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**Master of Science  
in  
Investment Promotion & Economic Development**

**SIMULTANEOUS COOPERATION AND COMPETITION  
FOR ECONOMIC DEVELOPMENT: THE CASE OF  
COPENHAGEN CAPACITY (DENMARK) AND INVEST  
IN SKANE (SWEDEN) TO FOSTER THE MEDICON  
VALLEY CLUSTER**

**by**

**Natalia Guerra Dávila**

**April, 2011**



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## **Abstract**

This case study is a first attempt to analyse the cooperation of two investment promotion agencies (IPAs) to foster economic development. The IPAs of the study promote a bi-national cluster known, since the late 1990's, as Medicon Valley, a brand name for a specialized life science and biotech region shared by Greater Copenhagen area in Denmark and Lund-Malmö/Skåne area in Sweden.

Simultaneous cooperation and competition in investment promotion needs to be demystified. In the Medicon Valley cluster, competition for investment projects persists but it is curtailed where cooperation is fundamental for success. In general, companies/organizations cooperate and compete simultaneously as part of networks, and clusters' networks provide a good platform for IPAs to cooperate for economic development purposes.

As the clusters' performance is directly related to regional economic development, the contribution of IPAs to improve such performance is fundamental. However, cooperation among IPAs is not automatic and in this particular case, seems more the result of a "top down approach" to deepen regional integration in the European Union.

The research also found that in a cross-border or bi-national investment promotion project, there is need of additional institutions to fulfil certain roles that public organisations such as IPAs at local and national level might not be comfortable with, such as investment policy advocacy. In this particular case, a bi-national public-private partnership, Medicon Valley Alliance, a membership based organization that would promote the cluster in all its dimensions, was created and it is the only tangible reference of the cluster as such.

The research has the limitations of a single case study but its findings could serve as a starting point for additional research. For example, on the conditions and circumstances of cooperating in non-knowledge based clusters, which will be of service to IPAs from developing countries.



## 1. Introduction

This case study is an exploratory approach to the simultaneous competition and cooperation of two subnational investment promotion agencies from different countries. Copenhagen Capacity from Denmark and Invest in Skåne from Sweden, are two subnational investment promotion agencies (IPAs) established in the mid 1990's as part of the European integration programme and the economic liberalisation wave of the moment. These two organisations have developed a partnership to promote Medicon Valley, a life science cluster that expands across their common border.



The aim of the research is to identify how, and the conditions in which, the cooperation between the two IPAs takes place, considering that they primarily compete for investment projects.

Nowadays for developing countries (DgCs), the topic of cooperation in investment promotion is key for achieving development goals. The globalisation process is forcing

the formation of a variety of inter-organisational cooperative agreements both in the public and private sectors, becoming the main feature of the alliance capitalism (Dunning 2006). IPAs cannot ignore this global trend for it also affects organisations that provide public goods and services. In fact, IPAs from developed countries (DCs), particularly at subnational levels, have been working for many years in this direction in the framework of supranational or federal umbrella projects to foster regional development and integration.

Cooperation and competition to attract investment to the Medicon Valley cluster takes place in the context of the cluster's network. The IPAs cannot work in isolation to promote the cluster, neither can they escape the "top down approach" of regionalisation in the EU (MacKinnon and Phelps 2001), backed up by project-based financial means to implement supranational strategies through funds such as Interreg and the Framework Programmes.

Medicon Valley is a knowledge-based cluster for which there are many intangibles that contribute to its success. However, Medicon Valley has had a positive and tangible impact on the regional development through the attraction of investment, promotion of relationships between many actors on different sides of the border and in other clusters worldwide, transfer of knowledge and technology and generation of employment and exports. Key elements for this success have been infrastructure, such as existing research and development capacities (i.e. Universities and hospitals), the bridge inaugurated in 2000 linking the city of Copenhagen with the city of Malmö, the supranational support for interregional cooperation/integration and the existence of large pharmaceutical companies in each side of the border whose dynamics together with that of the Universities, produced important spin-offs.

The downside for the development impact of this cluster, and in particular of the life science and biotechnology sectors, is their high reliance on venture capital funds (Waluszewski 2004). However, this is not the subject of study of this research, but as it

is fundamental for knowledge-based clusters, needs further attention from and for organisations such as the IPAs and economic development agencies.

The research is based mostly on secondary data which was to be validated with open interviews with main investment promotion stakeholders of the Medicon Valley cluster. For that purpose, a deep and extended research and analysis of documentation found through the Internet and other sources fostered the preparation for the field visit. During this visit, questions were asked to several informants about how the cooperation takes place, its effectiveness and the results. Realistically, it was not easy to obtain interviews with all expected stakeholders, but in those cases, it was possible to obtain non-published data, information about other stakeholders and sources that permitted the triangulation of data.

The dissertation is structured in 5 chapters, starting with this introduction. Chapter 2 is dedicated to the literature review while chapter 3 to the research methodology. Chapter 4 presents the case study in five sub-sections with description and interpretation of the collected data. Chapter 5 presents conclusions and recommendations, in particular, for IPAs from DgCs.

## **2. Literature review**

This review starts with the surge of foreign direct investment (FDI) and that of investment promotion agencies (IPAs). It will thereafter deal with competition and cooperation among IPAs through networks and clusters, in the context of regional economic development.

IPAs as they are known today were established in the majority of countries during the late 1980's and early 1990's to accompany the economic liberalization wave for which FDI was a main feature. However, since then the volume of the investment promotion related academic research has focused on studying FDI and its main vehicle, transnational corporations (TNCs).

There is little academic research about the world of investment promotion and the operation of IPAs (Morisset and Andres-Johnson 2004, Egemar 2006). Most research work in this area has been carried out by international organizations like the United Nations Conference on Trade and Development (UNCTAD) and the World Bank through its Multilateral Investment Guarantee Agency (MIGA) and the Foreign Investment Advisory Services (FIAS).

There is a seminal work from 1990 published by FIAS entitled "Marketing a country" by Wells and Wint (2000), in cooperation with the Harvard Business School. The same authors updated this research in 2000. In 2001, UNCTAD launched a worldwide survey whose findings were published as the "World of Investment Promotion Agencies at a Glance" (UNCTAD 2001). Since then, UNCTAD and FIAS have published series of papers dealing with specific issues related to investment promotion.

In general, investment promotion agencies (IPAs) are governmental organisations with the mandate to promote productive investment. These agencies have many different organisational structures and mandates. For example, some of them deal exclusively

with foreign direct investment (FDI), some also with domestic investment and others also with export and/or tourism promotion. In any case, IPAs coexist at subnational, national and supranational levels; they compete for investment projects but also cooperate as integral parts of national and international networks.

## **2.1 Foreign Direct investment and Investment Promotion Agencies**

In the midst of the international debt crisis in the 1980's, Washington-based international organizations portrayed FDI as the most convenient source of cash flow and foreign exchange for troubled DgCs. This would improve their abilities to pay their external debts, which was creating problems in the international trade and financial systems. Additionally, FDI would provide access to technology and international markets as well as generate much needed jobs and exports. There was so much hope on the role that TNCs and their investments abroad could play that the 1992 UNCTAD *World Investment Report* was subtitled "TNCs as engines of growth". Indeed, during the second half of the 1980's, global FDI flows grew four times faster than domestic output, twice as fast as domestic investment, two and a half times as fast as exports and one and a half times faster than technology payments (UNCTAD 1992). Developed countries (DCs) accounted for four fifths of global FDI in 1990 and the Triad—the European Union, the United States and Japan—for 70% (UNCTAD 1992).

However, FDI and TNCs were confronted with "market failures" in prospective host countries, particularly DgCs, impeding a smooth cross border expansion and hampering global economic integration, i.e. globalization. Governments were therefore advised to create specialised agencies to promote and facilitate FDI. These IPAs would focus on guaranteeing the effective liberalization of the regulatory environment, on competing in the international market for FDI and on dealing with foreign investors through tailor made assistance to channel FDI into national business opportunities.

UNCTAD has characterized the process of investment promotion in three generations of FDI promotion: 1) Liberalization of the legal and regulatory framework; 2) Marketing the

country as an investment location; and 3) Targeting investors at the level of industries and firms to meet their specific location needs at the activity and cluster level according to a country's development objectives. In some cases, countries should nurture the clusters that build on the competitive advantages, capitalising on the natural inclination of firms to agglomerate and eventually acquire a brand name (UNCTAD 2001b).

The creation of IPAs happens primarily in the transition from the first generation to the second one. However, considering that IPAs emerge around the world at different paces, the generations may coexist within a country and happen at various moments in different countries.

For example, nowadays some least developed countries (LDCs) are only starting to market their countries while their liberalization process has not ended. They have yet to start targeting investors or do so effectively beyond privatization. In the meantime, DCs have developed a more sophisticated process of investment promotion, making it a very asymmetric competitive field. In the 1980's and 1990's and until recently, DgCs have been forced to cut public expenses, affecting among many others, investment promotion efforts. The budget cuts affected in particular Latin American and African countries. During the same period, DCs substantially financed their investment promotion programmes. N.A. Phelps summarised this clearly:

“The investment promotion community can be considered as a cadre of ‘intermediaries’ in the market for foreign direct investment (FDI). However, the role of these intermediaries in fostering international economic integration via FDI flows is geographically uneven. A development paradox exists whereby the investment promotion industry is most developed in those developed-country contexts in which it is least needed in order to promote FDI and least developed in those developing-country contexts to which FDI does not flow automatically.”

[Phelps, N, 2009; p1]

Partial exceptions to the above could be the well-known cases of DgCs Malaysia, Singapore and Thailand, all of which became very aggressive or rather competitive in investment promotion with public funds through their national development agencies: the Malaysia Industrial Development Agency (MIDA), the Singapore Economic Development Board (SEDB), and Thailand's Board of Investment (BOI).

FDI flows grew year after year with a high concentration of flows between DCs due to three reasons: 1) the integration process in the EU; 2) the privatization wave in Europe; and 3) the more specific Mergers and Acquisitions (M&As) wave and other strategic alliances (UNCTAD 2001a), also known as Alliance Capitalism.

