

The European Cluster Observatory

EU Cluster Mapping and Strengthening Clusters in Europe

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Background

The concept of clusters originates with Professor Michael Porter, who also has been the driving force behind cluster mapping methodology. Current cluster mapping efforts in Europe build on his initial work in the US. Here is an overview of how cluster mapping has evolved and how it led to the current European Cluster Observatory.

In the mid-1980s Professor Michael Porter at the Harvard Business School was contemplating why some **firms** – based in particular nations, regions or business environments – were building globally leading positions while firms in other environments developed less sophisticated and innovative strategies. It was striking that firms in different regions succeeded in different industries and market segments, even if the **regions** had similar levels of prosperity. If *firms* differed in their ability to innovate and upgrade, the differences between regions were as striking. As Professor Porter and other scholars particularly within the field of Economic Geography had noted earlier, clustering, industrial concentration and regional specialisation were striking phenomena in all economies. Also, clusters could be identified in many types of industries: in high-tech fields and in traditional industries, in handicraft industries and in manufacturing as well as in services, in small and large firm-dominated industries, and so on. On a **case basis**, clusters with a global reach were easily identifiable throughout a range of industries, including financial services in inner London, film in Hollywood and Bollywood, watches in Switzerland, flowers in The Netherlands and Colombia, medical instruments in Massachusetts, and so on. But Professor Porter decided to develop a *general* framework for cluster mapping across the U.S. economy, which led to the U.S. **cluster mapping** project. This data was then used by several institutions including the National Governors’ Association and the Council on Competitiveness in a large number of regional cluster and competitiveness efforts.

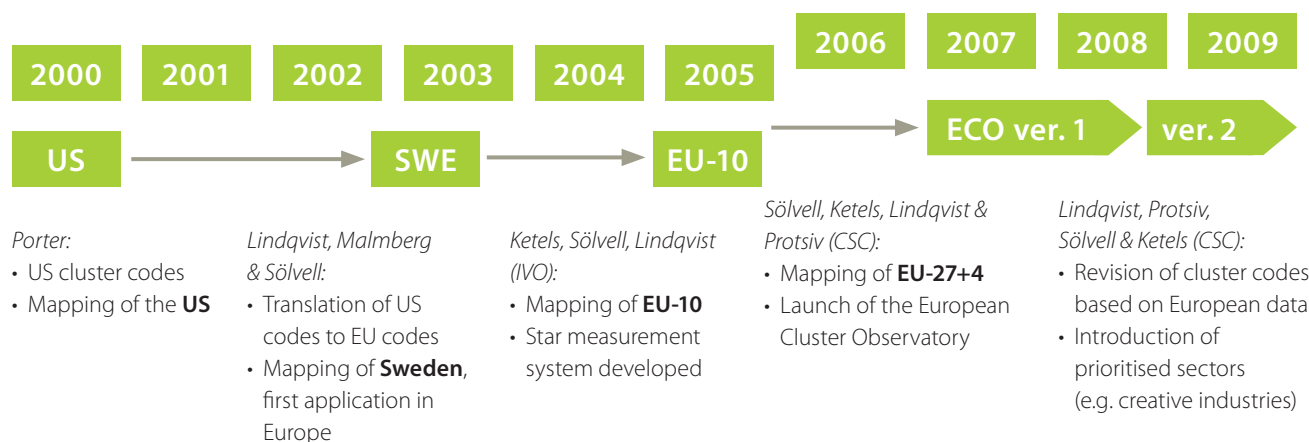
In 2000, Professor Porter had worked out his model which could statistically define and describe clusters across the U.S. economy.¹ The mapping consisted of two fundamental parts:

- the development of cluster codes which can identify and measure industrial agglomeration within regions;
- the development of performance measures which can measure the competitiveness and dynamism of clusters.

For the first task, co-location patterns of industries across the U.S. were calculated. Such industry agglomerations would reflect “revealed patterns of externalities. If two or more industries tend to co-locate it is a signal that these industries have common interests or linkages, such as the sharing of labour skills, technological co-operation and the like. A set of 41 so-called “traded cluster codes were decided on, accounting for roughly one third of the total U.S. employment. Cluster performance was measured by collecting both statistical materials (growth over time, wage data, etc.) and survey data based on managers’ views. The U.S. model was later adopted by a research team in Canada.

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¹ Clusters of Innovation: Regional Foundations of U.S. Competitiveness. 2001. Washington, DC: Council of Competitiveness.

Figure 1: The establishment of the European Cluster Observatory



In 2003, the U.S. model was brought to Europe by Professor Örjan Sölvell, Dr. Christian Ketels, and Dr. Göran Lindqvist in Stockholm. A first mapping exercise was done for Sweden² and a statistical concordance table was developed in order allow the use U.S. codes on European data.

In 2004, Ivory Tower, a cluster consultancy firm based in Stockholm, was asked as a subcontractor (Europe INNOVA, EUC-EST, under FP6) to map all clusters of the EU-10 countries. The project was led by a Panel Group of Experts, under leadership of Mr. Antoni Subira of Spain. The EU-10 cluster mapping data were published in the first Europe INNOVA paper.³ The EU-10 project added a new innovation to cluster mapping: the measurement of concentration and specialisation by the use of three distinct indexes – cluster size, specialisation and regional labour market focus. A few clusters scored on all three measures and those clusters were designated as “three star” clusters. The star methodology was a sound way of describing degree of cluster agglomeration, and was easily understood by non-experts in the field of clusters, cluster initiatives and cluster policy.

2 Lindqvist, G., Malmberg, A., Sölvell, Ö. 2008. Swedish Cluster Maps: A Statistical Inventory of Clusters in Sweden. 2002. Stockholm: Center for Strategy and Competitiveness at Stockholm School of Economics. (Swedish edition from 2003).

3 Innovation Clusters in the 10 New Member States of the European Union. 2006. Europe INNOVA paper No. 1. European Commission Directorate General Enterprise and Industry.

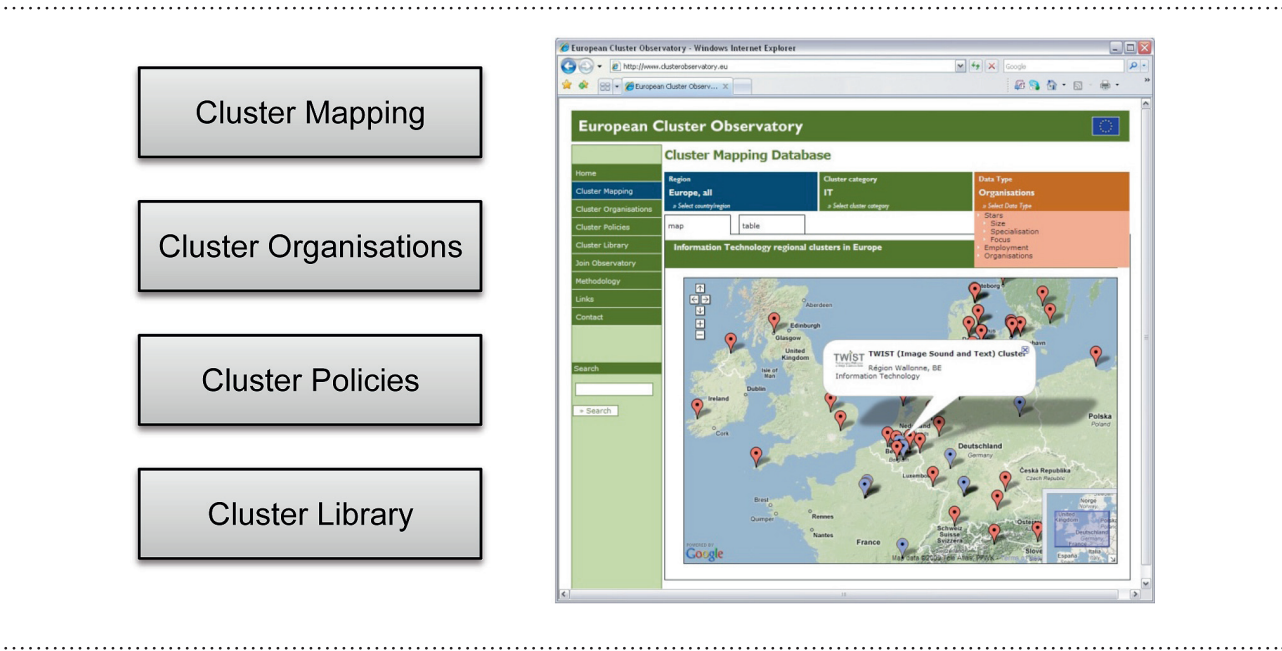
1 Overview of the European Cluster Mapping Project

