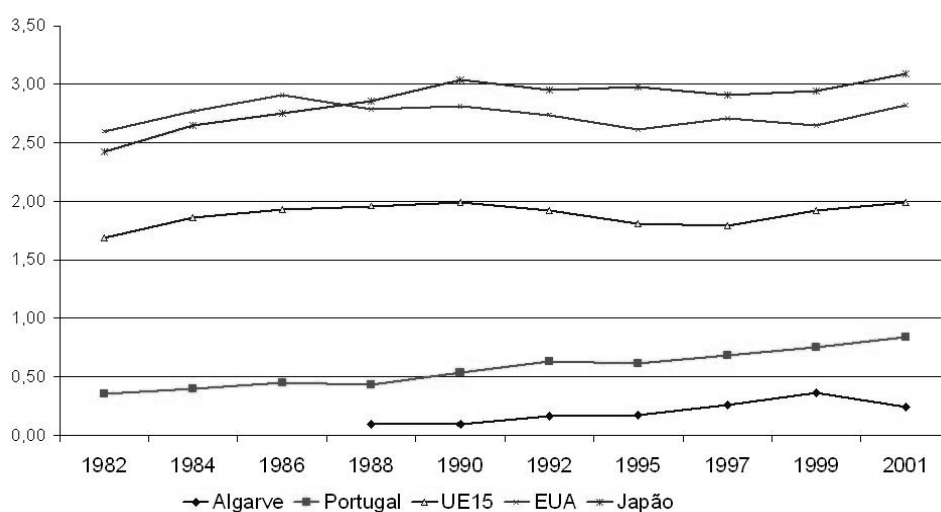
studies based in the approaches that reflect interactive dynamics, with multiple connexions among actors, Conde e Araújo (2003: 732) [1]. Their provisory structures are adequate to answer to a changing environment. Vázquez Barquero (2002: 98) [11] states that a network can be defined as the system of relationships and contacts that create proximity among enterprises, information or technology. Economic activities are based in an institutional framework that originates great variety of networked linkages, personal or corporate, formal and informal. As referred by Kovács (2003: 308) [7] networks can assume different configurations (*inter alia*, horizontal networks of small enterprises, networks of big companies or strategic alliances) and different patterns of behaviour, through cooperation to dependency or domination.

The Triple Helix is one of the examples of a non linear model of Innovation based in networked paradigm, Etzkowitz and Leydesdorff (1997: 3-4) [2] and Goktepe (2003: 219) [5]. It was based initially in the analysis of Innovation Systems of Scandinavian countries and puts in the centre of the innovative process the density of relationships of university, industry and government. The model stresses the importance of University in innovation, once substantial part of R&D is carried on by these institutions, Martin (2003: 30) [8]. Universities assume also the role of incubation structures to increase tech-based start-ups and spin-offs. The traditional roles of University, knowledge generation and Human Capital training are added with new roles: technology transfer, technological innovation, leadership promotion, regional environment and networking competencies, Guerreiro (2005) [6]. For Etzkowitz (2002: 2) [3], *Triple Helix* is a spiral model that captures the multiple and reciprocal relationships in different stages of an innovative process. The model underlines the importance of the participation of one of the spheres in the reality of the other two. The changes in society created a situation where the frontiers of institutional limits are weaker and favour a flexible interaction of these three groups of actors. Goktepe (2003: 220) [5] show that the synergies of the triple helix are an efficient way to disseminate and use knowledge and learning.

## **2. The Algarve and Innovation**

The Algarve is a Portuguese region known by its Tourism specialization, concentrated in competitive advantages of natural resources based in the product “Sun and Sea” but starting to develop segments of high added value as Golf. The region, from 1991 to 2001, had the biggest population growth comparing with other level NUTS II regions in Portugal. For the next Financial

Framework of EU (2007-2013) the Algarve has left the group of the poor (Convergence Objective) and is in “*phasing-out*”, process that results in a reduction in European Structural Funds for the region. The major *deficits* are related to Human Capital: 80% of population has Inferior Education, Tertiary Education is very limited (around 7% of population) and life-long learning is residual. Innovation indicators have great weaknesses, in relation to inputs, the effort in R&D (in particular private) is very low, and sectors of Medium/High Tech are almost inexistent, that result in null Innovation outputs.



**Figure 1: R&D Expenses (in % of GDP)**

**(Source: Pinto: 2006)**

But the interest in Innovation at regional level is not new in the Algarve. The region was the first in Europe to create a trans-border BIC (European Commission Business Innovation Centre) in 1995, organism focused on Innovation in SME (Small and Medium Enterprises). The Algarve was one of the European regions that developed Regional Innovation Strategy (RIS), in way to promote the creation and reinforcement of the Regional Innovation Systems and to increase regional competitiveness. The Ettirse - Strategy of Technological Transfer and Innovation in the South-western Region of the Europe (2000-2001) was carried through with the Province of Huelva (Andalusia, Spain) being one of the few trans-border initiatives. The project, co-ordinated for the CCR Algarve (Commission of Regional Coordination), considered to develop two strategies of Innovation and technological transfer with strong linkages and added value. Its main