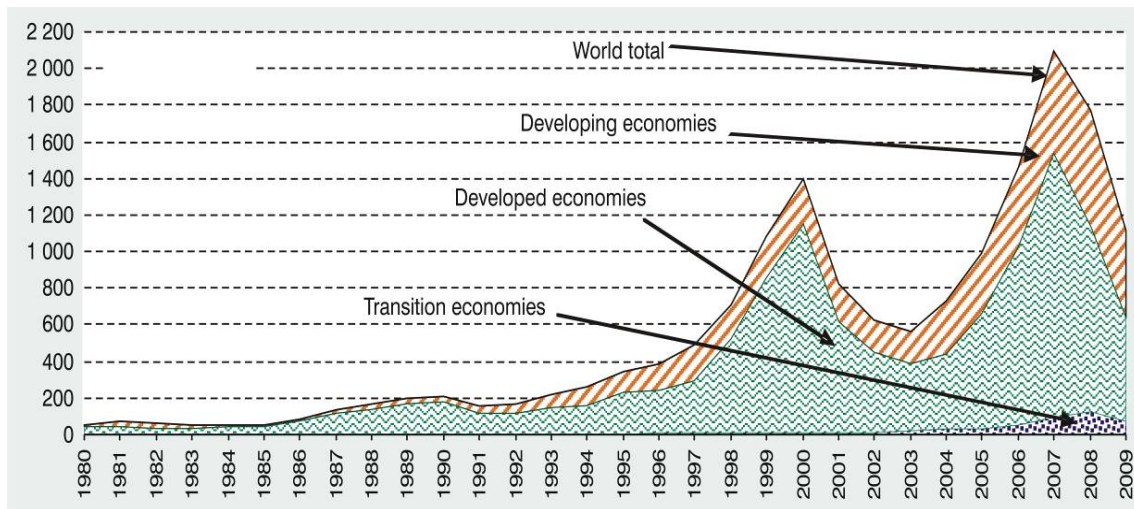
“One of the particular interesting features of the leading market economy of recent years has been the extent to which the hierarchical form of governance of both private and public sector organizations has been complemented with, and in some cases replaced by, a variety of inter-organizational cooperative arrangements. This has caused scholars to suggest that the present stage of capitalism may be best described as alliance capitalism. What is unique about the current stage of capitalism is the use of alliances to undertake innovative activity, and doing so not just at a centralized location but in international locations, often with international competitors. The emergence of these corporate alliances is an indicator of the deep changes currently transforming the world economy, as well as the domestic one.”

[Dunning, J & and Boyd, G, 2003; p207]

FDI trends from 1980 through to 2009 are displayed in Figure 2.1.1, showing how DgCs have gained terrain in recent years, and although FDI flows to DCs decreased in 2008 and continued decreasing 41% in 2009 (UNCTAD 2010), they still receive the largest portion of FDI flows.

The peaks of FDI flows in 2000 and 2008 are, to a large extent, related to intense M&A activity, which supports the thesis of Alliance Capitalism. Investment promotion agencies

from DCs and DgCs have, in general, little to do with privatization and M&As. They deal more with greenfield projects since privatization is generally lead by a specialised agency and M&As respond to strategies that are far from reach for IPAs. However, the overall trend of FDI flows is to grow in time.

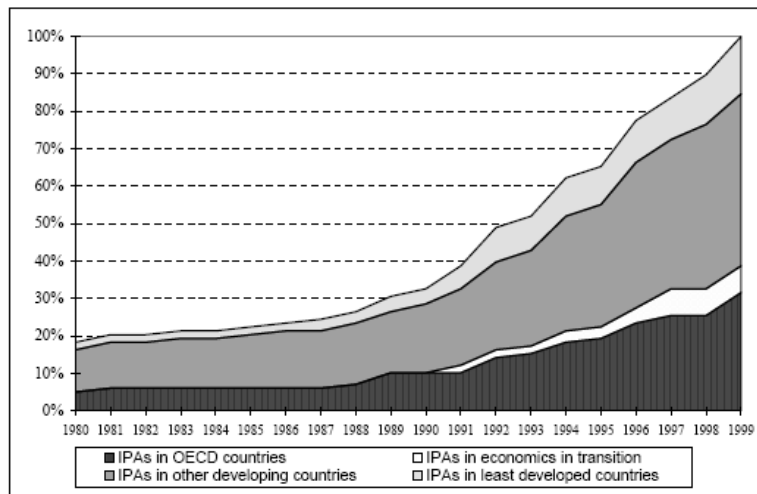


**Figure 2.1.1 FDI flows start increasing for DgCs in the late 80's and early 90's, but DCs always took the biggest share (millions of United States dollars)**

Source: World Investment Report 2010: Investing in a low-carbon economy, UNCTAD. [www.unctad.org/wir](http://www.unctad.org/wir).

Figure 2.1.2 shows the progression of the creation of IPAs from the late 1980's until 1999, the most recent year measured by UNCTAD (UNCTAD 2001a). It is argued that the factors behind the increased number of IPAs include the opening up of Eastern Europe and the Former Soviet Union and the liberalization of FDI regimes throughout the developing world (in the framework of the Washington Consensus policy prescriptions) together with the creation of subnational agencies in the OECD countries (UNCTAD 2001a).

Year of establishment of IPAs by country group



Source: UNCTAD survey of investment promotion agencies, 2000.

**Figure 2.1.2 IPAs started growing in the late 80's and accelerated during the 90's, in all country groups**

Source: The World of Investment Promotion at a Glance, UNCTAD 2001.

Therefore, the promoted expansion of FDI as a means of financing global economic integration was matched with the creation of IPAs worldwide at national and sub national levels. These organizations were to deal with “market failures” in order to facilitate cross-border investments. Nowadays, the new host country determinants of FDI are more likely to fall under “business facilitation”, rather than liberalization of the legal and regulatory framework itself, whether it is practically achieved or at least pursued worldwide. This includes encouragement of entrepreneurship, investment incentives and promotion schemes, form and quality of legal property systems, social amenities, one-stop shops, good institutional infrastructure, social capital, region-based cluster and network enhancement and corporate governance (Dunning 2006).

This research is concerned with cooperative and strategic alliance movements, and how IPAs deal with the new challenges posed by the need of social capital, region-based

clusters and network enhancement. IPAs may also incur new types of cooperative alliances for FDI due to changing economic and technological paradigms.

DCs are normally at the vanguard of technology development and it is also the case concerning the development of more sophisticated investment promotion strategies. This is thanks to the high level of knowledge accumulation and access to information provided in virtual circles by their technological advancements.

## **2.2 Investment promotion and networks**

As business units, IPAs also respond to the dynamics of the market. By 1995, a few years after the boom of IPAs, the World Association of Investment Promotion Agencies (WAIPA) was created under the auspices of UNCTAD. The main donor behind the initiative was the Government of Ireland, presumably a way to respond to enquiries about their investment promotion success led by the Irish Development Agency. The IPAs that funded WAIPA through a steering committee were from Canada, Ireland, Peru, Philippines and Uganda (UNCTAD 1996). Together with UNCTAD, the founding members invited 60 IPAs to discuss ways to improve cooperation on regional and global scales and agreed on the creation of WAIPA with this main purpose. Today, WAIPA has over 249 members from 157 countries.

In the meantime and as mentioned in the previous section, the international business community, largely represented by TNCs, is moving rapidly and shifting strategies to overcome the changes in the economic and technology paradigms. It is not a coincidence that the creation of WAIPA as worldwide network occurred at the same time as the implementation stage of the Internet and the consolidation of other improvements in information and communication technology (ICT), which have given way for the current expansion stage of the ICT paradigm. In this paradigm, networks are key players and are ...

“... also at the root of the success of the clustering strategies all over the world and of various programmes undertaken by governments and international agencies to promote diverse forms of association for cost sharing or joint world marketing or training, as well as the formation of stable clusters or consortia.”

[Perez, C, 2010; p17]

Therefore, it could be said that the creation and subsequent functioning of WAIPA responds to the same needs and dynamics of the international business market: to succeed, to establish alliances and to cooperate besides competing. Networks seem to be a good context to do so. This takes us to one of the main research questions, which is, how do IPAs cooperate if they are natural competitors for investment projects?

With the creation of WAIPA, IPAs engaged in networking to improve cooperation at the regional and global scale. To date, WAIPA has not identified more sophisticated ways of cooperation than the exchange of best practices through uncompromising global and regional meetings and training workshops. Cooperation is largely confined to certain marketing activities (FIAS 2004). Of course, WAIPA members benefit individually from the network and look for ad-hoc bilateral assistance or exchanges when necessary, e.g. study tours to more successful organizations.

There are vertical and horizontal networks of IPAs. WAIPA is a worldwide horizontal network with sub networks at regional levels (Africa, Central America, East Asia, South America, etc.). At the national level, networks may be vertical when the national IPA dominates the network of subnational agencies. Here the relationship changes and, in general, there are important tensions depending on the geo-political structure of the country and the effective grade of decentralization.

Subnational IPAs, particularly those in DCs countries, are rather active and well-equipped. As mentioned above, OECD countries have taken care of this since the mid 1980's as part of what MacKinnon and Phelps (2001) call "top down regionalisation" vis-à-vis "bottom up globalisation". Also, in today's emerging economies such as Brazil,

China, India and South Africa, subnational IPAs have greater visibility than national ones. In fact, Brazil and the United States of America have recently created or re-launched their national IPAs (Apex and Invest in America, respectively). The best-known investment promotion organization at the national level is the India Brand Equity Foundation (IBEF), which currently deals mostly with image building. China has a large capacity-building programme for subnational IPAs coordinated by the China Council for International Investment Promotion under the auspices of the Ministry of Commerce (Guerra 2006).

Other developing countries, in particular LDCs, are currently facing important challenges out of the tensions produced by the expectations of subnational actors in investment promotion. It is evident that for DCs and emerging economies, subnational IPAs, in some cases also regional economic development agencies or part of them, have been key to economic success. However, in some cases because of the country's development stage, but in others independently of it, coordination is not a strength, and central governments struggle to harmonize the work of subnational IPAs.

DCs have therefore also confronted coordination problems between national and subnational IPAs and among the subnationals IPAs. For example, subnational agencies in Germany targeting the same investor affected the perception of investors. Several DCs have implemented new processes in order to strengthen the efficiency of the networks at national and international levels. Spain, who recently created the national agency Invest in Spain in 2005, has developed a process for subnational IPAs to bid for investment projects (World Bank 2009). UK Trade and Investment put in place a coordination mechanism with its various and very active regional economic development agencies.

Going further means the cross-border collaboration of IPAs. There are currently no cases documented and it is the purpose of this research to further detail the case of the Medicon Valley where the subnational IPAs Copenhagen Capacity (Denmark) and Invest Skåne (Sweden) compete and cooperate to foster a cross-border region-based cluster.

In this case, they appear to coexist along the lines of Dunning's new determinants of FDI: social capital, region-based cluster and network enhancement (Dunning 2006).

### **2.3 Clusters and regional economic development**

Current changes in technology transform not only production and consumption but also the forms of organization and competition, the structure of the market and the way the economy is shaped (Perez 2010). If this is the case, IPAs need to commit seriously into devising innovative strategies in line with current business approaches. Engagement in region-based cluster development appears to be a new direction, revamping the regional economic development paradigms.

Michael Porter defines clusters as:

“Groups of companies and institutions co-located in an specific geographic region and linked by interdependencies in providing a related group of products and/or services (Porter).”

[in Ketels, C & Memedovic, O, 2008; p378]

However, clusters develop over time; they are not a phenomenon that just appears or disappears overnight. Some clusters develop from networks of SMEs; others are linked to a keystone company or university. Yet, while many of the positive externalities for clusters occur naturally, their dynamics can be fostered through a mix of networking, collaboration and competition (Best 2001 in Ketels and Memedovic 2008).

Many benefits of clusters can occur purely because of co-location, but collaboration can enhance the ability of clusters to drive the highest performance and innovation. Many strong clusters have been able to reach higher collaboration by taking advantage of new players known as institutions for collaborations (IFCs) such as trade and business associations, entrepreneurs' networks, standard setting agencies, quality and cleaner

production centres, and technology networks, In developing countries, these often correct for market and government failures (Ketels and Memedovic 2008).