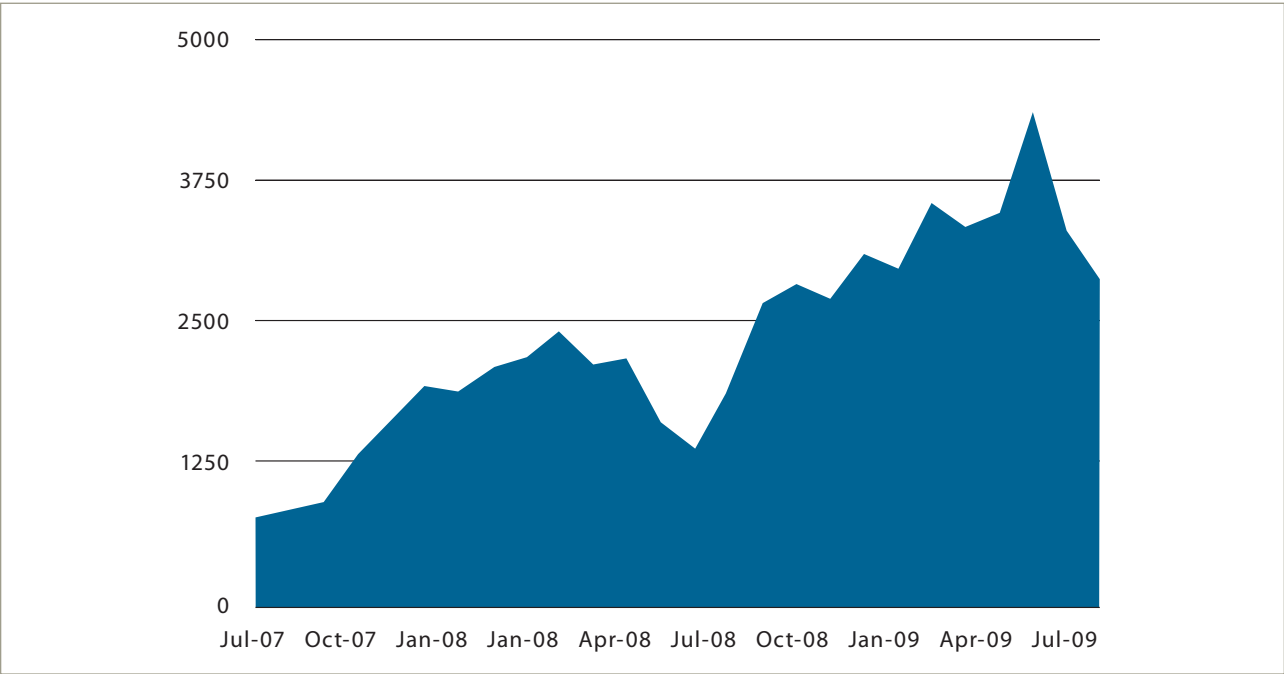
Based on the experience with the previous cluster mapping efforts, DG Enterprise and Industry awarded the contract for the European Cluster Mapping Project to a consortium coordinated by Professor Sölvell at the Center for Strategy and Competitiveness (CSC) at the Stockholm School of Economics. It covered all of EU-27 plus Iceland, Israel, Norway, Switzerland, and Turkey. The cluster mapping part of the project was later renamed “The European Cluster Observatory (ECO), and the web site was launched in July 2007. Apart from the cluster mapping effort (driven by CSC), the project also included a mapping of cluster policies across Europe (conducted by a group of research institutions coordinated by Oxford Research), a number of cluster cases studies (conducted by the Competitiveness Group in Barcelona), and the coordination of a high-level advisory group chaired by Senator Pierre Lafitte with senior representation from EU member countries (supported by Fondation Sophia Antipolis). All results of the project and methodology are available at the website of the European Cluster Observatory, www.clusterobservatory.eu.

The European Cluster Observatory provides unique data on clusters in Europe, e.g. allowing the user to choose a region (EU/nation/one of 250 regions) and a sector (all or one of 38 categories) and display the corresponding cluster data directly on maps of Europe. In total the European Cluster Observatory lists some 150 three star clusters, 500 two star clusters and just over 1,300 one star clusters (out of a potential of just under 10,000 regional clusters).

The user can also choose to display cluster organisations on the map (see figure below). Already, more than 150 cluster organisations have provided data about themselves to the Observatory, bringing the current number of cluster organisations represented on the Observatory to over 1,100. A Directory of cluster organisations in Europe was launched in August 2009.

Many users contact the Observatory to receive more information. Others have added cluster cases and reports which are continuously uploaded in the Library section.





The Observatory's combination of advanced cluster mapping capabilities with information about cluster organisations has attracted significant interest. Since its launch, ECO has tripled its number of users to reach about 4,000 unique visitors per month (June 2009). Over time, a large number of sites around the world dealing with clusters have posted links to the European Cluster Observatory, leading to more traffic.

The Observatory has also become an important source of information for policy makers. The European Cluster Memorandum (the text is found in the Appendix), signed by a large number of cluster organisations across Europe and presented to the European Commission at a high-level conference in Stockholm in early 2008, was to a large degree informed by the findings of the Cluster Mapping project. CSC staff has played a central role in drafting the Memorandum and supporting the discussions of the high-level advisory group that presented the Memorandum. Cluster mapping data was supplied to other EU-sponsored projects, including the BSR InnoNet. CSC has also supported the Commission staff in the preparation of the Communication⁴ on clusters and the Staff Working Paper⁵ on clusters and cluster policies presented in late 2008.

In the final month of the project, the CSC team has furthermore launched a new series of specialised cluster mapping reports, starting with an analysis of knowledge-intensive business services (KIBS). These reports are intended to present data in ways that are in line with the organisation of government policies to support decision making in these areas. CSC has also exploited more granular employment data to test whether the cluster definitions ultimately created based on agglomeration patterns in the US need to be further refined given the realities in Europe. While economics play out similarly across continents, there are areas of economic activity in which Europe has a deeper or different level of economic organisation that might drive patterns of economic geography diverging from those observed in the U.S.

4 Towards world-class clusters in the European Union. European Commission, Oct 2008.

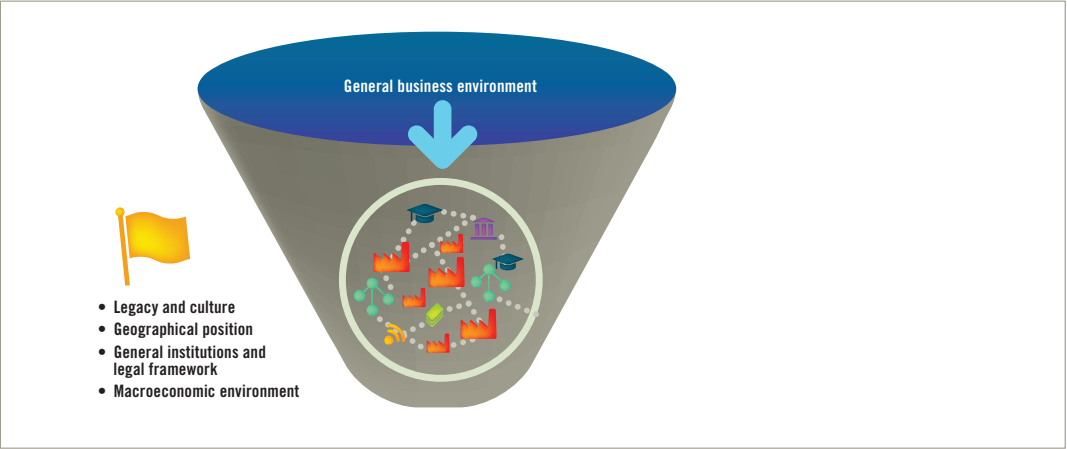
5 The concept of clusters and cluster policies and their role for competitiveness and innovation: main statistical results and lessons learned. Commission Staff Working Document SEC (2008) 2637.

1.1 Project findings: Understanding the nature and role of clusters

The rich data on clusters generated in this project provides the foundation for improving the general knowledge about the nature and role of clusters.

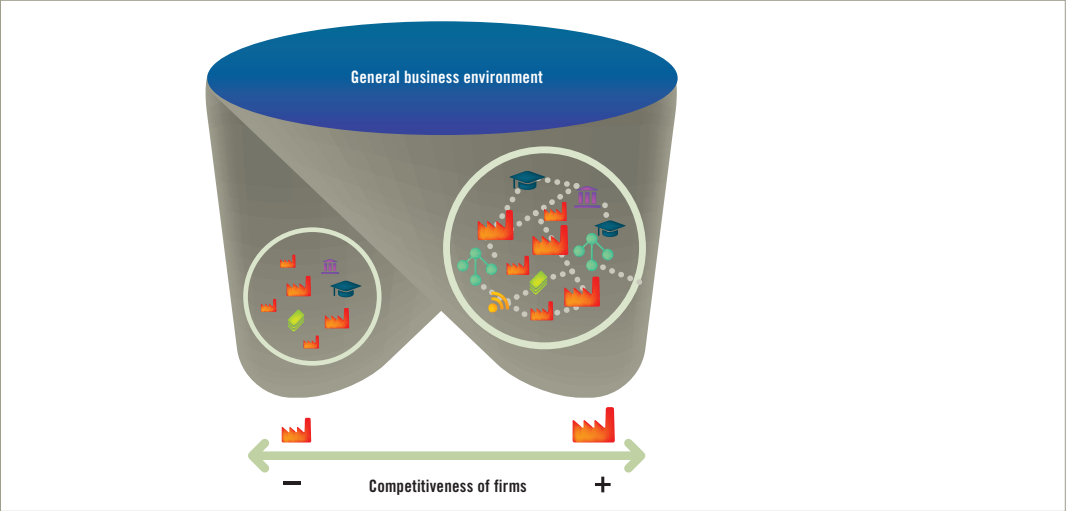
Clusters are a part of the microeconomic business environment of a region. Clusters are shaped by certain almost deterministic forces (blue arrow in figure below) related to the overall history and culture of a region, the geographical circumstances (access to waterways, how affluent neighbours are etc.), general institutions and regulations, and the overall macroeconomic environment. All clusters within a nation are affected by things such as the exchange rate, colour of the government, and historical and geographical circumstances of the nation or region.