objectives were: to analyze some initiatives and to support the structures for Innovation, to create an established coordinated strategy; to promote the creation of innovation and technological transfer centres, to present a set of activities in order to satisfy some needs of the regional enterprises and to promote the cooperation, the exchange of experiences and the trans-border technological transfer. Although some successes, the project did not show significant advantages of grouping two RIS, once the complexity of each one of them was an enough ambitious goal. The INOVA Algarve (Regional Programme of Innovative Actions for the Region of the Algarve) was the program elaborated in the pursuing of the ETTIRSE, equally co-ordinated for the CCDR Algarve (Commission of Coordination and Regional Development). The project (executed in 2002-2003) gave support to several innovative enterprise initiatives and to the creation of CRIA (Regional Centre for the Innovation of the Algarve) to supply an interface between the university and the enterprises, promoting the appearance of start-ups and spin-offs. The successes reached with the Innovation Strategies in the Algarve have been weak, broken up and with little continuity, not having obtained the support and participation of some relevant regional innovation actors, although it had the merit to bring more attention for these questions.

### **3. CRIA Experience**

CRIA was born in 2003 from a partnership of University of the Algarve (Research), CCDR Algarve (Regional Authority for Planning and Coordination) and ANJE Algarve and NERA (enterprises) as an answer to identified problems in the region: distance between research and enterprises and adverse environment to innovation.

The mission of CRIA was the promotion, transfer and commercial approach to technology and knowledge in the academy consolidating the linkages University-Enterprise.

The three first initiatives of CRIA were: a Innovation Fair – a Public presentation of 75 innovative projects of the University to regional enterprises; a Tech-based Idea Contest – that resulted in 12 winning projects with the prize: of the realization of Business Plans by well-known Consultancy Enterprises and the creation of GAPI in the University - Industrial Property Office (GAPI). The activities of GAPI focus Patents and Utility Models. Currently there are around 200 processes of trademarks, 10 patents and 30 logo registration processes.

CRIA is increasing the Technology and Knowledge Transfer generated in the University. For that purpose was created a section of CRIA called OTIC – Office for Technology and Innovation

Transfer. OTIC developed the following activities: characterization of R&D capabilities and existent Networks; accountability of services, equipments and laboratories of UALG; presentation of services of UALG to enterprises; launching of New Labs and studies about Regional Innovation.

The support to Tech-based Entrepreneurship is funded by the CRIATech project. The main activities developed were the support the concretization of the ideas that won the 1st idea contest, support to proposals for incentive programs: NEOTEC, NITEC, IDEIA, SIPIE, SIME, detection of financing opportunities: Finicia, Banks, Risk Capital and Seed Capital and support to proposals to Entrepreneurship contests: BES, CGD, START. In this context several new enterprises were supported. Another four *start-ups* have granted NEOTEC (a national financing scheme) financial support. The scientific areas are: Marine Sciences, Health, ICT and ICT/Marine Sciences. The Interface U-E is being reinforced with some consortium U-E. A R&D nucleus in enterprises (NITEC) was developed in Inesting (in collaboration with Faculty of Economics)

CRIA participates in the regional FINICIA Platform. This is an initiative promoted by the Portuguese institute of support to small and medium sized corporations – IAPMEI – that has developed regional platforms to select entrepreneurial projects that are likely to receive financial support. This platform is composed of regional relevance institutions, with responsibilities in the field of supporting entrepreneurship and start-up creation. This is an important instrument to increase the Social Capital among the involved organisms.

CRIA is also very proactive in participating in Networks related with Innovation, Intellectual Property, Science and Technology Parks and Technology Transfer. At National scale can be referred the GAPI, OTIC and Tecparques networks; at International the Proton, ASTP and IASP. An important protocol was established with University of Texas in Austin to start collaboration to benchmark and train CRIA personnel with the expertise of IC2 of the last two decades.

CRIA is also worried with the needs for Incubation and Science & Technology areas. For this purpose was developed the project of creation of Algarve's Science and Technology Park (STP), the Sines CIBT (Technology-based Incubation Centre) and Incubation areas in *Campi*.

For near future CRIA is preparing a set of initiatives. The first is the Algarve's Regional Innovation Plan. A document prepared in close collaboration with CCDR Algarve to state the regional view of Innovation theme for the Financial Framework 2007-2013. A second main initiative is the launching of the Regional Innovation Forum, regular meetings with the main actors for regional innovation. A new Technology-Based Idea Contest is going to be launched in

2007 for academic public. A major event is going to be prepared to approximate enterprises with applied research projects: Expo-Innovation 2007.

#### **4. Conclusions**

Universities have new roles in the competitive global world where innovation is a crucial factor for development. The traditional roles of University, knowledge generation and Human Capital training have to be added with new competencies: technology transfer, technological innovation, leadership promotion, regional environment and networking skills. For regions in less favoured areas universities are important promoters of Innovation because they concentrate R&D and scientific facilities in an environment where these two capabilities are exiguous. Nevertheless these institutions should be proactive in the transfer of created knowledge to enterprises in order to create spill-over effects that generate more advanced capabilities.

The region of the Algarve understood in the last decade that the road to convergence with more developed areas needs investment related with R&D and Entrepreneurship. The Innovation strategy conducted to the creation of CRIA - the University of the Algarve interface organism. CRIA has assumed large importance as a central actor in regional context for the development of an Innovation System with a set of initiatives that will certainly increase the innovative capabilities of academy and regional enterprises in the near future.

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