IPAs are not mentioned in this list probably because they are, generally speaking, governmental agencies. However, in the Baltic region, for the purpose of this dissertation, national and regional IPAs are very active in the promotion and facilitation of clusters. Moreover, they are collaborating across borders, participating actively in bi-national and supranational initiatives.

For example, the ScanBalt which includes Medicon Valley, is a supranational initiative that involves 11 countries in the Baltic region to foster bio clusters. In 2006, it involved 2,100 companies and close to 1,500 supporting institutions, including universities and hospitals (ScanBalt 2008). Among the main supporters of the initiative is Copenhagen Capacity, one of the IPAs promoting the Medicon Valley and subject of this study.

Figure 2.3.1 shows the countries involved in the ScanBalt Initiative.



**Figure 2.3.1 ScanBalt initiative**

In any case, networks and clusters' technological innovation outputs do not automatically guarantee regional economic development:

“Converting tangible assets into economic development depends on the region's intangible assets, i.e. its social capital. To a large extent, innovation is a process of collaboration for mutual benefit”...“Technology, thus, is a necessary condition for regional economic development but it is through regional innovations networks that technology is transformed into prosperity and it is regional social capital that decides how effective this transformation evolves.”

[Rutten, R, & Boekema, F, 2007; p1,844]

Social capital refers to those features of social organization such as networks, norms and trust, which facilitate coordination and cooperation for mutual benefit. Inkpen and Tsang (2004 in Houghton et al 2009) referred to social capital as the aggregate of resources embedded within, available through, and derived from the network of relationships possessed by an individual or organization. In relation to firms, social capital has been associated with the survival of firms, innovation and profitability.

In this context, social capital is at the centre of economic development making the embedding of the regional innovation network, e.g. a cluster, essential for development to happen. Otherwise, the benefits of the technological output leak through links with other commercial and social networks. Therefore, IPAs at the subnational level should work to ensure the local production/innovation network is embedded, as much as national IPAs should work to ensure a conducive national environment for productive business, in order to benefit foreign and domestic investment.

Despite the benefits not being automatic, a cluster is a rather good environment for networking, cooperation and competition to take place. However, transferability to other areas (non cluster) of economic development would need to be analysed, and in particular how IPAs from DgCs can learn from and deal with it.

## **2.4 Simultaneous cooperation and competition in investment promotion**

IPAs are service provider organisations and even if most of them belong to the public sector, they confront the same type of organizational, managerial and marketing challenges of private companies. Though they provide public services, IPAs need to show results periodically through investment projects and their respective financing flows, jobs, technology and associated exports (UNCTAD 2008), to justify their existence (i.e., budget).

Investment promotion for economic development entails several activities and most of them are of a qualitative nature, those preceding the actual establishment of the investment projects, such as image building, investor targeting, investment facilitation and policy advocacy; and/or those attending the needs of established investors known as investor aftercare or corporate development services aiming at investment retention and expansions. Considering that there are IPAs at subnational, national and supranational levels, it is clear that, willingly or not, they belong to “networks” that force these organisations to compete and to cooperate.

IPAs from DgCs, in particular LDCs, confront many challenges due to their limited financial and human resources to “compete” for investment projects. This induces countries to (over) use incentives to attract FDI, which in turn end up attracting incentive-elastic FDI with little positive spill over and linkage effect (Yamin and Sinkovics 2009). This happens while IPAs from DCs are already looking for synergy among them and besides competing they also cooperate for FDI. As there is a shift in the FDI paradigm and emerging DgCs like Brazil, Russia, India, China and South Africa (BRICS) are becoming important sources or home countries of FDI (Giroud 2009, UNCTAD 2009b), DCs are competing fiercely and also cooperating to keep their share of global inward FDI flows, particularly in the high-value end of the value added chain.

As mentioned before, IPAs function as business units confronting management and marketing challenges of commercial firms and compete in international markets for

investment projects. Almost 70% of 75 surveyed IPAs by FIAS (Morisset and Andrews-Johnson 2004) reported to a board of directors, which in the majority of cases includes representatives from both the public and the private sectors, generally in equal numbers. The board supervises the IPA's performance and defines its global strategy.

Another similar feature of IPAs with firms seems to be that they seek alliances with other IPAs, their natural competitors. Coexistence of competition and cooperation has been recognised in the areas of human resources management, psychology, strategic management and economics (Bengtsson et al 2008). This coexistence has been named "co-opetition," defined in a recent study as:

"A process based upon simultaneous and mutual cooperative and competitive interaction between two or more actors at any level of analysis (whether individual, organizational or other entities)"

[Bengtsson, M et al, 2010; p]

Gnywali et al (2007 in Bengtsson et al 2010) pointed out that the dynamics of co-opetition can only be captured if it is defined as a relationship between the same actors that simultaneously are involved in cooperative and competitive interaction with each other. Networks can be the context for co-opetition but it depends on the level of cooperative interactions embedded in "relationship nets" and their supporting or restricting simultaneous cooperative and competitive interactions.

Bengtsson and Kock (2001) also argued that the different parts of the cooperative relationships at the interorganisational level are divided; for example, two or more competitors can cooperate on product development or technology upgrades and, at the same time, compete in taking orders, attracting customers, or market share.

IPAs belong to national, regional and international networks and interact among them at interorganisational level. In the majority of cases, they compete and cooperate, not always simultaneously, as actors of networks. In some cases, they compete and

cooperate simultaneously, like when they organise joint participation in international events, produce joint promotional material or promote a region at a supranational level while at the same time dealing separately and directly with potential investors. The promotion of a bi-national cluster is peculiar. IPAs work from each side of the border, compete to attract investment to their territory but simultaneously cooperate to ensure that investment projects benefit their side of the border as much as the cluster as a whole.

According to Bengtsson (2008), the outcomes of simultaneous cooperation and competition ('co-opetition') are many and they include value creation and facilitation of value sharing, given that organizations help or force each other to develop new creative solutions and to achieve growth and remain competitive. The potential drawbacks are related to the ending of the simultaneous co-opetition relationship, the development of a trap or simply unintended effects together with other negative effects and tensions for employees. The alliance and interactions may evolve with time and at some points, cooperation maybe strong and at others, competition. Therefore, it can be difficult to sustain the alliance over long periods. The case study will analyse the situation and the impact of simultaneous cooperation and competition on regional economic development in the Medicon Valley.

In summary, the different theoretical frameworks considered relevant for this research show that simultaneous cooperation and competition is common and a transversal line in today's economic development system (manufacturing and services). Private companies, public organisations and others cooperate and compete simultaneously to achieve their objectives, through different types of alliances, being relevant to this study networks and clusters.

Simultaneous competition and cooperation has been studied more from the business or private sector perspective but not so much from the perspective of public sector, in particular, organisations in charge one way or another of economic development, such as IPAs. In attempting to do so, this case study has identified the context in which and

how, two sub national IPAs with different nationalities cooperate for regional economic development and compete for investment projects.

### **3. Research Method**

The single case study as research method allows the researcher to investigate a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident (Yin 2009). Case studies are also capable of handling both qualitative and quantitative data and a combination of data collection methods, such as interviews, questionnaires and observations (Emerald 2010).

The unit of analysis is the simultaneous cooperation and competition between the IPAs Invest in Skåne (South Sweden) and Copenhagen Capacity (Denmark) to promote and develop the Medicon Valley, a cross-border life-science cluster shared by Denmark and Sweden in the Øresund region. The exploration focuses on their pattern of cooperation and competition and not in the functioning of the cluster as such. However, as the cluster according to Porter (in Ketels and Memedovic 2010) is a group of companies and institutions co-located in an specific geographic region and linked by interdependencies in providing a related group of products and/or services, itself is a system that entails simultaneous competition and cooperation between its members. Therefore, some clustering functioning elements show up as part of the research findings but they are taken into account only if they work towards answering the research questions. The objective is to derive key information for IPAs from DgCs on the issue of cooperation and competition in investment promotion.

The methodology provides an exploratory analysis of simultaneous cooperation and competitions by two IPAs that have a horizontal relationship and form part of a network of actors fostering a cluster and therefore, regional development in two different but neighbouring countries.

The research uses primary and secondary sources of information, semi-structured questionnaires/interviews and observations.

### **3.1 The case study protocol**

For the purpose of organising the work and keeping necessary rigor, enhancing the construct and internal validity of the study as well as its external validity and reliability, a protocol was developed around the following lines as suggested by Yin (2009):

- 1) An overview of the case study project objectives, case study issues, and presentations about the topic under study;
- 2) Field procedures: reminders about procedures, credential for access to data sources, location of the sources;
- 3) Case study questions: an interview guide to keep in mind during data collection; and
- 4) A guide for the case study report: once finalised the extended literature review, an outline of the final report was established to ease the writing process.

Once the protocol was finalised and pilot tested, i.e. the semi-structured interviews/questionnaire, the process moved into the second phase: preparation for data collection, and conducting interviews (Yin 2009).

### **3.2 Data collection and analysis**

As multiple sources of data is important for case studies, the sources of information included:

- Documentation about the creation of Medicon Valley, the role of the IPAs, the role of other major stakeholders, corporate reports, etc.;
- Documentation about joint investment promotion plans or activities by the IPAs, such as e-newsletters, websites, joint events, etc.;
- Documentation on the economic development impact of the cluster;
- Interviews;
- Direct observation; and

- Physical artefacts, such as pamphlets, brochures, CDs, and other joint promotional material.

A database was developed to organize all the documentation and information gathered. This way, a 'chain of evidence' can be maintained, providing avenues to increase the reliability of the study (Yin 2009).

A trip to Copenhagen, Denmark and Malmo, Sweden was organised in order to interview key people. Meetings were requested to interview Medicon Valley clusters stakeholders' representatives, collect physical artefacts and conduct direct observations. Appointments were requested for interviews with key representatives of the IPAs in Sweden and in Denmark and with the Chairman (Swedish) and the Managing Director (Danish) of Medicon Valley Alliance. One representative of each local Government, and representatives of two competing companies were established in the cluster. Interviews that could not be scheduled at the time of the visit were conducted via videoconference using platforms such as Skype or other accessible methods. Unfortunately, interviews with Medicon Valley Alliance and private sector representatives could not take place. The Medicon Valley Alliance claimed that speaking with the IPAs would be enough, although they provided relevant and updated documentation. The private sector representatives were not available at the time of the visit and it was not possible to arrange an interview over the telephone, considering time constraints. However, during the field visits, it was perceived that the interviews with the private sector would not add much information to the research for two reasons: the current rather negative economic situation overshadows any analysis of investment promotion and the fact that the IPAs cooperation is focused on branding the cluster and not necessarily in investment facilitation, aftercare or policy advocacy.

The interviews were focused as opposed to in-depth ones, intended mostly to corroborate certain facts identified through other sources of information. Notes were taken aided by a semi-structured questionnaire used to guide the interview. The triangulation of sources of information allows for the reduction of bias, particularly that in

promotional material. The questions dealt with issues such as the history of Medicon Valley, relationship with competing organizations, in particular the partner/competitor IPA, means and ways of competition and cooperation, main difficulties and advantages of cross-border cooperation for regional development, expectations and recommendations.

The method of analysis is explanation building since the explanation expects to benefit or be influenced by a particular theoretical stance (Emerald 2010).