The Funnel Model – The General Business Environment in a Nation



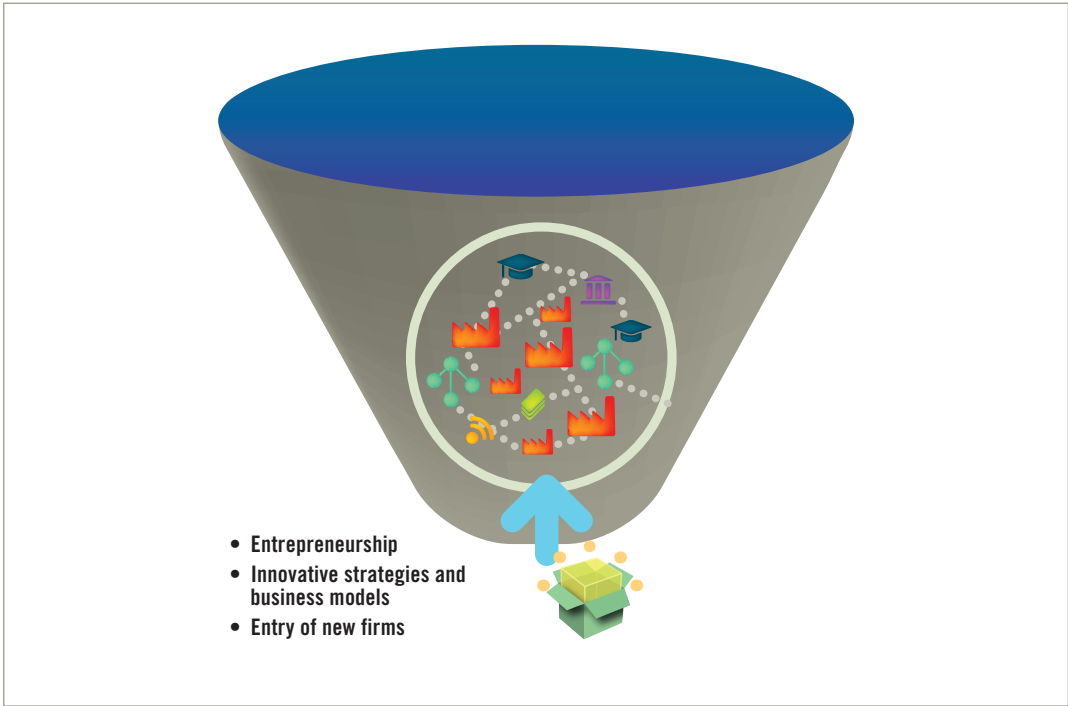
If we take the analysis of the funnel one step further, one must distinguish between different clusters within a nation or region. Thus, within the same national or regional context we have a scale of clusters ranging from highly dynamic and competitive ones to more static and uncompetitive ones. In line with this we expect to see more competitive firms on the right hand side and less competitive firms on the left-hand side of the scale in the figure below.

The Funnel Model: A Range of More or Less Competitive Clusters



Clusters are also shaped bottom-up, from entrepreneurial action and firms implementing new strategies and business models. Such activities are not coordinated but part of the normal market mechanism – the invisible hand is at work. However, as a result of these actions, the larger cluster environment will either develop or decline. Decisions to invest improve and innovate helps to build the cluster, whereas decisions to leave the region will push the cluster towards decline, and resources will slowly merge with other areas of the economy or become idle.

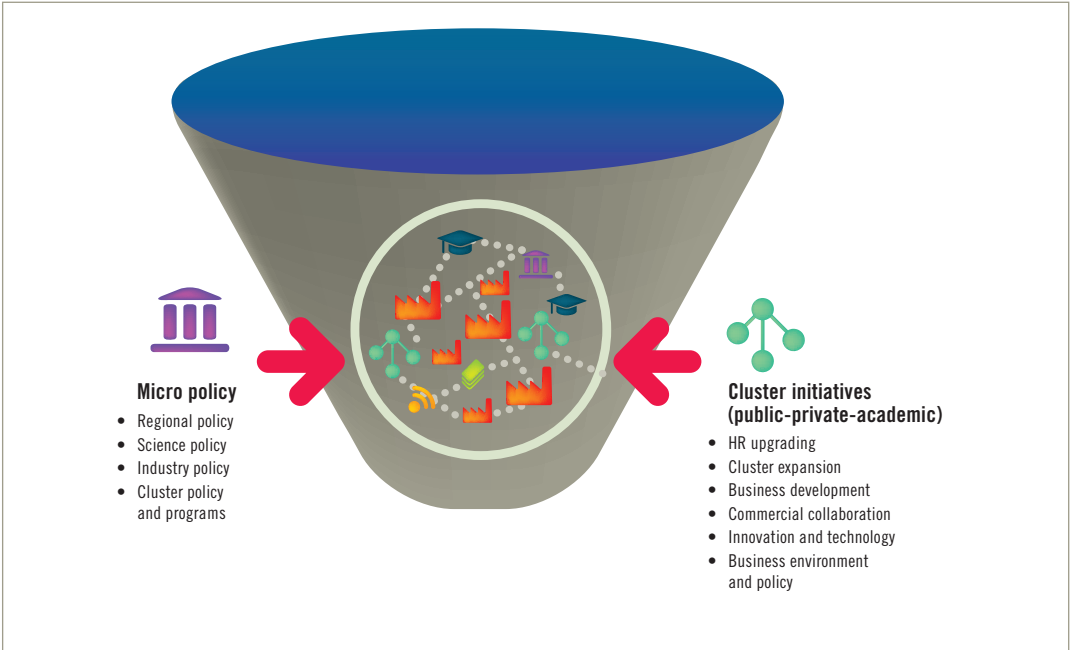
The Funnel Model: Entrepreneurship and New Strategies



The evolution of clusters thus emanates from both deterministic (legacy, culture, history) forces and voluntaristic forces. In addition to this we have the constructive, more conscious forces which will impact the development and competitiveness of the cluster. One type of constructive force emanates from policy implementing conscious efforts to improve the microeconomic business environment of a region. Other constructive forces emanate from initiatives from actors within the cluster, including civic leaders from private firms, organisations and academia. Local leaders behind cluster initiatives take on a constructive role to improve the workings of the cluster or the larger regional environment. Typical objectives of such initiatives include upgrading of human resources, expansion of the cluster stimulating new firm formation and attracting new firms to the cluster, business development, and commercial collaboration such as joint export initiatives or coordinated purchasing to increase purchasing power. Other objectives include upgrading of technology and improving the overall business environment, including initiating dialogue on new regulations and upgrading the infrastructure.

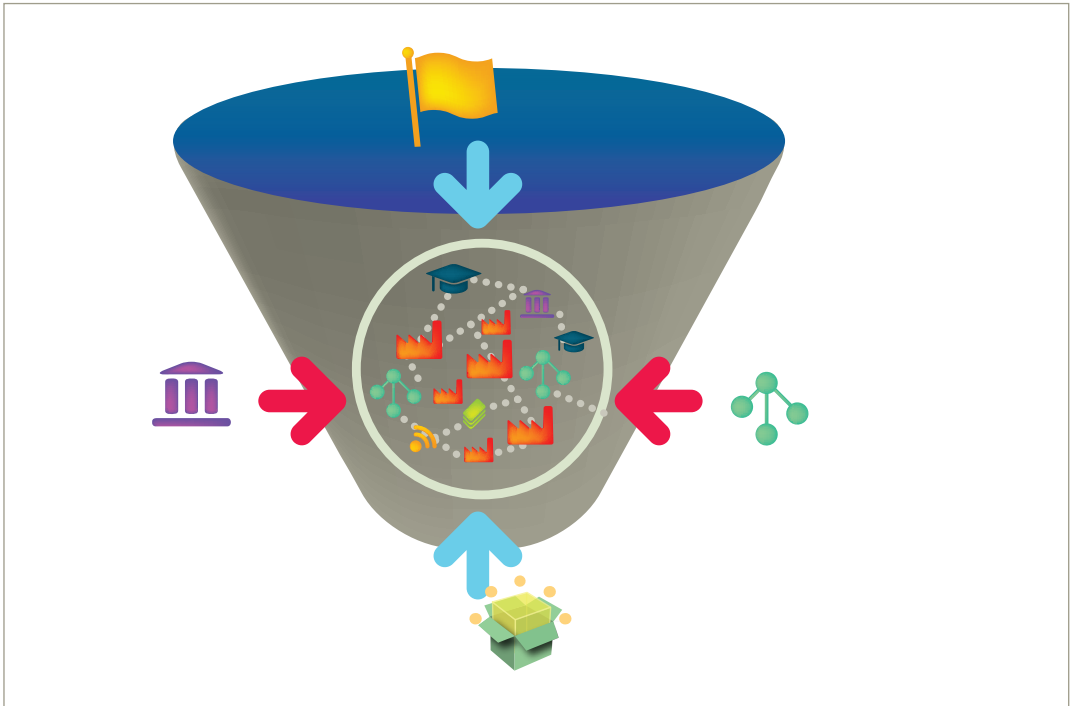
Combining the two sets of forces, both evolutionary and constructive, we can gain a better understanding of how clusters develop, whether they will increase in dynamism and size, or if they will go into decline.

The Funnel Model: Constructive Forces Shaping the Cluster



We know from our research that cluster dynamics is a highly complex process, and is best understood as a combination of evolutionary and constructive forces. However, constructors must be aware that the evolutionary forces are strong, and political vision can easily remain as visions. A large portion of humbleness is in place as constructors roll up their sleeves.

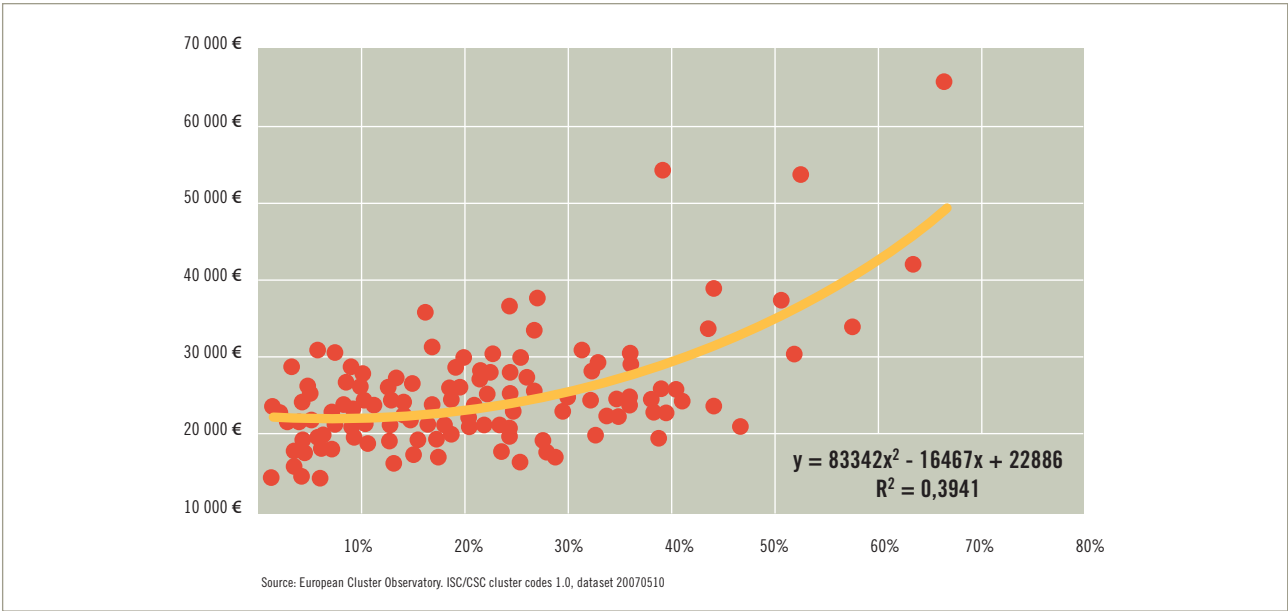
Clusters – Where Evolutionary and Constructive Forces Meet



1.2 Clusters and Economic Benefits

The fact that economic activity tends to agglomerate or cluster in particular locations is driven by efficiency advantages (lowered costs, including transaction costs), flexibility advantages (high mobility of labour and other resources) and innovation advantages (knowledge spill-overs and cooperation). The role of clusters in explaining economic performance of regions has been confirmed in several studies⁶. From our own European data we can show that economic prosperity among the regions of Europe is related to degree of cluster strength (share of employees in clusters with a location quotient larger than 2), see figure.

