



Innovation Hot Spots

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Fast-growing, geographically and industrially clustered firms are becoming an increasingly important factor for innovation and urban or regional development. Coined by researchers R. Pouder and C. St. John (1996) of the Clemson University, USA, the notion of Innovation Hot Spots is today frequently employed by policy makers and local authorities searching to promote growth and development in a region, as well as by business leaders searching to identify attractive locations for their businesses.

In brief, an innovation hot spot:

- o Concentrates competence and innovation capability in a specific product or service business,
- o Consist of a cluster of firms in complementary industries serving that product or service business,
- o Presents a high rate of new venture creation (start ups and spin-offs),
- o Presents favorable dynamics of co-evolution, or, more simply speaking, of integrated development and reciprocal support between firms, industries, institutions, universities, public policies and political initiatives.

As a result of the above conditions, innovation hot spots enjoy rapid growth leading to job creation, knowledge development and sustainable growth. Some well-known innovation hot spots today are *Silicon Valley* with Information Technology and Information Systems, the *Dublin* region in Ireland for electronic components and business services, the *Milan* region in Italy with industrial design, the *Geneva - Zurich* axis in Switzerland for Biotechnology, the *Linköping* region in Sweden with aviation industry, and the *Basque* region in Spain with automotive components. New innovation hot spots also emerge rapidly in India, China and Russia, and some of the most attractive in IT- and Telecom-related products and services already exist in Taiwan, Singapore and South Korea (c.f., e.g., Business Week, 11/10/04).

The innovation hot spot is situated in the intersection between national, regional and industrial innovation systems. Hence, it can combine the best of:

- o National support for basic research and venture funding,
- o Regional development incentives, transport and communication infrastructure, access to qualified workforce and access to a local market,
- o Privately funded and corporate-driven R&D within established industry structures.

In view of the socio-economic importance of innovation hot spots, it is in the interest of countries, and regions in particular, to promote the development of such clusters of dynamically evolving businesses and institutions. The European Trend Chart on Innovation reflects this concern (European Union, 2004). The objective of this initiative is to identify the European Union's most innovative firms, sectors and regions in order to better understand how favourable conditions for innovation hot spots can be developed.

The Athens-Attica Region in Greece - An IT Innovation Hot Spot

The most recent European Trend Chart Report (December, 2004) presents Greece, followed by Belgium and Finland, as innovation leader in the computer services sector. Computer services in general are characterised by a high intensity of knowledge creation and knowledge diffusion, meaning that the hot spots exploiting such services position high on an innovation intensity scale (European Union, 2004). This provides additional benefits to those regions hosting such industries.

The number one position of Greece in the computer related service activities is translated through the country's lead, compared to the other EU countries, in:

- o Number of SMEs cooperating within the sector,
- o Innovation expenditures,
- o Share of firms that receive public innovation support,
- o Gross investment in machinery and equipment,
- o R&D expenditures, and
- o Growth rate of employment.

The IT sector in the Attica region, which includes the greater Athens area and represents close to 40% of the Greek population, concentrates competence and innovation capability in products and services, creating new business opportunities and contributing significantly to employment growth. As emphasized in the Federation of Hellenic Information Technology and Telecommunication Enterprises reports, growth has been boosted by the Information Society Program and the Olympic Games, in which the contribution of technology was of great importance (SEPE, 2004). The IT and Telecom sectors are expected to keep up their high growth momentum with a 2005 forecast of 7% and 4,7% respectively. IT services is the sub segment where the biggest growth is expected; 9,3% in 2005.

Consulting, implementation, operations and support services are all likely to enjoy similar growth since they are complementary industries forming the Attica IT innovation hot spot. This gearing-up of a wide range of players in the ICT cluster is a key determinant for sustainable growth. ICT expenditure in Greece now stands at 5,3% of GDP. As a growing industry, it attracts more and more qualified human capital. It is estimated that over 100,000 people are already employed in more than the 400 ICT firms in the region.

Moreover, the Attica region presents a favorable macroeconomic environment characterized by high rates of development, increase of consumption and investments. In parallel, the necessity for modernization of Greek firms leads them to privilege investments in new technologies. European Union grants, through the 3rd Community Support Framework (2000-2006) and the Information Society Program in particular, are strong drivers for the dissemination of the "Information Society" concept in Greece - in public administration, firms and in the population itself.

The Future of IT Hot Spot in the Region of Attica

After the Athens 2004 Olympic Games, the IT sector faces a critical challenge in maintaining its dynamism and growth. The sustainable development of the sector has to prove itself by increasing its contribution to employment through more job creation and through geographical expansion and formation of partnerships in international markets. The ultimate goal is to sustain its openness to both market trends and consumers needs.

The major field for development remains the software industry. The most important segments for future development include the public sector, manufacturing, banking services, food and beverages, pharmaceuticals, health and insurance services; while major services include ERP and web applications, data bases and CRM, Internet and security applications. A key market opportunity for future development is the enlargement of the European Union, where Greece enjoys a strategic positioning as a trampoline for Balkan business expansion and the dissemination of IT services in sectors of the economy where the need for developing technology is particularly important, e.g., in public administration, agriculture and tourism.

The research conducted within the Management Science Laboratory is preoccupied with analyzing and proposing frameworks for maintaining the dynamics in innovation hot spots. There is a significant risk of rise-and-fall patterns occurring, leading to former hot spots transforming into "blind spots", and core competencies developed turning into core rigidities and cultural lock-in - a tendency of not seeing and recognizing when success recipes no longer fit with changing conditions (Pouder & St. John, 1996, Leonard-Barton, 1992; Christensen, 1997). When this happens, firms fail to renew their resource base, strategies and structures, leading to a failure to adapt to environmental changes.

The above a condensed version of an article entitled "Innovation Hot Spots: Clusters of Entrepreneurial Activity, Business and Spatial Development" by Klas Eric Soderquist, Konstantinos Kostopoulos and Ioannis Katsikis. [InnKnow FORUM no 7, Spring 2005](#)

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Related Weblinks

- o Innovating Regions in Europe, www.innovating-regions.org

- o European Innovation Portal, www.cordis.lu/innovation
- o General Secretariat for Research & Technology, Ministry of Development, Greece, www.gsrt.gr
- o The Website for Research, Technology and Innovation in Greece, www.ekt.gr/content/
- o Hellenic Innovation Relay Center, www.hirc.gr

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