### **3.3 Validity, reliability and generalisability**

As mentioned in the previous section, the design of the data collection took into account the need for validity and reliability as much as a single case study permits it. In conducting and writing the case study, care was taken in being systematic in data collection and in taking steps to ensure validity and reliability (Neale et al. 2006). The fact of using multiple sources of data allowed for triangulation of the evidence increasing the reliability of the data and the process of gathering it (Tellis 1997).

The findings of this study may be considered limited because the research is based on a single case study. However, Yin (in Tellis 1997) refuted this argument against case studies by differentiating between analytical generalization and statistical generalization:

"In analytical generalization, previously developed theory is used as a template against which to compare the empirical results of the case study".

[in Tellis, W, 1997; p 2]

This case study builds on existing theory. Furthermore, Stake (in Tellis 1997) argues that the data generated by case studies would often resonate experientially with a broad cross-section of readers, facilitating understanding of the phenomena. Even though this research is based in a single case study, the triangulation of information allows for generalisability.

## 4. Case study

The partnership between the IPAs Copenhagen Capacity and Invest in Skåne are the main subject of this research. However, through the research, other organisations that play a key role in the fostering of the cluster and in the success of the cooperation of the IPAs were also identified. The current main stakeholder of the cluster is the bi-national membership-based organisation known as the Medicon Valley Alliance (MVA). Another important stakeholder is the Øresund Committee, named after the strait and the bridge that separates/links the two cities. This organisation consists of Government representatives from both sides of the border and is the overarching body of the cooperation and integration effort of the Greater Copenhagen Area (Denmark) and Malmö (Sweden), separated by a 16 kilometre wide strait.

A brief description of these organisations and a chronology of events and a brief history of Medicon Valley will ease mapping out the institutional cooperation to foster the cluster. The description is followed by the identification of how the IPAs cooperate and compete simultaneously and what the results of this relationship are on regional development, as much as, the limited available official statistics of Medicon Valley allowed for.

All these 'institutions for collaboration' (Ketel and Memedovic 2008) were created in the mid 1990's as part of the European Union (EU) regional development policy to foster integration at all levels, promoting foreign and mostly intraregional FDI, among other things. In fact, by the early 21st century, approximately 60% of FDI in Europe was intraregional (UNCTAD 2001b). The creation of sub national IPAs was an explicit policy of the OECD (UNCTAD 2001a).

#### **4.1 Copenhagen Capacity**

Copenhagen Capacity is the official inward investment promotion agency of the capital region of Denmark. Established as a business foundation in 1994, the agency promotes the Greater Copenhagen region internationally as a location for foreign investors. Copenhagen Capacity promotes a range of services and practical assistance to investors. The agency has representatives and ad-honorem ambassadors abroad. It is funded by the regional authorities of Greater Copenhagen, but works autonomously and in an independent office space. They have recently moved to a new office space in the centre of Copenhagen.

#### **4.2 Invest in Skåne**

Invest in Skåne is the official organisation responsible for investment and trade promotion for Skåne, Sweden's southernmost region. It is part of Region Skåne, the regional authority created after the first regional elections in Sweden that took place in 1998. Previous to that, the central Government had office representatives in the regions. Invest in Skåne is the brand name for the investment promotion programme since 2008, preceded by Position Skåne. Region Skåne recently moved to a new and modern building near the port in Malmö and another important landmark of the city, the tallest building in Scandinavia.

#### **4.3 Medicon Valley context and history**

The Medicon Valley cluster expands in what is known as Øresund – the region consisting of Greater Copenhagen in Denmark and Skåne (Malmö and Lund) in Sweden. It is said to be one of the more successful European bio clusters.

The region of Øresund covers a total of 21,000 km<sup>2</sup> and has a population of approximately 3.5 million. In July 2000, the 18 kilometre bridge over the Øresund Strait was inaugurated, linking Copenhagen with Malmö in approximately 20 minutes.



**Figure 4.3.1 Oresund region, Medicon Valley geographical extension**

Source: [www.tendensoresund.com](http://www.tendensoresund.com)

### 4.3.1 Origins of the Medicon Valley cluster

Although officially named Medicon Valley only since 1997, the cluster builds on several strengths that date much further back. Lund and Copenhagen Universities, along with institutions such as the Danish Pharmaceutical Academy and the Royal Veterinary Academy, share strong heritage in biological and medical research. The region's hospitals have a long-standing tradition in clinical research, supported by some of the world's oldest and best-maintained patient registers, such as the Danish Cancer Register (BCG 2002). The Medicon Valley website shows the following statement:

“Biotech is far from new to the region - in fact, some regard it as the cradle of biotech, thanks to the groundbreaking research that took place at the Carlsberg Breweries in Copenhagen in the late 1800's. Furthermore, many of the region's universities have a strong heritage in biological and medical research which have resulted in several Nobel Prize winners.

The almost century-long presence of a number of research-intensive and fully integrated pharmaceutical companies, such as Novo Nordisk, H. Lundbeck, AstraZeneca and LEO Pharma, have also contributed significantly to the development of the region by strengthening abilities within applied research, attracting suppliers and producing spin-offs.

In the mid-1990s the public authorities and the life science industry in Copenhagen and southern Sweden agreed to market the region internationally and to strive for a common goal: To be the most attractive bioregion in Europe.

Since 1997 Copenhagen Capacity and its Swedish counterpart Invest in Skåne have jointly branded the region as 'Medicon Valley' to reflect the region's life science strongholds, and today Medicon Valley is one of the strongest life science region in Europe.”

[Medicon Valley Facts, [www.mediconvalley.org](http://www.mediconvalley.org), April 2011]

Indeed, this description showcases that clusters are not a phenomenon that just appears overnight. In this case, the development of the cluster is not only a matter of years, but it is also linked to keystone universities and large companies (Best 2001 in Ketels 2008) located on both side of the border.

Between 1997, when the concept/brand was launched, and 2006, around 100 start-ups within the life science field were established in the region (Eduards 2007). As per the figures in the different promotional materials, by 2010, Medicon Valley gathered: over 150 biotech and pharma companies, 200 meditech companies; approximately 400 companies affiliates; 26 hospitals of which 11 are university hospitals; 7 Science Parks focused on life science; over 50 contract research and manufacturing organisations with some 40,000 private life sector employees; and 11 universities with 165,000 students of which 45,000 dedicated to life science and 7,000 graduating each year.

### 4.3.2 Partners and cooperation agreements to foster the cluster

Following regional development studies encouraged by the European Commission to enhance cohesion in the European region, several academics studied the importance of enhancing cross-border cooperation between the Greater Copenhagen Region in Denmark and Malmö/Lund – the Skåne Region in Sweden. One of the findings was that both regions (and countries) were rather strong in several areas but in particular, medical and life sciences. However, the industries, despite physical closeness, were not linked. For example, in the case of Skåne Region in Sweden, the synergy was only considered with Stockholm's biomedical or life science cluster, 600 kilometres north, while the bordering cluster in Copenhagen, with its own booming life science sector, was much closer.

In 1991, the construction of the Øresund Bridge to link Copenhagen and Malmö was decided upon. In 1993, the **Øresund Committee**, headed jointly by the Chair of the Municipal Executive Committee in Malmö and the Lord Mayor of Copenhagen, was created. Today, the committee comprises of seven Danish members (Capital Region of Denmark, Region Zealand, City of Copenhagen, City of Frederiksberg, Bornholm Regional Municipality and the Local Government Regional Councils for the Capital Region of Denmark and for Zealand) and five Swedish members (Region Skåne, City of Malmö, City of Helsingborg, Lund Municipality and Landskrona Municipality).

The Öresund Committee is described as the political body that puts the Öresund Region on the political agenda. In its early years, the Committee worked to initiate and implement a number of projects, including some EU/Interreg projects that represent milestones in the region's development such as: Medicon Valley Academy, Öresund University, Öresund Science Region, Joint Öresund editorial team for TV2 Lorry and Sydnytt, Öresund Network AB, Öresund Statistics, and ÖresundDirekt.

Figure 4.3.2.1 summarizes the chronology of partners and cooperation agreements in the Medicon Valley.

<b>Organisation</b>	<b>Description</b>	<b>Year</b>
Øresund Committee	Bi-national body that puts Øresund in the political agenda	1993
Copenhagen Capacity	Inward investment promotion	1994
Region Skåne	Regional development agency with inward investment promotion mandate	1994
Medicon Valley Academy	First approach to cluster organisation	1995
Medicon Valley Alliance (MVA)	Current organisation of the cluster, in 2000 MVA turned into a private member based non-profit organisation	1997
Øresund Bridge	Decided in 1991, the bridge triggered cross-border cooperation	2000 (inaugurated)

**Figure 4.3.2.1 Chronology of Medicon Valley  
key founding organisations and projects**

On its website, Øresund Committee states:

“In 1994 the Öresund Region was approved to receive support as a border region from the EU’s structural funds. As a result of this, more than 250 regional projects have been part-financed by the Interreg IIA and Interreg IIIA programmes. The EU has contributed approximately DKK 325 million (approx. 44 million euros) and, together with regional funding, this has meant that a total of more than DKK 650 million (approx. 88 million euros) has been invested in the development of the Öresund Region. Without this injection of cash the Öresund Region would not have progressed as far as it has today.”

[Oresund Committee website: [www.oresundskomiteen.dk](http://www.oresundskomiteen.dk), April 2011]

Thanks to the Interreg funding, the Medicon Valley Academy was created in 1995 as the seed of the organisational and networking effort lead by the Universities of Copenhagen (Denmark) and Lund (Sweden). This confirms Rutten and Bokema's (2007) appreciation that innovation is a process of collaboration for mutual benefit and that to transform it in economic development and prosperity, regional innovations networks are needed, and social capital decides how this happens

Eventually, the Academy became the Medicon Valley Alliance in 1997 based on the need to enhance the international dimension of the cluster. For more recent changes, Professor Bjorn Asheim from Lund University explains that:

"... the initial enthusiasm over MVA as an initiative with the aim to strengthen local and cross-border integration has partially diminished. Several of the commercial actors gradually realised that 'network promoting' activities without substantial output in terms of new formal collaboration were hard to justify , and academic actors felt a growing alienation against what they felt was more 'the business of the local business' that something for theme to engage in. As a result of this, MVA has adapted its strategy to meet the requirements of its members of a more dedicated focus on promoting global visibility of world class research."

[Asheim, B, 2008; p6]

#### **4.3.3 Medicon Valley Alliance**

The Medicon Valley Alliance is a membership-based organisation that also receives funding from both regional governments, to the point that Eduards (2007) signals that this is the most important source of funding for the Alliance. Its Board of Directors is also comprised of representatives of several member organisations, with the Chair always Swedish and the Managing Director always Danish. MVA claims 270 members today, made up of life science companies, universities, hospitals and service providers. It also claims:

"...to be a cluster facilitator for the Medicon Valley cluster carrying out initiatives on behalf of the life science community in order to create trust, relationship ties and networks that finally will lead to new research and business opportunities within the region - initiatives which its members would not be able to implement individually, and which strengthen the development of Medicon Valley."

[Medicon Valley Alliance website, [www.mva.org](http://www.mva.org), April 2011]

On its website, there are features such as news, the Medicon Valley brochure developed by MVA, calendar of events (some organised by themselves), and an interactive MVA companies database and directory.