Regions of Europe: Level of Clustering and Prosperity



1.3 Cluster Strength and Prosperity in Europe

Today, there is plenty of evidence to suggest that innovation and economic growth is heavily geographically concentrated. Clusters provide an environment conducive to innovation and knowledge creation. Regions with strong cluster portfolios are innovative leaders, while regions with no clusters or isolated research facilities fall behind. Globalisation has increased the benefits of strong clusters and raised the costs for regions which fail to develop a clear specialisation profile. Strong clusters emerge in open markets where intense rivalry and cooperation within and between clusters coexist. Clusters emerge, where competition across regions enables companies, entrepreneurs and financial actors to choose the location of their activities based on the attractiveness of regions, not in response to artificial barriers for cross-border trade and investment. Globalisation has increased the need to combine strong internal dynamics within the cluster, with solid linkages to clusters and markets located elsewhere.

6 Porter, M. E. (2003). The economic performance of regions. *Regional Studies*, 37(6,7), 549.

Regional specialisation also brings risks, making regions more vulnerable to cluster-specific demand shocks or fundamental technological shifts. The emerging evidence suggests, however, that a cluster-based regional economy still generates better outcomes. First, the economic costs of lower productivity due to a lack of specialisation have dramatically increased with globally integrated markets. Second, dynamic clusters that are open to outside trends are better at dealing with external shocks, for example by transferring existing skills into new market areas. And third, our research indicates that the most successful regions tend to have a portfolio of clusters related through linkages and overlaps that ease the trade-offs between specialisation and diversification.

In Europe, the share of employment in strong clusters tends to be lower than in the United States. This is particularly visible in medium sized regions. In the US, such regions tend to be highly specialised with strong presence of employment in a small number of clusters. In Europe, regions of similar size instead tend to have employment across a wider range of clusters, with lower levels of true specialisation in any one of them.

Most likely, this is a reflection of past and still remaining barriers to competition across regions in Europe. While in the US companies have for a long time been able to choose their location based on where the production conditions, including the presence of related and supporting industries, were most beneficial, in Europe the access to the end market was much more important as a driver of locational decisions. While the common market programme has made significant progress in reducing these barriers in Europe, there is clear evidence from companies that markets across Europe remain fragmented, forcing locational decisions to be driven more by market access than production efficiency considerations (Ketels, 2007)⁷.

1.4 Clusters and Innovation

Innovation performance tends to be highly skewed across regions, both within nations and across nations. A large number of empirical studies on regions and innovative performance have been published in the last decade (see Crescenzi, Rodríguez-Pose, & Storper, 2007,⁸ for an excellent overview). The data from the European Cluster Observatory reveals an important relationship between regional specialisation (degree of clustering) and innovative performance (measured as patenting levels). Regions in Europe without clusters (i.e. with employment evenly spread out across sectors) are all performing badly (dots to the left in the figure below). On the other hand, all regions in Europe with many ranked clusters are all top performers (to the right in figure below). In the group of regions with a few ranked clusters, some are performing well and other less well. Again, this underlines that economic performance of a region is not only explained by the degree of specialisation, but also involves other aspects of the broader microeconomic business environment, such as labour quality, research and education, and access to venture capital and advanced infrastructure.

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⁷ Ketels, Christian (2007). *State of the Region Report — The Baltic Sea Region as a Place to Do Business*, Baltic Development Forum.

⁸ Crescenzi, R., Rodríguez-Pose, A., & Storper, M. (2007). The territorial dynamics of innovation: a Europe-United States comparative analysis. *Journal of Economic Geography*, 7, 673-709.

Cluster Strength and Patenting Levels in European Regions



Regions with clusters do also perform better in terms of innovation performance. A competing, but more often complementary, explanation to regional success is the degree of urbanisation, where metropolises offer diverse and creative environments, and also proximity to academic institutions. Our Research on European data shows that both urbanisation and regional specialisation, i.e. clustering, bring economic prosperity to regions, but in different ways. Urbanisation has a direct effect on regional performance, whereas clusters work through the process of being more innovative environments, which in turn leads to economic prosperity⁹.

9 Lindqvist, Göran, Sergiy Protsiv, Sölvell, Örjan. *Regions, Innovation and Economic Prosperity: Evidence from Europe*, mimeo. Stockholm School of Economics, Stockholm: 2008.

2 Project findings:

Clusters as a tool for policy

The project has also made a significant contribution to the understanding of the current state and the logic of using clusters as an instrument of economic policy.

Economists consider policy interventions as justified when specific conditions exist that reduce the ability of the normal market process to lead to optimal outcomes from an overall welfare perspective. Such “market failures” provide the traditional motivation for economic policy. The local externalities that give rise to clusters create a number of such market failures:

- Coordination failures exist, because individual companies consider in their decisions, be it whether to locate in a cluster or what investments to undertake being there, only the impact on themselves, not on others.
- Information asymmetries exist, because even if the incentive problems of taking account of the impact of own actions on others could be managed, the knowledge necessary to make the right “social” decision is dispersed among the many participants of the cluster.
- Path dependency exists, because decisions not only influence the present, but also the possible evolutionary path of the cluster in the future. Both coordination failures and information asymmetries thus have a dynamic dimension as well. And social and private discount rates might differ, creating an additional source of market failure.

Where cluster policy addresses market failures, it does not reduce global welfare. Under some assumptions, the free competition between rational governments in supporting clusters even leads to the best possible outcome, not a race to the bottom.¹⁰ While these arguments do not prescribe specific policy interventions, they give some guidance on the direction that cluster policy should take. The best approach is always to target the market failure at the source. Policy can subsidise activities that are underprovided because of coordination failures or differences in discount factors. And policy can facilitate platforms for collective action to overcome coordination failures and informational asymmetries. In practice, efforts to address market failure are never perfect.¹¹ They suffer from government failure in implementation (lack of knowledge to target the intervention, inability to provide incentive-neutral financing, political pressure by interest groups for beneficial treatment, etc.) and might have unintended side-effects, creating collateral costs that outweigh the benefits.

Economic policies can be compared on both the impact that they generate, i.e. addressing the problem or market failure, and the costs they might create, i.e. distortions or government failure. Policies that target individual companies are highly effective but also very distortionary. Policies that target the entire economy have little if any distortionary effect but are often also not very effective. Policies targeted at individual industries come somewhere in the middle on both accounts. Cluster policy, however, offers a superior mix of benefits and costs. It is organised around a group of industries that by definition have strong linkages. Targeting policy at them will thus not only be effective but even trigger additional benefits from positive spill-overs that are induced. And while the policy is neutral within the cluster where competition for factors of production is the strongest, it is distortionary only relative to activities outside the cluster where by definition other skills and assets are needed. While some distortion remains, the approach promises a potentially better balance of effects.

10 Norman, Victor, Anthony Venables, Industrial Clusters: Equilibrium, Welfare and Policy, *Economica*, Vol. 71 (2004), 543 – 558.

11 Rodrik, Dani, *Normalizing Industrial Policy*, Working Paper No. 3, Commission on Growth and Development, Washington, D.C.: 2008.

2.1 Two opposing approaches to cluster policy

In the academic debate, the strongest criticism of cluster policy does not come from researchers that claim that locational factors are irrelevant, but from economic geographers and others that fully support the view that locational factors are important. Some criticise the “fuzzy” way the cluster framework is translated from an academic idea into a practical policy concept.¹² But while the issues raised in these discussions reflect important operational challenges of implementing cluster policy, they also tend to reveal a limited sense of the needs of policy practitioners. Cluster policy is a complex process and requires a framework that enables context-dependent on-the-ground choices, but this does not provide a conceptual argument against its use. Others provide a more fundamental criticism of the motivation for cluster policy¹³ that turns out to be highly revealing for how the lack of a generally accepted definition of cluster policy continues to hamper the debate.

To understand the different views on cluster policy, it is useful to go back to a simple diagram that relates agglomeration to competitiveness. The evidence discussed in chapter 2 points towards a positive relationship between the two, a fact that is generally accepted by critics as well as supporters of cluster policy (as discussed previously there are differences in the view on how strong this relationship is relative to other factors). But how should cluster policy intervene to move a location from a place at the bottom left to the top right? This is where the fundamental difference sets in.

One approach sees agglomeration as the central policy lever; as agglomeration rises, competitiveness will naturally follow as cluster effects set in. With agglomeration the ultimate goal, efforts to attract companies through incentives — from tax rebates to free infrastructure — naturally come to the forefront of the policy debate. Economic geography-based approaches, too, look at the effects of traditional tax, trade, and regional policies on agglomeration patterns.¹⁴ Dynamic “new economic geography” models provide guidance on when and how these instruments should be used to have a maximum impact:¹⁵ the process of agglomeration in these models is characterised by important break-points at which economic geography patterns are determined. For economic policy, this implies that intervention has to be early, i.e. at a time when the locational patterns of where a dominant cluster will be located has not been determined yet. And it has to be massive, i.e. it has to give such a meaningful boost that the location gains sufficient critical mass to be far ahead of all potential rivals. And it implies a critical role for identifying a small number of clusters on which economic development then hinges.