The Medicon Valley Alliance also has an investment promotion mandate. Their mandate is to foster the cluster serving its members, generate investment, cooperate and brand Medicon Valley. This mandate competes very much with those of the IPAs and although its activities encompass the entire Medicon Valley and benefit the entire Øresund Region, not all the companies that are associated with the cluster are members of the MVA. This, as well as the perception that there is greater rivalry between the IPAs and MVA than between the IPAs themselves, was confirmed during the interviews. The main reason seems to be that MVA also gets public funding and somehow does the same type of activities that the IPAs are supposed to do. For example, MVA has launched the “Life Ambassadors Programme” to strengthen the links and cooperation with other important similar clusters in the world and enhance field presence at the time of promotion. The IPAs claim that they have similar programmes and activities and it might create confusion if different organisations approach the same potential partner or investor. Another informal claim is that Medicon Valley was a concept 'registered' by the IPAs and that they might not be taking full advantage of it because MVA (the Alliance) has been empowered to do so.

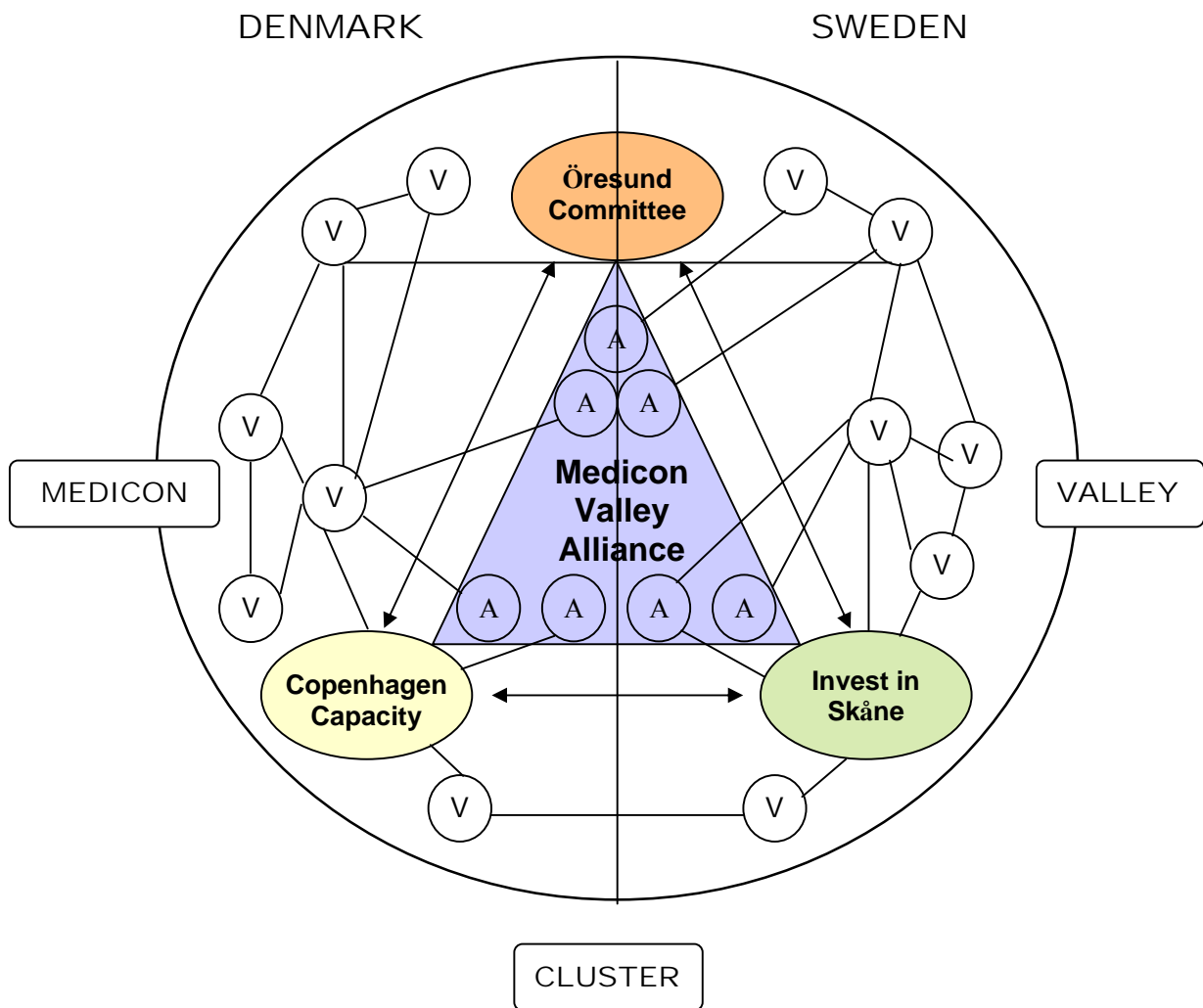
MVA also has a policy advocacy function. From the recent materials available, it can be concluded that a policy advocacy campaign has been launched by the Alliance in order to enhance the investment climate, in particular for life science related companies in the aftermath of the financial and economic crises. The cluster has suffered the consequences of the crises, particularly its access to finance, and MVA has done a survey among member companies to sustain a claim for changes in regulation and increase support to companies by the authorities.

MVA can also be seen as an investor aftercare mechanism, which can be a main source of FDI (UNCTAD 2007). Although MVA is a membership organisation, the companies and other organisations subscribe to it because of the services that it offers to provide in addition to a private sector perspective.

### **Preliminary findings**

In general, all the evidence collected indicates that still today, despite the cluster having been considered a success, the national dimensions and regional integration as expected have not taken place (Asheim 2008, OECD 2009). Some regulations need to be standardised and cross-border relationships between companies and other organisations improved, beyond the good relationship of some like the IPAs and universities. The current operation is displayed in Figure. 4.3.3.1.

Throughout the literature and interviews, it was perceived that most stakeholders feel that more can be done in terms of real integration between the two sides of the border. Cross-border relations between members of the cluster are still limited; only relatively few of the organisations have business relationship with companies in the other side of the border. On the other hand, it seems that universities are in a better situation, considering that there is the joint initiative of the bi-national life science cluster. IPAs on their side fulfil their role belonging to the cluster, cooperating to promote it and cooperating with MVA. Anecdotally, the Municipality of Malmö did not receive the researcher because they do not deal with Medicon Valley and the researcher was instead referred to a Science Park located in Malmö.



**Figure 4.3.3.1 Basic organisation and interrelations of Medicon Valley main stakeholders members.**

A= represents companies and organisations within the Alliance; V= represents companies and organisations not members of the Alliance. The graphic is only illustrative and does not show real quantities of companies or organisations.

#### **4.4 How do the IPAs compete and cooperate simultaneously?**

Since 1997, the two IPAs have engaged in cooperation activities to promote the Øresund Region's potential as a life science cluster under the name of Medicon Valley. This section details the typical investment promotion activities in which the IPAs cooperate and compete to promote the cluster.

##### **4.4.1 Joint website, newsletter and brochure:**

The two agencies developed a joint [www.mediconvalley.org](http://www.mediconvalley.org) website with key information about investing in the bi-national region in the life science sector. The current agreement is that Copenhagen Capacity maintains it.

On each page of the website, there are contact details for both IPAs in addition to one dedicated page for each IPA with specific contact details of the officials in charge of the medical or life science sector in each agency.

The website includes a form to register for a periodical e-newsletter and a link to a pdf of the joint brochure, "Medicon Valley, Scandinavia's Life Science Center".

The website also features news, a calendar of relevant events and an interactive database of companies in the region. This database has been outsourced to a specialised company.

This is a sector/project specific website. Each IPA has its own corporate website ([www.copcap.com](http://www.copcap.com) and [www.invest.skane.se](http://www.invest.skane.se)) where Medicon Valley is featured as a competitive advantage for the companies in the life science and biotech sectors to establish in each respective country.

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ONE OF EUROPE'S STRONGEST LIFE SCIENCE CLUSTERS  
> GET TO KNOW THE BENEFITS...

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**WELCOME TO THE OFFICIAL WEBSITE OF MEDICON VALLEY**

This website is brought to you by the organisations, Invest in Skåne (Sweden) and Copenhagen Capacity (Denmark). Here you will find information about your business opportunities in Medicon Valley.

We will guide you through your search for R&D partners, new technologies, investment options or help you establishing a legal entity for maximizing your business opportunities.

We have in-depth knowledge of the biotech-, pharmaceutical- and medtech industries, company pipelines and partnering opportunities in Medicon Valley.

> SEE HOW WE CAN HELP YOU




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**YOUR BUSINESS OPPORTUNITIES**

Medicon Valley is the place to develop your business. The region has a long tradition within biotech and constitutes a fully integrated biotech cluster.

In Medicon Valley there are more than 100 biotech companies with own R&D, major R&D based pharmaceutical companies, more than 200 medtech companies, more than 50 relevant service providers, CRO's and CMO's and a dozen experienced life science VC's - all varying in size and specialization.

> TAKE A CLOSER LOOK




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**MEDICON VALLEY BROCHURE**

Spanning eastern Denmark and south-western Sweden, Medicon Valley is home to one of Europe's strongest life science clusters. Brimming with talented academics and researchers it offers a health business environment with an abundance of exciting opportunities for pharma and biotech companies.

Copenhagen Capacity and Invest in Skåne are the official inward investment agencies in the region and can help you finding the right partners and discovering the best investment opportunities.

> READ THE MEDICON VALLEY BROCHURE




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**Figure 4.4.1.1 Screenshot of the joint investment promotion website for Medicon Valley by Copenhagen Capacity and Invest in Skåne**

Source: www.mediconvalley.org

#### **4.4.2 Joint promotional events**

Copenhagen Capacity and Invest in Skåne do not organise joint promotional events. The only joint participation is at the Biotech fairs in the USA every year since 1997. The USA biotech industry is the most important worldwide and is usually the development reference for companies in the industry and policy-makers.

Through the joint website, the IPAs promote the events they consider relevant for companies currently established in Medicon Valley, and indicate their joint or independent participation to such events.

#### **4.4.3 Investor targeting**

By definition, investor targeting is sector specific. The fact that the two IPAs focus jointly on a specific sector or industry under the brand name Medicon Valley could be considered a joint investor targeting strategy. However, this has to be seen as such in what concerns the first phase of investor targeting which is the identification and packaging of investment opportunities.

The fact that at the final stage of the process, a company would in this case establish in one side of the border, has negative political implications. It is where the difficulties of collaboration in investment promotion lay and the main source of pressure for the collaboration to stop or lower its profile. In other words, this is the competitive side of the coin and for organisations with an economic development mandate, it is more difficult to strike a balance because of political sensibilities.

In order to diminish the severity of this problem, it will be important to identify indicators of impact such as how this new company can also be served by suppliers on the other side of the border or how its presence in the cluster can help to attract/target new suppliers to the other side of the border.

This type of data needs to be gathered and the researcher was informed that both IPAs will jointly request an Interreg grant with the objective of enhancing Medicon Valley statistics. For the project, MVA (the Alliance) is expected to be involved.

#### **4.4.4. Policy advocacy**

Through the documentation and physical evidence collected, it can not be concluded the IPAs engage in a joint policy advocacy strategy. This was also confirmed by informants from both IPAs who mentioned that the agencies only engage in constructive dialogue and that policy advocacy is more a mandate for politicians (e.g. Øresund Committee). On the other hand, seen through the evidence analysis, the Medicon Valley Alliance engages in policy advocacy pursuing improvement of the business, academic and overall development environment of the cluster.

However, it is important to highlight the joint effort by the IPAs to initiate and coordinate a very important study conducted by Boston Consulting Group (BCG) in 2002 to identify the strongholds of the region in the life science sector to target specific business opportunities. The BCG report seems to have been instrumental for the IPAs and MVA to develop their investment promotion, targeting and advocacy strategies. The report contains important recommendations from the policy and regulations perspectives, including the need for better integration of the Swedish and Danish sides. Although, by the time of the study, companies and academia were increasing partnerships and the degree of networking, the interactions were considered just emerging and collaboration was still limited in areas of strength such as research and development (R&D) in diabetes (BCG 2002).

#### **Preliminary findings**

In sum, both agencies cooperate in branding and building the image of Medicon Valley and in product/concept development, in favour of their own investment promotion interests, but compete in attracting particular investors to their own side of the border.

Simultaneously, the IPAs cooperate in one aspect of their business, but compete in the other, a basic principle of simultaneous cooperation and competition (co-opetition) as defined by Bengtsson et al (2010).

MVA and the IPAs assist companies in the cluster in different ways, organizing networking events, promoting the cluster and doing studies of the performance of the cluster to help in fundraising and the internationalisation of the companies.

#### **4.5 Results of the simultaneous competition and cooperation of IPAs**

It is important to measure the performance and impact of the simultaneous competition and cooperation. However, the statistical information available is fragmented and mostly produced at national level. The cluster as such does not yet have comprehensive statistics and the Øresund Region is not in the Eurostat. There are, however, some studies and presentations obtained that feature some indicators of the performance and less of the impact of the cluster in the regional economic development. They can be used as proxies to evaluate the results of the simultaneous cooperation and competition.

##### **4.5.1 Companies, R&D and employment**

There are no detailed statistics or data of the growth in numbers of the Medicon Valley cluster, at least not that the researcher had access to. Figure 4.5.1.1 shows graphically the expansion of the number of companies and other organisations from 1997 to 2010, a chart developed by Copenhagen Capacity and Invest in Skåne. It is not possible to say that all the new companies established in the region are due to the IPAs' work, but the overall alliance seems to have done rather well.

On the MVA website, it indicates that when it was initiated in 1997 as the Alliance, 23 regional actors applied for membership and that 10 years later, MVA has approximately 270 members. Although not all the biotech and medtech companies operating in the

region are members of the MVA, this indicates that there is perception of the existence of a cluster. This is also confirmed by a recent study supported by the Danish Enterprise and Construction Authority and the European Commission, where a survey on life science in the Baltic Sea Region found that nearly 90% of interviewed companies, universities and experts in the Greater Copenhagen and Malmö-Lund regions believe there is a concentration of life science companies in that region. Of these same companies, 60% from Copenhagen and 45% from Malmö-Lund believe that such concentration is important for their economic performance (Blohm and Rosted).

There is also the network dimension of the Medicon Valley experience. A series of diverse organisations are direct or indirect stakeholders of the project and work in nets or are developing relationship nets that slowly strengthen the cluster. More prominent networks are Øresund Committee and ScanBalt.

There are Øresund regional statistics (promoted by the Øresund Committee) but they do not provide information at the sector level such as life science. However, for example, they present a ranking of R&D expenditure as share of gross regional product of leading regions in the EU. Øresund Region, whose R&D is associated to a large scale with life science, is estimated to rank 11 out of 20 regions in Europe. Data does not correspond to the same year for all regions and for Øresund, it is estimated because the region, as already mentioned, is not in Eurostat. See figure 4.5.1.2 for the rankings of R&D expenditure as a share of regional GDP by region.

It seems to be the case that most of R&D investments occur in metropolitan areas. Statistics of Øresund ([tendensoresund.org](http://tendensoresund.org)) indicate that about 74% of investments from industry in Denmark are largely concentrated in Greater Copenhagen, of these 90% are in life science R&D (Vinnova 2011). In Sweden, most of these investments are in



1997



2010

**Figure 4.5.1.1 Increase of cluster organisations since the launching of the initiative in 1997 (Companies with R&D)**

Source: Medicon Valley presentation by Invest in Skåne, 2010.

Stockholm (33%) followed by Västra Götaland county (27%) and Malmö/Lund (27%). The two sides of the border only have a chance to be relatively high in the ranking if they are combined.

Rank	Country	Region	R&D as share of GRP
1	Germany	Braunschweig (2005)	5.83
2	Sweden	Western Sweden (2005)	5.40
3	Germany	Stuttgart (2005)	5.37
4	Finland	Pohjois-Suomi (2006)	4.79
5	Germany	Oberbayern (2005)	4.71
6	Sweden	Stockholm (2005)	4.29
7	France	Midi-Pyrénées (2004)	4.15
8	Sweden	East central Sweden (2005)	3.99
9	Germany	Tübingen (2005)	3.94
10	Germany	Karlsruhe (2005)	3.92
11	Denmark/Sweden	Öresund region (2007)	3.90
12	Germany	Berlin (2005)	3.82
13	Finland	Länsi-Suomi (2006)	3.70
14	Germany	Dresden (2005)	3.55
15	Austria	Vienna (2006)	3.54
16	Finland	Etelä-Suomi (2006)	3.54
17	Austria	Steiermark (2006)	3.47
18	France	île de France (2004)	3.15
19	Netherlands	Noord-Brabant (2005)	3.07
20	Germany	Darmstadt (2005)	2.99

[www.tendensoresund.org](http://www.tendensoresund.org)

**Figure 4.5.1.2 R&D expenditure as a share of regional GRP, leading regions in the EU in 2005 (current prices in EUR)**

Calculations by Region Skåne: the Öresund region is not included in Eurostat's NUTS classification but is calculated as a model based on statistics from the national statistical agencies in Denmark and Sweden.

Source: [www.tendensoresund.org](http://www.tendensoresund.org), March 2011

Nevertheless, 19% of Swedish life science employees are in Malmö-Lund region. This has significant weight in the cluster. The number of employees in the life science industry in Malmö/Lund region increased 700 between 2006 and 2009 (Vinnova 2011), and jobs in MVA increased nearly 10% between 2003 and 2006 (Vinnova 2008). This indicates positive performance of the cluster between 2003 to 2009. MVA estimates that the cluster currently has approximately 40,000 employees in the life science private sector which, which together with all other employees in the public sector, makes Medicon Valley the largest life science cluster in the Baltic Sea Region (BSR), even compared to the one in the Stockholm-Uppsala region (Vinnova 2011; Blohm and Rosted).

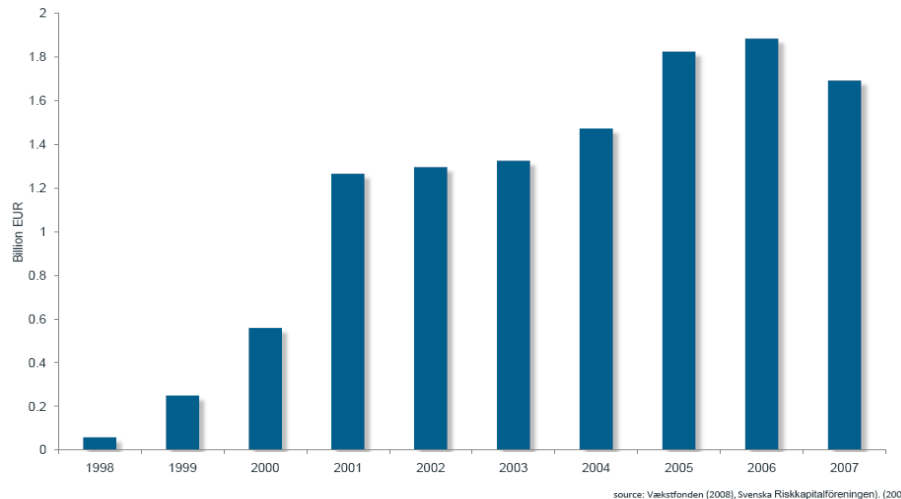
There are also other important indications of the impact of promoting two sides of the border as one region. Since the inauguration of the Øresund Bridge, commuting between Copenhagen and Malmö has increased 600%. The increase was particularly pronounced during 2006 and 2007, when both the Danish shortage of labour and differences in housing prices accelerated movements across Öresund Bridge. The pace of growth slowed down due to the recent financial and economic downturn. In any case, according to the regional authorities, the considerable improvement in accessibility across southern Öresund accelerated an integration process between both sides of the sound, and mainly between the two largest cities of the region—Copenhagen and Malmö (tendenoeresund.org – March 2011). Therefore, the physical dimension of the network also plays an important role for the success of the cluster each side of the border.

Blohm and Rosted also found out that there is a positive correlation between innovative companies and cooperation on research and innovation. The more innovative the company the more open to cooperation in that area. On the contrary, companies in clusters in the BSR do not tend to cooperate to solve common problems.

#### **4.5.2 Investment flows**

The biotech and medtech sector worldwide relies largely on venture capital (VC). As per the statistics collected by Invest in Skåne and information gathered through the interviews, these sectors also link with venture capital investors. There are public and private venture capital funds. Local private funds have been created by the large pharmaceutical companies themselves, like Novo Nordisk from Denmark. Biotechnology firms depend heavily on funds from large pharmaceutical companies (Big Pharma) and VC given that large up-front costs and long development time of new drugs candidates required substantial cash-flow (OECD 2009). The majority of the funding is either Danish or Swedish and there is very little cross border venture capital, i.e. Swedish companies do not tap on Danish venture capital funds, and

Danish companies are more successful raising international capital (MVA 2010a). Overall, the amount of venture capital under management by Medicon Valley based funds has increased over the years, see Figure 4.5.2.1.



**Figure 4.5.2.1 Evolution of life science dedicated venture capital under management by Medicon Valley based funds**

Source: Invest in Skåne – Medicon Valley presentation, 2010.

Between 2002-2004, the per capita investment of VC in biotechnology in Denmark was the second in Europe after Switzerland. Sweden placed fifth after Austria and the United Kingdom (BioPolis 2007).

In 2006, biotech small and medium enterprises (SMEs) in Medicon Valley outperformed European peers, attracting 710 million Euros of venture capital (VC). The cluster has a good track record in VC attraction with, for example, the biotech license agreement between Genmab and GlaxoSmithKline in 2006 with a potential value of 1.5 billion Euros, largest ever. In addition, in 2007, Bavarian Nordic closed a 1.2 billion deal to deliver smallpox vaccines to the US Department of Health and Human Services and companies like Active Biotech have signed several agreements with international partners (MVA 2010).

More recent figures from MVA account for the consequences of the recession and the difficulties that SMEs biotech companies in the cluster have to access finance. The situation seems to have improved in 2010 according to a recent MVA survey of 44 non-quoted biotech companies in MV. Since they were established, the companies have raised 670 million Euros and during the 12 months before the survey, they managed to raise 173 million Euros, equivalent to 21 % of total raised. Around 60% of these funds come from VC funds, followed closed by Business Angels with 30% and Convertible Loans with 12% as the second most important source for the Swedish firms. Institutional funds with 13% and Deals and Alliances with 6% are the second most important sources for Danish companies (MVA 2011).