If large-scale targeted subsidies in the early phase of cluster emergence are the policies under discussion, should they be used? Not only critics of cluster policy come to a negative answer: such policies are likely to fail because they require an abundance of information and ability in the hands of the policy maker. And they are not even necessary: current economic geography is already in line with the fundamentals including local externalities, so any policies to change the location of companies would lead away from an existing optimum.¹⁶

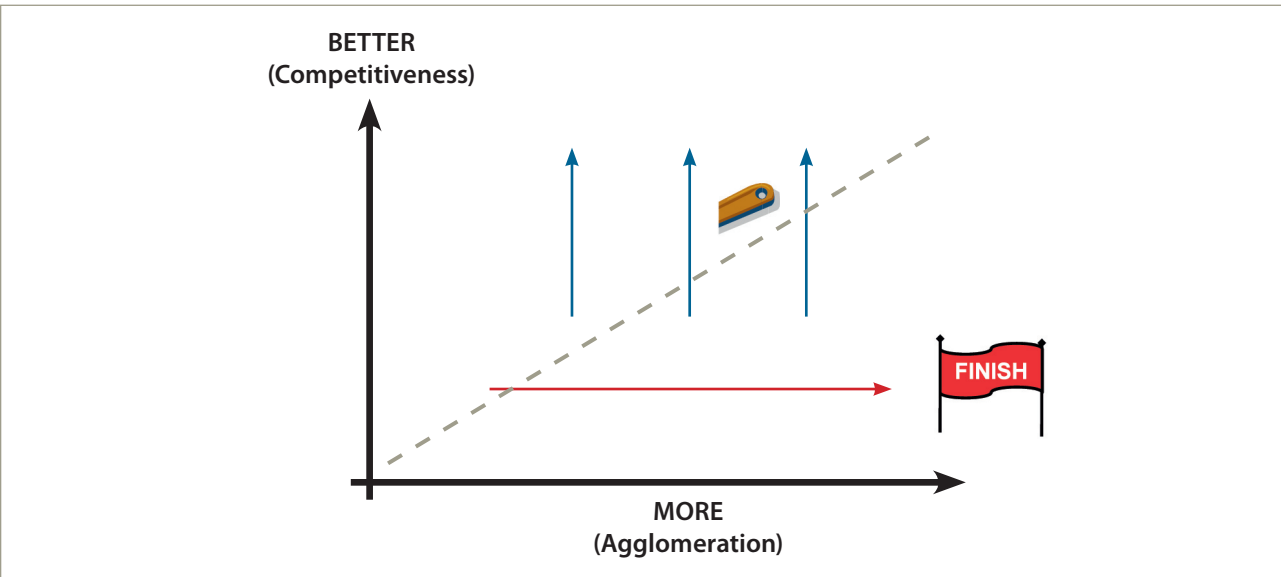
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12 Martin, R, Peter Sunley, Deconstructing clusters: chaotic concept or policy panacea? *Journal of Economic Geography*, Vol. 3 (2003), No. 1, 5-35.

13 Duranton, Gilles, Henry Overman, Exploring the Detailed Locational Patterns of UK Manufacturing Industries using Microgeographic Data, *Journal of Regional Science*, Vol. 48 (2008), No. 1, 213 – 243.

14 Baldwin, Richard, Rikard Forslid, Philippe Martin, Gianmarco Ottaviano, Frederic Robert-Nicoud, *Economic Geography and Public Policy*, Princeton University Press, Princeton: 2003.

15 Brenner, Thomas, Cluster Dynamics and Policy Implications, *Zeitschrift für Wirtschaftsgeographie*, Vol. 52 (2008), 146-162. And Brenner, Thomas, Policy Measures to Create Localised Industrial Clusters, in T. Brenner und D. Fornahl (Hrsg.): *Cooperation, Networks, and Institutions on Regional Innovation Systems*, Cheltenham: Edward Elgar, 2003, 325-349.

16 Martin, Philippe, Thierry Mayer, Florian Mayneris, *Natural clusters: Why policies promoting agglomeration are unnecessary*, VOX: 4 July 2008.



2.2 Development

Another approach sees competitiveness as the central policy lever; as competitiveness rises, agglomeration will naturally increase as the cluster becomes more attractive for new entrants.¹⁷ With competitiveness as the ultimate goal, clusters become a process tool to design and implement policies more effectively, not an ultimate objective. The instruments then targeted at existing clusters are well known from innovation policy, regional policy, and enterprise policy. They are supplemented by actions that specifically support collaboration in their use and that create platforms for collaboration within an agglomeration. The competitiveness literature, including the insights on cluster evolution provide guidance on when and how to use these instruments that is radically different from the model cluster policy critics have in mind. The focus should be largely on agglomerations that have already passed the test of the early stages of development.¹⁸ This indicates that the fundamental conditions for economic success are present and active collaboration can become a “turbo” for the use of strengths already in place. The focus of policy interventions should be on enabling collaboration and channelling existing resources in a different way, using moderate amounts of new funding. Large new funds are not necessary and could be harmful by increasing the potential for distorting incentives. And while a selection of clusters is necessary to be able to deploy sufficient resources and attention on any one initiative, economic development is the result of many clusters in all regions flourishing, not just a few per country.

If these are the policies under discussion, should they be used? Even the critics of cluster policy have a slightly favourable view. Improvements in the fundamentals of competitiveness are a sensible goal and the suggested approach limits the downside. But they remain skeptical about whether cluster efforts can have a sufficiently strong impact on improving underlying competitiveness. The quantitative evidence is still limited but points

¹⁷ Roriguez-Clare, Andres, *Coordination failures, clusters and microeconomic interventions*, IADB Working Paper 544, Washington: December 2005a.

¹⁸ Roriguez-Clare, Andres, *Clusters and Comparative Advantage: Implications for industrial policy*, Pennsylvania State University, mimeo., University Park: September 2005b.

to moderate positive effects.¹⁹ Proponents of cluster policy see enough case-evidence that such efforts can in fact lead to a much more meaningful improvement in the way policies for higher competitiveness are being conducted.²⁰

There remains a fair amount of disagreement in the debate about cluster policies. At least part of this disagreement is related to a lack of effective communication between theoretical research and policy practice. This communication failure leads to a fundamental disconnect on what cluster policy is and how it is related to competitiveness upgrading. For many researchers, improving competitiveness is fundamentally an automatic process, driven by the self-interest of all parties involved. For most practitioners, improving competitiveness is a complex challenge of identifying action priorities and mobilising allies to implement them. Cluster policy, as understood by its proponents, is an answer to these real challenges that practitioners face, challenges that the critics assume will be taken care of automatically over time.

2.3 Implementing cluster policy to improve competitiveness

The discussion so far has established a solid conceptual argument for cluster policy as a tool to leverage cluster agglomerations as a tool to achieve higher impact on upgrading underlying competitiveness. Whether these possible benefits of such policies materialise in a meaningful fashion, is a question of how and where they are implemented, not just of their conceptual approach. Three issues are of particular importance. First, does cluster policy open the door to distortive interventions that have little to do with the original objective but easily follow once cluster programmes are launched? Second, are the effects of cluster policy strong enough to warrant more fundamental policy interest? Third, which locations should use cluster policy?

Cluster policy uses industry-specific policy instruments and activities. As such, it can become a politically convenient cover for what then in reality is nothing else but traditional distortive industrial policy. The political economy argument that some critics then make is the following. Even if cluster policy has its merits, it opens the political process for all kinds of sector-specific interventions that undo its theoretical benefits.²¹ On balance, they argue, it is then better to forgo a useful instrument like cluster policy if it leads to opening the Pandora box of “vertical” policies.²² This is an important consideration. But it has to be balanced against another political economy dynamic. Many governments are under intense political pressure to “do more” rather than upgrading the general business environment. In such situations, the alternative to cluster policies is often not the absence of targeted policy action, but the use of exactly the type of old style industrial policy tools that should be avoided. And specific steps and conditions can reduce the likelihood of cluster policies being high-jacked by narrow interest groups: High exposure to external competition and robust competition policies domestically reduces the danger that collaboration leads to lower rather than more sophisticated rivalry. Competition models with the involvement of external jurors can de-politicise the selection process and induce a clear orientation to excellence. And the threat of losing funding in case cluster dynamics remain low avoids subsidising many weak clusters rather than allowing stronger clusters to gain position. Overall, especially the role of government needs to be carefully designed. While there is no systematic evidence that a government role per se is

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20 Waits, May Jo, The Added Value of the Industry Cluster Approach to Economic Analysis, Strategy Development, and Service Delivery, *Economic Development Quarterly*, Vol. 14 (2000), 35-50.

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21 Rodrik, Dani, *Normalizing Industrial Policy*, Working Paper No. 3, Commission on Growth and Development, Washington, D.C.: 2008.

22 EBRD, *Transition Report 2008: Growth in Transition*, European Bank for Reconstruction and Development, London: November 2008.

negative for Cluster Initiatives,²³ government cannot create clusters²⁴ and can easily impose conditions that hurt competitiveness.