MVA, Copenhagen Capacity and Invest in Skåne assist companies in the identification of potential partners/investors, but is clear that the main sources of investment at different moments during the life of the cluster have been either the Government or the large pharmaceutical companies like Novo Nordic and Astra-Zeneca funds for university and industry start-ups/spins-off. During 2010, Danish companies managed to raise 28% of capital from North America, 9% from the rest of Europe, 7% from Asia and 3% from Sweden. On its side, Swedish companies only raised 15% of their capital from North America and the remaining 85% from Sweden (MVA 2010).

#### **4.5.3 Image building**





In a 2005 study by Paul Cook (OECD 2009), estimations were that Medicon Valley could be a life science 'megacenter' like Boston, New York, San Francisco and Munich, in relation to the number of dedicated biotechnology firms (DBF) and the amount of funding from Big Pharma. Taking into account the VC performance in 2006 and 2007, Medicon Valley could have reached high levels in this ranking. In fact, in the promotion materials and several academic publications, Medicon Valley is referred to as the third or even second best life science cluster in Europe. Unfortunately, the researcher could not identify the source of this information and

believes it is linked to the successes in raising VC fund in 2006 and 2007. Also in the 2005 annual report of the American investment bank, Burrill & Co, they say that Medicon Valley was becoming the most interesting biotech-cluster in Europe (Persson 2006). By 2005, 60% of pharmaceutical companies in Scandinavia were located in Medicon Valley (Asheim 2008) which provided a solid base for the consolidation of the cluster, together with the network of hospitals, universities, biotech and medtech companies in the Øresund region.

On the other hand, a benchmarking data compiled by Invest in Denmark about business climate, shows that both, Denmark and Sweden have a rather high ranking in different internationally well-known benchmarking tools. See Figure 4.5.3.1.

**INVEST IN DENMARK**  
MINISTRY OF FOREIGN AFFAIRS OF DENMARK

### DENMARK IS AN ECONOMIC HIGH-FLYER

	<i>Global Competitiveness Index (WEF)</i> 2007-2008	<i>World Competitiveness Scoreboard (IMD)</i> 2007	<i>Innovation Capability Index (UNCTAD)</i> 2005	<i>Best Place to do Business (EIU)</i> 2008-2012
<b>1</b>	USA	USA	Sweden	<b>Denmark</b> 
<b>2</b>	Switzerland	Singapore	Finland	Finland
<b>3</b>	<b>Denmark</b> 	Hong Kong	USA	Singapore
<b>4</b>	Sweden	Luxembourg	<b>Denmark</b> 	Canada
<b>5</b>	Germany	<b>Denmark</b> 	Norway	Switzerland
<b>6</b>	Finland	Switzerland	Australia	Australia
<b>7</b>	Singapore	Iceland	Canada	Hong Kong
<b>8</b>	Japan	Netherlands	UK	Netherlands
<b>9</b>	United Kingdom	Sweden	Belgium	Sweden
<b>10</b>	Netherlands	Canada	Netherlands	USA

08-09-09

**Figure 4.5.3.1 Benchmarking of Denmark business climate in the context of investment opportunities in life science where Sweden also shows a good ranking**  
Source: Invest in Denmark

The slide in the figure above was part of an Invest in Denmark presentation of the life science investment opportunities in Denmark. These rankings are also a good

indication of the similarities between the two countries which plays in favour of the joint promotion of the cluster, although at subnational level.

In general, it seems that Medicon Valley had its best moment during 2005-2006. Currently the consequences of the financial crisis can be felt as in everywhere else. For the researcher, during the field visit for the interviews, the 'feeling in the air' was expectation together with scepticism in relation with the capacity of Medicon Valley and the Alliance to recover its 2005-06 status. Moreover, the fact that AstraZeneca has decided to move from Lund to the Göteborg region in Sweden could have a short-term effect in the competitiveness/attractiveness of the cluster. However, it has forced the Skåne authorities to devise strategies such as the conversion of the production capacities left behind into a large R&D centre in Scandinavia.

It can also be perceived throughout all promotional documents—brochures, websites, factsheets, etc.—that the two IPAs and the Alliance have done an effort to use the same branding and cooperate in doing so. It is important, and rather positive, that the two subnational IPAs have independent image building campaigns to promote the life science industry as well as one to brand Medicon Valley and this is shared by the Medicon Valley Alliance.

The 2007 brochure, "Medicon Valley a Danish-Swedish Life Science Cluster", features the three organisations as contact points. However, this type of cooperation seems to have diminished. During the field visit, the researcher obtained several 2010-2011 documents from the Alliance, in which Invest in Skåne has greater visibility than Copenhagen Capacity, and only through publicity. However, given that Invest in Denmark also has an advertisement in one of the magazines, it might also have to do with alternation of financial support to MVA (the Alliance). It could also be related to the effects of the economic and financial recession and the assessment of need for a change of strategy.

Indeed as mentioned at the beginning of this study, the Alliance is focusing today on a policy advocacy campaign aiming at improving the conditions and if possible removing the last obstacles identified for the definite international success of the cluster. The three promotional publications received by the researcher all focus on policy advocacy and because of that, the target audience are policy and decision makers. Distinguished entrepreneurs, academics and politicians, advocate in different articles, interviews and testimonials the need for changes in certain regulatory issues.

#### **4.5.4 Consolidation of regional, innovation and social networks: embedding development**

The Medicon Valley is an initiative, supported by a well functioning public-private partnerships in research (OECD 2009) where they include universities, DBF and Big Pharma, VC and cluster support organisation like MVA, Øresund Committee and the subnational IPAs among others. The subnational level facilitates such partnerships to succeed because of the physical/spatial proximity, and the social capital provided by all the networking and collaborating organisations.

Denmark has been a strong player in life science industry for long time and Sweden too. The Skåne Region (Malmö-Lund) of Sweden has certainly taken advantage of its proximity to Copenhagen to seek for a strategic alliance to enhance the impact of the life science industry on their local development. Together the two sides of the border constitute one of the largest life science clusters in Europe, and in general, the cooperation between both sides of the border has resulted in positive outcomes.

Nevertheless, despite the rather positive results, the cooperation between the two sides is still limited and it has lost enthusiasm, since the academic side does not seem to see fulfilling its expectations neither the private sector. It is confirmed the region's strength on scientific research but remains critical the commercialisation performance of MVA Universities compared with other prominent bio regions like

Stockholm-Uppsala, Oxford or Stanford. The number of inventions leading to patents is high but the results in license or start-up firms is rather low (OECD 2009).

The launching of initiatives such as Medicon Valley cluster has had a major back up and funding in the European Union Interreg programmes financed under the European Regional Development Fund, which aims to stimulate interregional cooperation to strengthen social and economic cohesion throughout the EU. The funding provided by this programme allowed for the launching of the MVA (first as the Academy and later as Alliance) and for the realisation of feasibility studies on investment and commercialisation opportunities in the region that served as the basis for different promotional campaigns of the cluster, such as the one from the Boston Consulting Group in 2002.

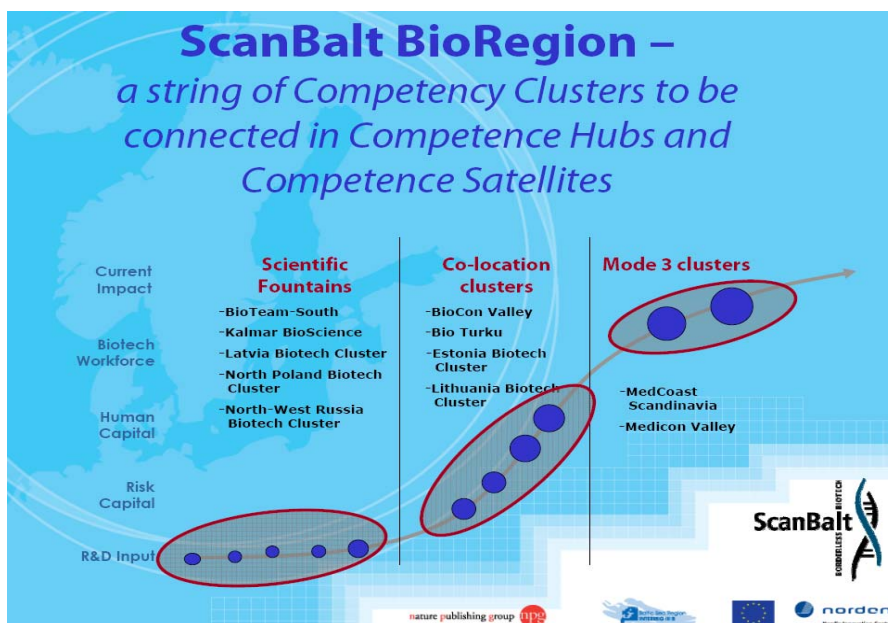
The “Life science and biotechnology strategy for Europe 2002-2010” was launched in 2002 by the European Commission, establishing a framework for the fostering of competitive life science and biotechnology industries and clusters in the EU. This strategy was revised and streamlined in 2007 based on of the results of a mid-term review study.

In addition, several research activities in MVA are financed through the EU Framework Programmes (FP). Since their launch in 1984, seven EU FPs have played a lead role in multidisciplinary research and cooperative activities in Europe and beyond. FP7 is both larger and more comprehensive than earlier FPs. Running from 2007 to 2013, it has a budget of 53.2 billion euros over its seven year lifespan, the largest funding allocation yet for such programmes and representing a 63% increase from the previous FP6.

The FP and the Interreg represent major support from the EU to the knowledge-based industry in Europe and the researcher has found that either one or both of the funds are present throughout all the different networking initiatives in Medicon

Valley and in the Scandinavian region, like ScanBalt and its several nations bio regions, the IPAs and others.

Figure 4.5.4.1 shows other similar results of the use of the Interreg and FP funding, The proposal for the ScanBalt bio regions based on the existing clusters and other initiatives in Scandinavia, including Medicon Valley, can be seen. Among the logos of the sponsoring organisations is one for the EU. The same happens with most Medicon Valley promotional materials.



**Figure 4.5.4.1 Sample of ScanBalt networking organisation use of FP funds**

Source: ScanBalt 2009

Embedding development is therefore an EU backstop policy not only on paper and at the enunciation level, but also with financing of the necessary organisations, activities and research for it to happen. In fact, MVA and the IPAs have relied on these funds to foster the cluster as a cross-border organisation, each one with its respective competence but cooperating and competing simultaneously.

Even if there are still important challenges to consolidate Medicon Valley as a cross-border cluster, there are also indicators of the positive impact and effects of the consolidation of regional, innovation and social networks to embed development. These include: the increase of life science related companies, in particular start-ups; the attraction of VC funds; the increase of employment in the cluster throughout the years; Øresund University and all the University cooperation projects, starting with the Medicon Valley Alliance back in 1995; the University and industrial spins-off in their region; and other indicators of success specifically related to biotechnology, such as the high number of clinical test in phase III of the pipeline (MVA 2010).

From this perspective, the ranking of the cluster at international level or whether the international community knows it as Medicon Valley may not be as important. At least as notable is the results in local development that little by little have been achieved. Interestingly enough, the IPAs have been involved since the very beginning of the initiative, not as main actors, but fulfilling their role as institutions for collaborations as named by Ketels and Memedovic (2008).

#### **4.5.5 Drawbacks of simultaneous cooperation and competition in promoting investment in Medicon Valley**

Another important finding is that the subnational IPAs are not the only ones to compete and cooperate simultaneously to promote the Medicon Valley cluster. There are several organisations that have found a role and made it a non-profit but lucrative value-added activity. It is possible then that with so many organisations cooperating and competing at the same time for resources to promote the cluster the effectiveness of the promotional strategy is fragmented. There are several other organisations presenting or using the Medicon Valley brand, but they do not show much coordination and cooperation among them with as the IPAs Copenhagen Capacity and Invest in Skåne and the Medicon Valley Alliance.

In Figure 4.3.3.1 (page 33), an effort had been made to show the main stakeholders and the complexities of what can be called a Medicon Valley network. In that sense, the existence of a network and/or networks is a good sign and vital for any possible success of the cluster and embedding innovation to achieve regional development. Though it is claimed by the literature and informants, all the potential and necessary cross-border connections in the net (relationship nets) are not yet realised. Therefore, cross-border competition today prevails over cooperation, the same situation found by the BCG study in 2002. However, this can be considered a consequence of the economic and financial crises and that within relationships of simultaneous cooperation and competition at some points cooperation may be stronger and at others competition (Bengtsson et al 2010).

Another drawback is the confusion generated outside the region as a result of so many different websites referencing the Øresund Region and the Medicon Valley cluster or Alliance or network. There are also other clusters like Øresund IT, Øresund Food, Øresund Logistics, and other organisation like Øresund Committee, Øresund University, etc. It took the researcher quite some time to understand the logics of the cluster and the region.

National governments do not oppose openly to the promotion of the Medicon Valley, but they do not promote it from central level. It is not possible to find prominently in the websites of the national IPAs the term Medicon Valley cluster even though the two countries have been actively promoting the life science sector for many years and support the subnational IPAs in the promotion of the sector. The central governments delegate the promotion of the cluster to the subnational IPAs and the bi-national organisation Medicon Valley Alliance.

Finally, it has been suggested that the cluster still needs a major breakthrough in commercialisation to make an impact to compare with major competitive clusters in the USA and the United Kingdom. Perhaps enhanced simultaneous cooperation and competition could help.

## **Preliminary findings**

Over its 15 years of existence as a formal bi-national cluster, Medicon Valley has seen the number of companies grow and touched certain success circa 2006. However, as life science is a very competitive and high technology sector, the cluster faces important risks associated with the long-term approach of the investment in R&D and the reliance mostly on public and private VC funds.

The brand name Medicon Valley is well positioned and this could be attributable to the branding and image building work of the IPAs, but the use of it by different organisations together with that of the region Øresund may entail certain difficulties for outsiders when approaching the market for analysis.

The supranational support through strategies and funding have been fundamental for any success of the cluster attributable to interregional cooperation, but comprehensive statistics related to the Medicon Valley cluster such as employment, exports, number and types of companies, investment flows, licences, patents, etc., are still needed to help in the evaluation of the performance and impact of the cluster on regional economic development, as well as those of the IPAs.

## 5. Conclusions and recommendations

This case study refers to a cross-border region in DCs. The research has tried to identify key information for investment promotion and economic development officials from DgCs. However, once more it is evident that the competition for investment and development is asymmetric with DCs because DgCs, with the exception of BRICS, do not have access to the financial resources and political support of supranational organisations such as the European Union, to back-up regional development strategies.

In this context, this study found that the partnership between Copenhagen Capacity and Invest in Skåne to promote a knowledge-based cluster exists with the following characteristics:

- 1) Cooperation takes place at the level of product development and branding: the subject IPAs agreed in 1997 to jointly brand the cluster as Medicon Valley, making bi-nationality a competitive advantage, thanks to the pooling of resources from both sides of the border, a larger market and important complementarities of the countries. The cooperation can be summarised as follows:
  - a. Joint participation in selected road shows or large fairs, in particular in large markets like the United States;
  - b. Joint promotional and outreach material such as a Medicon Valley website, newsletter and brochure, i.e. image building and branding;
  - c. Active members of the cluster at large; and
  - d. Consecution of EU funding for research projects associated with the different needs of Medicon Valley: branding, statistics, identification of business opportunities, etc.

2) Competition takes place in all other aspects of investment promotion, most in particular for the attraction of concrete investment projects

3) Simultaneous competition and cooperation in economic development works but it is only part of the solution. The competing/cooperating agencies need to be part of an enlarged network or networks in order for their efforts to have meaning. The case of Copenhagen Capacity and Invest in Skåne shows that their cooperation beyond natural competition for investment has contributed to the enlargement of the cluster, but this is not their exclusive responsibility. Many other actors compete and cooperate simultaneously, contributing or not to this effect. Asheim summarises this way in what concerns Medicon Valley:

“The Nordic tradition for cooperation and collaboration, also found in Medicon Valley, is according to the SWOT analysis perhaps the most important individual factor contributing to its success. Of these collaborative relationships university-industry cooperation has been by far the most important and successful, while the public sector’s contribution has been of minor importance, and can partially be said to be responsible for some of the shortcomings of the cluster (e.g. the lack of harmonization in policies between the two parts of the cluster which, however, must be blamed on the two parts belonging to different national states).”

[Asheim, B., 2008, p16]

4) The institutional and financial support from the European Union, through the Interreg and FP funding, have provided a cornerstone to the launching of the Medicon Valley initiative. It has been the case for several other projects in the Øresund Region. The researcher noted that several other interregional and supranational initiatives, such as ScanBalt and Bio Valley, have been supported by EU grants from these funds. While promoting cross-border, transnational and interregional collaboration for economic development, the EU also promotes

simultaneous cooperation and competition between and intra public and private sector organisations in a given region.

5) In the case of Medicon Valley, the bi-national organisation Medicon Valley Alliance (MVA) plays a 'pivotal' role in the functioning of the network towards the consolidation of the cross-border cluster. However, this organisation also competes and cooperates simultaneously with the IPAs Copenhagen Capacity and Invest in Skåne, particularly for funding and to take credit for the attraction to and assistance to companies in the cluster. Organisations like MVA are good means to discharge political conflicts that national or subnational organisations might have in certain aspects of the investment promotion/economic development work. The MVA and the IPAs do not compete, for example, in the policy advocacy area, which seems to be a very appropriate function for the bi-national organisation.

6) The IPAs and MVA cooperate in image building and branding of the cluster. They have also nurtured a cluster that builds on the competitive advantages of the life science sector in Denmark and Sweden, capitalising on the natural inclination of firms to agglomerate and eventually acquire a brand name (UNCTAD 2001b). The IPAs have also identified that joint participation in large and important events like the annual biotech fair in the United States is positive and have been doing so every year since 1997. IPAs seem to have more difficulties with the MVA representatives abroad, such as with the Life Ambassador programme. Both IPAs have either active collaboration with national IPAs offices abroad or have their own offices or representatives abroad. In certain cases, they find it difficult to deal with this. In this case it might be convenient to distribute the geographical areas in relation with the availability of resources to avoid unnecessary duplications and overlapping.

7) The partnership is asymmetric because Copenhagen Capacity, representing the capital area of Denmark, concentrates around 90% of the Danish life science activities and seems to have more autonomy and financial resources than Invest in Skåne. The Malmö-Lund region is the third largest in Sweden and only around

20% of life science activity of the country is concentrated there. It could be concluded that Invest in Skåne is the major beneficiary of the partnership. However, it has been demonstrated that from the international perspective only the two regions together are really meaningful in comparison to other prominent bio regions in the world. In addition, even if Denmark has more companies, Universities and Hospitals in Lund and Malmö are central to the life of the cluster as much as the ones in Copenhagen. Overall, cooperation has been beneficial in terms of regional integration and economic development but more needs to be done to consolidate both.

### **Limitations of the study**

The lack of comprehensive statistics about the cluster limits the scope of the research. For example, the fact that the Øresund region is not in Eurostat poses a major obstacle to measure performance and impact. In this case, the interviews and visit to the field facilitated the diminution of the bias included in the promotional material found through the Internet and other sources. It also provided the opportunity to have access to primary sources of data e.g. academic studies of the life science industry such as the pilot study of Life Science clusters in the Baltic Sea Region (Blohm and Rosted), whose data base could be further utilised to derive information on Medicon Valley combining the data for Greater Copenhagen and Malmö/Lund clusters; and a recent study by the Medicon Valley Alliance on access to finance for companies in the cluster.

Although all efforts were made to triangulate information and double check available data, the fact that mostly secondary data is used implies the possibility of a bias in the interpretation. Further research will be necessary for example to: a) obtain primary data by interviews and focus groups; b) take a longitudinal (over time) perspective; and c) examine other European clusters and joint promotion experiences to do a comparison. It is good news that the next grant to be requested to Interreg funding is aimed at developing comprehensive statistics of the Medicon Valley cluster.

More research will need to be done on the few investment promotion and economic development cooperative experiences in developing countries, such as the Association of Southeast Asian Nations (ASEAN), East African Community (EAC) and Latin America to derive additional and probably more relevant practices and recommendations for DgCs.

**Summary of recommendations for investment promotion and economic development agencies:**

- Cross-border cooperation for investment promotion/economic development needs political will at supranational, national and regional/local level. The implementation though is lead by actors at the local level.
- Access to financial resources in the form of grants, to engage in different projects, from infrastructure to research that permit to ease and foster the cooperation, is fundamental for any cooperation to be successful.
- Competition is always present. It is important to identify the areas where cooperation is possible and politically correct.
- Cooperation seems to be more efficient if it is project oriented, be it research, investor targeting (sector strategies/cluster development), policy advocacy or infrastructure development.
- Investment promotion/economic development simultaneous cooperation and competition do not take place in isolation. It should happen in networks, because regional, social capital and innovation networks are fundamental to embed development. Therefore, IPAs that look for cross-border, transnational or interregional cooperation need to identify or foster key regional, social capital and innovation networks.
- Clusters are good platforms for cross-border cooperation for economic development, but a critical mass is needed because clusters are not created overnight. Either a large company and/or a University that spin-off smaller local companies/projects and attract foreign ones can help generate a

dynamic to develop into a successful cluster with the help of the local social capital.

- Border zones in developing countries are, generally speaking, underdeveloped. Physical infrastructure is the kind of project in which cross-border investment promotion cooperation needs to start with as well as in ensuring an adequate business and exchange environment.

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### **Other electronic sources**

Oresund Committee: [www.oresundskomiteen.dk](http://www.oresundskomiteen.dk)

Oresund Committee statistics: [www.tendenoresund.com](http://www.tendenoresund.com)

Capacity Copenhagen and Invest Skåne joint web page for Medicon Valley:  
[www.mediconvalley.com](http://www.mediconvalley.com)

Capacity Copenhagen: [www.copcap.com](http://www.copcap.com)

Invest Skåne: [invest.skane.com](http://invest.skane.com)