Cluster policy has in the past often been applied at the level of individual clusters. But simple arithmetic suggests that working with one cluster in a region, even if it is a large one, is unlikely to generate economic outcomes that are meaningful for an overall regional economy. The average regional cluster accounts for about 1% of total employment in a region (European Cluster Observatory, 2008); larger cluster categories like financial services or transportation can in individual cases reach much higher levels but are for most regions not above 5% of total regional employment. High-tech clusters like biotech range at a fraction of such numbers. Purely growing one such cluster by improving its competitiveness can thus have high impact on a few individuals and companies but will tend to have only a moderate impact on the regional economy at large. A number of recent analyses have identified how cluster policy can be designed to affect the wider regional economy and thus become a quantitatively important tool for economic development efforts.²⁵ Locations should take a portfolio perspective on their cluster efforts, addressing the different needs of clusters at different stages of development and leveraging the linkages across clusters. Effective cluster policy mobilises all clusters, not just one that is supposed to drive future economic growth. Locations should leverage the experience of the cluster efforts for economy-wide improvements. At least part of the business environment weaknesses that create problems for specific clusters usually also affect companies more generally. And locations should integrate their cluster efforts into a broader economic strategy that identifies the specific value that the location provides relative to its peers. Clusters can effectively communicate the unique advantages locations offer, much better than general attributes like “open for business” or “entrepreneurial”.

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23 Sölvell, Örjan, Göran Lindqvist, Christian Ketels, The Cluster Initiative *Greenbook*, Ivory Tower, Stockholm: 2003.

24 Porter, Michael E., quoted in “Politiker kan inte skapa kluster, hävdar klustrens egen pappa, *Svenska Dagbladet*, 28/1/2008.

25 Pietrobelli, Carlo, Roberta Rabelotti, *Upgrading in Clusters and Value Chains in Latin America: The Role of Policies*, Inter-American Development Bank, Washington, D.C.: January 2004.
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3 Implications for future efforts and policy

Based on the project findings, a number of conclusions can be drawn for both the next stage of cluster mapping and the further development of cluster policy.

3.1 Cluster mapping

The European cluster mapping data has for the first time offered a consistent view of the economic geography of clusters in Europe. This has been an important step forward for cluster research and cluster policy. However, the discussions with users have indicated data quality, especially granularity and available indicators, are below the level desired by practitioners and policy makers. A number of issues stand out:

- Practitioners need more data on their clusters and better fit of definitions to their individual clusters.
- Policy makers get general support for the notion that clusters matter, but not enough data on the impact of cluster policy
- Policy makers need more data that can be translated into action recommendations on what to do and what areas to focus on

Some of these issues can be addressed by further data collection in the context of the Cluster Observatory. But there are also clear limitations that can only be addressed through the slow process of improving the way statistical data is collected or an entirely different approach to data collection. Overall, cluster mapping has to be transformed from a tool that is useful to researchers and high-level policy advice to an instrument with direct applicability to cluster practitioners and cluster-programme implementing agencies.

3.2 Cluster initiatives

While the cluster mapping project has focused largely on the collection of statistical data on the agglomeration of economic activities in related fields, the overall effort has also created additional insights into the needs of cluster initiatives. Among the issues that came up are the following:

- There is clear need for **professionalising the management of cluster initiatives**, from spreading of general best practices in the field to the use of cluster data by cluster initiatives. In recent years there has been an explosion in the demand and supply of training courses and educational programmes in this area. Consolidation and standard setting are the usual processes that tend to set in as professional fields reach some level of maturity. Professional organisations like TCI play an important role in such a process, but organisations like the EU and other government bodies financing cluster efforts are clearly important as well.
- **Impact measurement** is a theme that is high on the agenda for many cluster initiatives as well as for public bodies that manage cluster policy programmes. Some project evaluations have already been done (for a discussion see Sölvell 2009; Chapter 6), but while these efforts have created useful advice on how to improve cluster programmes, there has been limited if any success in quantifying the economic impact and return of cluster policies. While cluster mapping might play some role in this respect in the future, the discussion of cluster policy as a tool to improve competitiveness rather than as a direct way to change agglomeration patterns casts some doubts on relying on this instrument alone. There have been efforts in the past like the Foundation Clusters and Competitiveness but they have not reached momentum. Other bottom-up efforts are underway in TCI and as an initiative of individual regions like Värmland in Sweden. But there is a clear need for top-down structures as well to allow these initiatives to reach their full potential.

- One area that has been pushed much higher on the agenda of cluster initiatives in the last few years is **cluster internationalisation**. While companies were heavily engaged in globalising their efforts, cluster initiatives were mainly seen as a tool to strengthen the local networks and capabilities. But cluster initiatives can also collaborate internationally, providing the platform for easier internationalisation of companies with other regions that have similar economic profiles. And the interaction of clusters, facilitated by cluster initiatives, can play an important role in the creation of global value chains of clusters. To date, several initiatives have had the aim of building such collaboration networks, but each of them has had a limited scope. For example, the INTERREG IIIC Project CLOE (Clusters Linked Over Europe) managed to link only some dozens of cluster organisations, irrespective of their sectoral affiliation. In the INTERREG IIIC project INNOFIRE, a web-based co-operation platform was developed for companies, but only in the medical technology sector. In the Europe INNOVA TCAS project there was another single-sector database for companies developed focusing on the automotive sector. Under INTERREG IVC one project (Clusters and Cities, CLUSNET) is engaged in trans-national cluster collaboration. There are also many publically available databases on cluster organisations. For example, the association TCI and Europa InterCluster lists several cluster organisations. On the internet platform XING there is a “cluster-group with persons interested in cluster issues. Such fragmented attempts are numerous, but Europe still lacks a full-fledged, efficient and low-cost information system incorporating data on all sectors and regions that enables a huge visibility of the cluster organisations – and their members, especially innovative SMEs. The EU again has a clear role in removing barriers, for example in the funding rules, and encouraging the collaboration of cluster initiatives.

3.3 Cluster policy

The project has also generated a number of important insights into cluster policy. Among the key observations are the following:

- **Cluster-policies versus framework policies;** the conceptual work on cluster emergence has pointed out the dual role of creating and emerging forces as drivers of cluster evolution. The look at the interplay of existing cluster policies and existing framework conditions have highlighted their different and complementary roles. In the US, cluster policy has been relatively weak but the strengths of the fundamental framework conditions, especially the open competition across the integrated US market, enabled the emergence of specialised regions with strong cluster structures. Private-sector-led cluster efforts then compensated somewhat for the lack of coordinated government policy in mobilising these clusters. But the framework conditions are key to understanding why the US has a stronger cluster structure than Europe. In Europe, cluster policy has recently become much stronger and has significant potential to mobilise the inherent capabilities of many European clusters. But the experience in the US indicates that it is very important not to view these cluster policies as a substitute for further market integration. In fact, cluster policies will have much more potential if the framework conditions in Europe will also support the emergence of a stronger cluster landscape. For the EU this implies that the common market remains a critical element of any cluster-oriented policy. Clusters emerge not as a consequence of intervention or the financing of cluster initiatives; they emerge in reaction to fundamentals. This is one of the key lessons that is starting to emerge from the analysis of the evidence on clusters and cluster policies. The EU plays a crucial role in establishing this link and designing its policies accordingly.
- **Financing cluster initiatives versus organising policies around clusters.** Most of the current cluster efforts have instinctively focused on supporting cluster initiatives, i.e. the networks of actors with an agglomeration of related economic activities. While this is an important way to address the market failures at the heart of clusters, it is not the only one. There is an important opportunity to organise existing government policies around clusters, in areas like innovation, workforce development, FDI attraction, SME development, and others. This could improve the effectiveness of these policies and create the impact governments wish to reach, while avoiding the market distortions that interventions on behalf of individual companies or industries tend to create. This way clusters would become an organising principle to integrate different economic policies from the perspective of the user, overcoming the policy silos that currently often characterise economic policy. Cluster policy would then be not another such silo, but a way to overcome the existing separation of efforts.

The EU has a crucial role to play in this respect. Different parts of the EU Commission target clusters with a multitude of programmes. There is huge potential to increase the effectiveness of these efforts by using clusters as an integrating mechanism. The EU has the potential to develop new structures through which different functional policy programmes can be integrated and then be made accessible more efficiently to clusters.

- **Impact of cluster efforts.** Many evaluations of cluster initiatives suggest that the individual projects have been successful, but often only for the partners directly involved while the overall impact on the regional or even national economy has been negligible. This would suggest the cluster initiatives are a useful tool, but ultimately not much more than one of many technical instruments at the disposal of policy makers (framework policies supporting the natural emergence of strong clusters as in the US might still be much more powerful). But the discussions in the context of this project and beyond indicate that there are ways in which cluster policy can become much more “scalable” in its impact.²⁶

One important way to achieve this is the introduction of strong feedback mechanisms to cross-cutting policies. Cluster initiatives can become testing grounds for the identification of problems and solutions that are then rolled out more broadly, creating benefits for all companies, not only those that participate in the cluster effort. So far, few cluster policies are designed to encourage such feedback mechanisms. The EU could take the lead in integrating such mechanisms in efforts it supports.

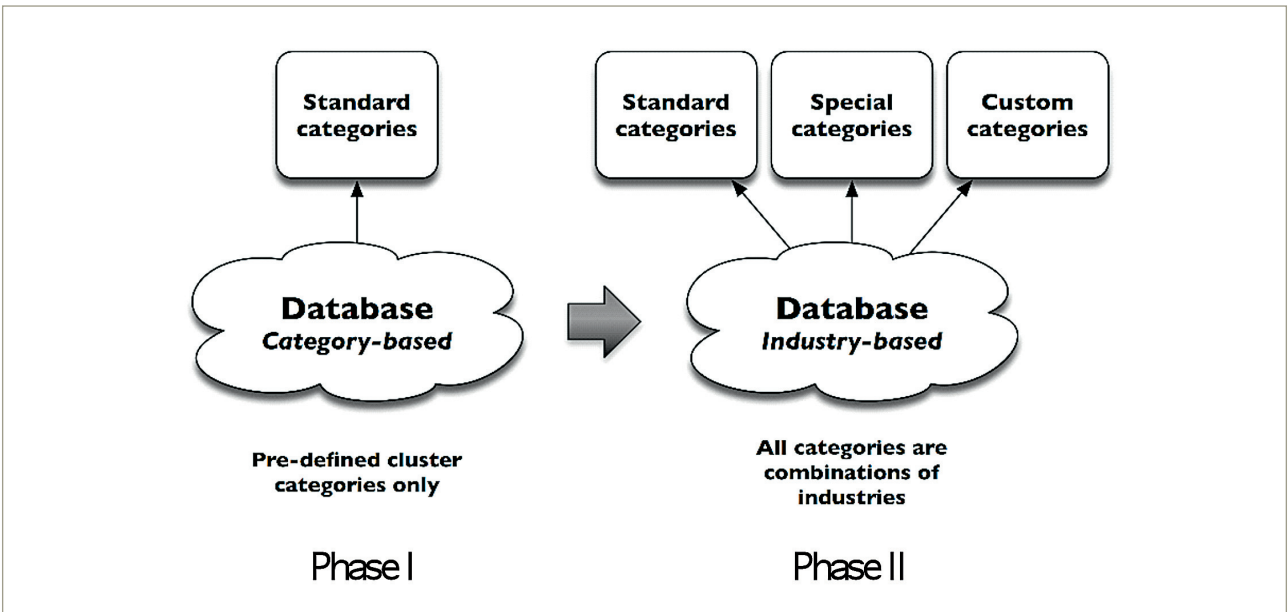
Another important approach is to put individual cluster efforts in a strong locational perspective, i.e. see them as part of the overall cluster portfolio of a region or nation. Governments can then make sure that they have appropriate policies for their existing strong clusters, their emerging clusters, and general conditions that enable entirely new efforts to emerge. All of them require different types of policies but together this can be a very powerful way to organise policy. It can overcome the low effectiveness of the cluster-blind policies of the past. But it can also combine the approach of isolated cluster efforts without integration into a broader regional or national perspective that is characteristic even of many of the best current cluster programmes. The EU has a critical role to play in providing the data and tools to European regions that are willing to pursue such an approach.

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26 Ketels, Christian, *Clusters, Cluster Policy, and Swedish Competitiveness*, Expert Report No. 30, Swedish Globalisation Council, Stockholm: March 2009.

4 Next steps

The current Observatory represents the state of the art in providing a Europe-wide service for cluster organisations. But it is clear that much more is needed for the Observatory to become a full-fledged information service. To begin with, the cluster mapping service needs to provide richer data in a way that is more relevant for users of all types. But above all, it needs to provide a completely new set of services for cluster organisations and their members supporting collaboration between cluster organisations and their members.

The proposed next phase of the European Cluster Observatory (ECO-II, 2009-2012) includes several components. First, the most fundamental change is that ECO moves from a web based database to a real **tool for collaboration** (benchmarking, finding partners in trans-national networks, etc.) that can be used by SMEs and managers of cluster organisations. Second, the database will be enhanced with new data including new cluster codes, new employment data, new performance data, and new data on regional business framework conditions. Third, the new Observatory will move from a rigid functionality to a **dynamic user-friendly functionality** where the user can customise their own regions (e.g. the Øresund region cutting across Denmark and Sweden), and customise their own cluster categories (e.g. combining textile, apparel and footwear into "fashion"). See the figure below.

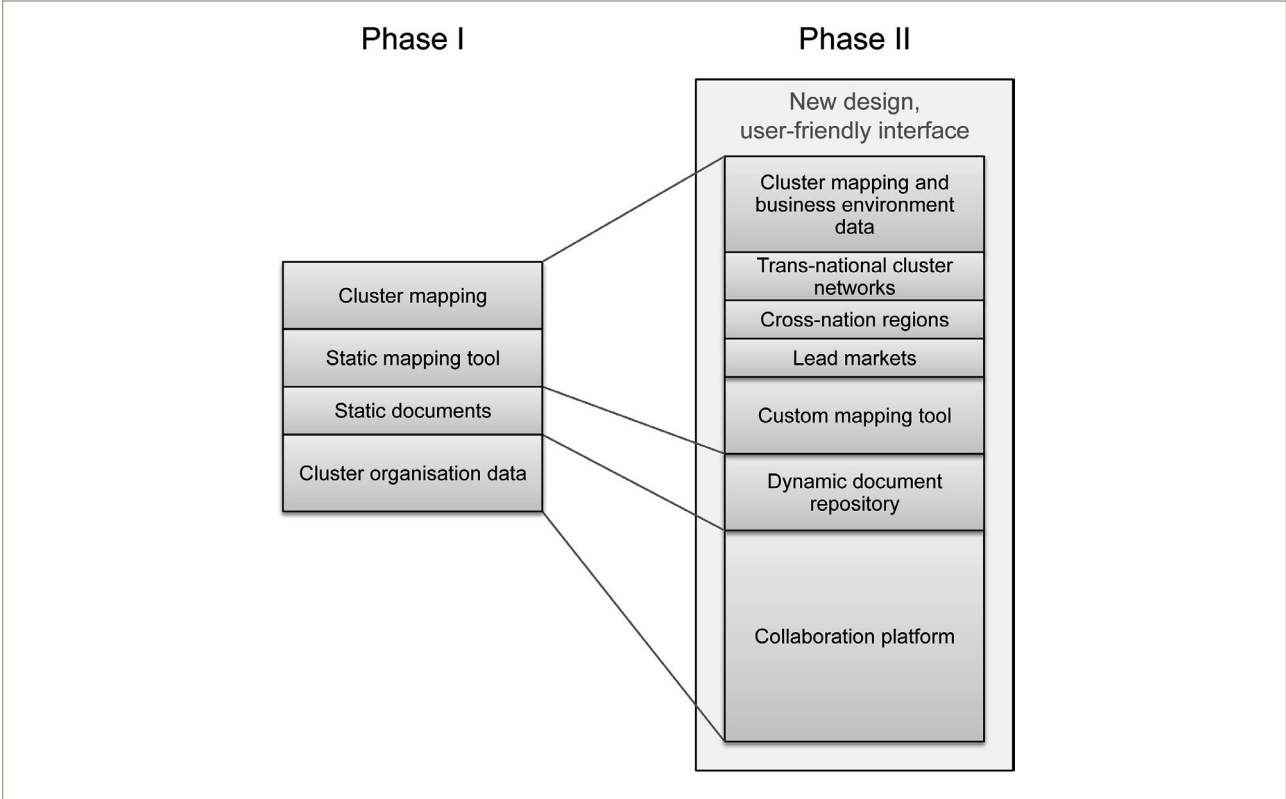


Fourth, ECO-II will be designed to be **user-driven**, allowing for SMEs and cluster organisations to upload content themselves. Fifth, a **new web appearance** will enhance user-friendliness. All these improvements will address identified weaknesses with the Observatory in its current form.

We have identified four major weaknesses, related to data availability and cluster mapping, where the Observatory is not delivering enough value today.

- Capturing emerging industries where statistical codes are not relevant: to solve this ECO-II will conduct qualitative studies, for example focusing on identified **Lead markets**.
- Covering relevant and politically prioritised sectors: to solve this ECO-II proposes to **revise cluster codes** (based on European data, moving away from the U.S. codes developed by Professor Porter), and to offer **custom cluster categories** both defined by the Observatory (mega-clusters and identified prioritised sectors), and also allowing for users to develop their own categories.

- Covering relevant regions such as cross-national regions: to solve this ECO-II will allow for users to identify their own regions, and will also produce data and analysis for **trans-national regional initiatives** in Europe.
- Telling a richer story about cluster growth and competitiveness: to solve this ECO-II will develop rich data on **regional microeconomic business conditions** (infrastructure, skills, R&D, innovation, entrepreneurship, international cluster linkages, demand sophistication etc.), making use of secondary data (e.g. CIS and other sources) complemented with regional survey data. In addition **cluster performance** data will be added (e.g. based on wages from LFS).



The new Observatory will build close ties with the European Cluster Alliance (PRO INNO Europe® Strand 2), the Cluster Academy (PRO INNO Europe® Strand 6), the Eco-Observatory (Europe INNOVA Strand 5) and other EU initiatives.

An advisory group around Cluster Management will be set up. This advisory group will consist of local/regional organisations involved in cluster programmes, with particular interest in cluster programme evaluation.

The European Cluster Memorandum

Promoting European Innovation through Clusters: An Action Agenda for Policy

Proposed by
The High Level Advisory Group on Clusters,
chaired by Senator Pierre Laffitte

September 2007

This work is coordinated by the Center for Strategy and Competitiveness, Stockholm School of Economics and performed under the Europe INNOVA Initiative of the European Commission

1. Europe's Innovation Challenge: Why we need stronger clusters

Europe faces an innovation challenge. The Aho-Report was only the last of many in-depth analyses to conclude that Europe needs to improve its innovation performance to sustain a high and rising standard of living. Europe is particularly weak in the transformation of ideas in new products and services. But it also needs to improve the creation of new ideas. Over the last few years, Europe has not narrowed the innovation gap with the United States and leading Asian countries. The most recent data on economic performance and innovation shows an upswing, but unfortunately there is little reason to believe that this welcome improvement is more than cyclical and signals the fundamental change in trend.

European innovation needs to be built upon a vision of clusters as interconnected territorial hubs. Innovation is heavily concentrated geographically, much more so than high prosperity or productivity. Clusters – regional concentrations of specialised companies and institutions linked through multiple linkages and spill-overs – provide an environment conducive to innovation. They enable “open innovation”, the creation and refinement of new ideas in networks of cooperating companies and institutions. And they lower the barriers for transforming new ideas into businesses and capturing the benefits of globalization. In modern competition, **all clusters need to be innovation clusters.** Regions that combine risk capital, skills, and research excellence with strong cluster portfolios become innovation hubs, while regions with no clusters or isolated research risk falling behind. Globalization has further increased the benefits of true excellence and clear cluster specialisation.

Strong clusters emerge and flourish best in open markets where coopetition (i.e. the presence of coordination in competitive markets) coexists within and between clusters. Clusters emerge, where competition across regions enables companies to choose the location of their activities based on underlying economic efficiency, not in response to artificial barriers that influence cross-border trade and investment. Clusters can leverage this potential, if they create linkages with other clusters that provide complementary capabilities. Globalization has increased the need to combine strong internal dynamics within clusters with solid linkages to clusters and markets located elsewhere. Clusters enable in particular SMEs to take advantage of the new opportunities in the global economy.

The European innovation debate needs to shift from a supply side support to a discussion on a broader innovation ecology and cluster structures in order to turn their future into an asset. This means turning ideas, opportunities, unique capabilities and “intellectual capital in-waiting” into tangible real value. The European debate is still too often based on the assumption that more R&D inputs automatically lead to more innovation. The evidence, however, supports a more holistic view: Innovation depends on the inputs made available *and* on the framework conditions – including clusters – in which they are being applied. It is the business environment that drives companies’ decisions on whether to spend and compete on innovation. Clusters are not the only answer to Europe’s innovation challenge. But is a part of the answer that Europe can ill afford to neglect. Based on this assessment, the European Competitiveness Council has identified, in its conclusions of December 2006, clusters as one of nine priority actions to strengthen European innovation.

2. Fostering excellence through strong innovation clusters – How governments can help

Government policies have a significant impact on clusters. They can enable more *effective coopetition* between clusters and can strengthen *business environments*. Clusters grow in regions that provide specific advantages as a location for companies’ activities in a particular field and they can enable *linkages and collaboration*. Clusters reach their full economic potential if they are well connected to markets and clusters elsewhere and when cluster participants cooperate to strengthen linkages and align decisions without distorting the market. Government can play an important role in mobilising such joint action within regions and clusters.

Effective government cluster policies need to mobilise a broad coalition of partners that integrate and encourage activities that meet the needs of specific clusters. The success of cluster policies depends on the *concerted actions of many different actors* – multiple levels of government and public agencies, companies, educational and research institutions, and many more. And policy success depends on defining and implementing *action agendas that reflect the specific needs of a particular cluster or region*; general guidelines identifying policies that are beneficial “on average” are less effective. Ultimately, policy success depends on *integrating a broad range of government policies and stimulating complementary private sector activities*; cluster policies can to a large degree be a mechanism to apply existing policies in a more effective way. They are not necessarily additional policy tools.

Policies at the national and regional level have a crucial impact on the ability of clusters to reach their full potential. Strengthening the potential of clusters – moving them from co-located companies to dynamic clusters with high-levels of competition, interaction, and spill-overs – is a central task in which regional and national governments can play an important role. *Cluster initiatives* are an important tool to achieve this goal. National and regional government policies are crucial to upgrade the *business environment*; the work of cluster initiatives and the focus on clusters as a delivery mechanism can significantly increase the effectiveness of industrial policies. Overall, clusters underline the importance of strong territorial policy in a world where both local and global networks are important for success. The more connections, relationships and interactions in a networked society, the higher the potential value added. Networks are not a goal per se but they are an important factor for accessing and combining complimentary skills and assets.

Policies set at the European level have an important influence on the emergence and the trans-national linkages of clusters. Increasing *competition* by deepening the internal market remains a central challenge for European policy. EU policies can enable *trans-national cooperation between clusters* and EU initiatives are

essential to reinforce and extend national and regional policy. European policies also affect the *business environments* across Europe where improvements require the coordination of activities across different countries. In addition to these activities in which European institutions exert influence directly, they also play an important indirect role through *providing knowledge and support to improve national and regional policies*.

Government can not do it alone; companies are critical partners in cluster initiatives. Successful cluster policy emerges, where companies – individually and through industry associations and other networks – are fully engaged, identify critical areas for joint action from a market perspective and participate in relieving existing bottlenecks. Government can then be an effective partner, through financial support (especially regarding basic infrastructure of cluster organisations) as well as through an active dialogue on government decisions about public investments, public procurement, and cluster-specific rules and regulations.

3. Towards world-class clusters: The 4x5 principles for European policy

European countries and regions have launched a wide range of cluster initiatives. Some of them have started clusters policies long ago – Catalonia and the Basque Country in Spain, Veneto in Italy, Scotland in the UK, Sophia Antipolis in France, Denmark, the Netherlands – while others have started within the last few years – a number of Austrian regions, the Czech Republic, the UK – or have further developed them through national initiatives – France, Germany, Sweden and Finland. In the sheer number of cluster policies and programs, Europe is now among the most active regions in the world economy.

The European Commission, too, operates many policies that affect cluster development. European policies like the Single Market program shape the context for cluster development indirectly by shaping the overall European business environment. Other European policies affect cluster development directly, through European programs or the support of national and regional cluster policy efforts. Activities specifically related to clusters are currently under way in several parts of the European Commission. The Competitiveness Innovation Programme, the Structural Funds, and the 7th Framework Programme include a wide range of activities open to clusters, innovation and competitiveness.

Cluster policy is at a critical junction. Cluster policies have been successfully used to, for example, support regional networks of SMEs, connect companies to universities and research institutions, and focus the work of investment attraction agencies. These efforts have already improved the efficiency of existing economic development efforts. But they have often been focused only on strengthening individual clusters, not on developing mutually reinforcing portfolios of established and emerging clusters at the regional level. And they have not always drawn on the best available learning from cluster policies throughout Europe, for example in areas like supporting cross-national linkages.

A step-change in cluster policy impact requires action on at least three levels: Executing agencies that implement cluster policies at national, regional and local level; ministries and regional authorities that set policies at the national and regional level; and European institutions that provide supporting and complementary policies at European level.

The signatories to this Memorandum representing executing agencies at regional and national level,

... share the view that dynamic clusters

1. are a key driver of innovation and prosperity, helping regions to build unique profiles of *specialized capabilities* that enable them to strengthen their role as active and attractive partners in the global economy;
2. develop naturally in competitive markets. *Cluster policy* can make their emergence more likely, strengthen their competitiveness, and enable regional economies to leverage their full economic potential.

3. thrive where *competition* within and across regions is strong. Europe needs a further *removal of barriers to trade* and an environment that allows competitive clusters to grow and uncompetitive clusters to *disappear*;
4. reflect the presence of *linkages and cooperation* between companies across institutional boundaries. Europe needs more *results-oriented collaboration* between companies, government agencies, academic and educational institutions, and other relevant institutions;
5. become more visible and attractive if they have strong *linkages* with related clusters in other regions and countries. Europe needs stronger trans-national co-operation between clusters with complimentary strengths and between cluster organisations learning from each other;

... are in their role as executing agencies of cluster policies committed to

1. *Strengthening* their own efforts to support the emergence and growth of dynamic innovative clusters and regional knowledge concentration, driven by co-opetition, internally as well as across regions;
2. Applying *evidence-based strategies* and implement more effective impact assessments based on a broad mix of relevant data sources, including the European Cluster Observatory;
3. Defining *cluster-specific action agendas and strategies* that draw on the full range of European, national, and regional economic policy programmes and tools to address the unique needs of specific regional clusters;
4. Strengthening the *trans-national cooperation* between cluster organisations to create strategic business linkages and services platforms that leverage complementary assets and capabilities of different clusters;
5. Working closely together at *strategic level* in areas of common interest, for example the evaluation of cluster initiatives, with a view to promoting the development of world-class clusters in Europe and strengthening practical cooperation between cluster initiatives.

... fully support increasing efforts by policy setting institutions at national and regional level to

1. Design cluster programmes and initiatives open to participation for all companies and institutions benefiting from the cluster and where members, including the government, are actively engaged in the design and execution of action agendas;
2. Provide active government cluster programmes only where they are needed, using *open competitions* to concentrate specific policy tools on those initiatives that have the strongest willingness and capacity to generate results, and allowing employment and capital to migrate from weak clusters to other parts of the economy;
3. Develop *portfolio approaches* to cluster policy that take account of overlaps between clusters and reflect changing needs over their life cycle to mobilise existing clusters, facilitate the emergence of new clusters from existing capabilities, and rejuvenating clusters that have lost their competitive advantages;
4. Integrate cluster efforts with *cross-cluster (horizontal) policies* by providing feed-back mechanisms from cluster initiatives to horizontal policies;
5. Upgrade the *overall environment for innovation* in Europe through the development of lead markets, the strengthening of risk capital availability, the support of global research excellence, and other investments in innovative capacity.

... call upon the European institutions, in particular the European Commission, the Committee of the Regions and the European Investment Bank, to

- 1.** *Streamline* the support it provides to cluster efforts through different programmes to enable a more effective use of the available instruments;
- 2.** Review the *impact of its existing policies* on clusters and on structural change towards a more efficient geographic distribution of economic activities across Europe;
- 3.** Strengthen its support for results-oriented *transnational cooperation* between clusters, for example in areas like financing and skill development, through the development of new policy tools, taking into account proximity involving neighbouring countries, and the individual needs of participating clusters;
- 4.** Continue the development of *neutral information* on clusters, regional innovative capacity, cluster policies, and the impact of cluster policies on the economic prosperity of regions by continuously improving the European Cluster Observatory;
- 5.** Provide efficient *open platforms* to further facilitate trans-national cooperation, and establish an Advisory and Monitoring Group as a follow up mechanism of the European Cluster Memorandum, to provide policy advices and recommendations.

Europe needs better cluster policies rather than more cluster policies. European clusters need active collaboration contributing to clear business objectives, not an overfeeding through subsidies. Taking account of the **4x5 principles of the European cluster policy** and working actively with the European Cluster Alliance, we invite the European Commission in association with the Member States to prepare a *framework concept* to outline the strategy for supporting the emergence and growth of world-class clusters in Europe.

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Europe INNOVA Papers

Paper N°	TITLE	NB-N°
1	Innovation Clusters in the 10 new Member States of the European Union €15	NB-AW-04-001
2	European Innovation Management Landscape	-
3	Europe INNOVA Annual Report 2006	-
4	Towards a European strategy in support of innovation in services: Challenges and key issues for future actions	NB-AW-07-004
5	Innovation Clusters in Europe: A statistical analysis and overview of current policy support	NB-81-07-100
6	Addressing Challenges for High-Growth Companies: Summary and Conclusions of the Europe INNOVA Gazelles Innovation Panel	NB-AW-07-006
7	Europe INNOVA Annual Report 2007	-
8	Sectoral Innovation Watch – synthesis report	NB-AW-08-008
9	The role of clusters and cluster policies and their role for competitiveness and innovation: Main statistical results and lessons learned	NB-NA-23-591
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