

Guidelines for Cluster Development A Handbook for Practitioners

**Support to Cluster
Development**

Contract No.
IPA2007/HR/16IPO/001-
020601

Identification No:
EuropeAid/127604/D/SER/HR

**Prepared for the Ministry of
Economy, Labour and
Entrepreneurship (MELE), and
the Central Finance and
Contracting Agency (CFCA),
Government of the Republic of
Croatia**

January, 2012
updated
June 2013

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Abbreviations

CoE	Chambers of Economy
EDA	Economic Development Agency
EU	European Union
FDI	Foreign Direct Investment
IMC	Integrated Marketing Communications
LLC	Limited Liability Company
MELE	Former Ministry of Economy, Labour and Entrepreneurship of Croatia
MoE	Ministry of Economy
MoEC	Ministry of Entrepreneurship and Crafts
OECD	Organisation for Economic Cooperation and Development
PESTLE	Political, Economic, Social, Technological, Legal, Environmental
RDA	Regional Development Agency
SME	Small Medium Enterprise
SWOT	Strengths, Weaknesses, Opportunities, Threats
ToR	Terms of Reference
VAT	Value Added Tax

Introduction

This document was first delivered in January 2012. It was updated at project end, June 2013, to reflect structural changes that occurred within Ministries which materially affected responsibility areas, beneficiary status, and project reporting lines. It has also been updated to reflect and take account of the experience and the learning of the Support to Cluster Development project in the process of establishing the three Pilot Competitiveness Clusters in the period February 2012 to June 2013

This handbook is an output from the EU funded project: *“Support to Cluster Development in Croatia”*. It was prepared in response to a request from the Ministry of Economy, Labour and Entrepreneurship of Croatia (MELE). It is intended for use as a guideline for MELE in their efforts to foster competitive commercial enterprises by developing and supporting cluster initiatives. It is further available for use by economic development agencies who might wish to start up a cluster (the so-called ‘top-down’ approach) or by private sector players who might wish to create a cluster or get involved in cluster management or leadership roles (the so-called “bottom-up” approach).

Update note June 2013: In February 2012 there was a change of Government in Croatia and with it came a change in organization and structures of Ministries, project beneficiaries, project reporting lines and personnel. MELE was divided into three separate Ministries which included the Ministry of Economy and the Ministry for Entrepreneurship and Crafts. Responsibility for the overall project was transferred to the Ministry of Entrepreneurship and Crafts. However, within that overall responsibility MoE retained responsibility for Components 1 and 2 while the MoEC took responsibility for Component 3 and 4.

A considerable amount of work has been done by various international and national organizations worldwide in developing clusters and “the way they did it” and the lessons learned have been documented in various reports, policy papers and case studies all of which are available in the public domain. The information contained in this handbook was informed by a review and analysis of these materials. Hence, it offers a summary of conceptual frameworks for clusters and clustering, it outlines key approaches and instruments that can be used when building a cluster and provides best practice examples that can be adapted to the Croatian environment and replicated, where appropriate, in the Croatian market. The primary focus of the experience review was on the practical application of the advice and guidance contained in the literature, i.e. the theory of cluster formation is discussed only to provide a context for and an understanding of the concept and its underpinning strategies. The aim of the handbook is to enable the reader to apply the

learning without or with limited external help. The handbook is not meant to be exhaustive, neither are the instruments that are outlined definitive.

Where information and analysis concerns Croatia, the author benefited from surveying and from face-to-face dialogue / interviews with local stakeholders – from Regional Development Agencies to existing cluster managers to cluster participants. Other Croatian market data was obtained through desk research.

The handbook consists of six chapters each of which focuses on a particular issue or segment of cluster formation and development. Where appropriate the contents of certain chapters has been updated to reflect changed circumstances.

Chapter	Content
Chapter One	Defines clustering and how clusters function. It gives an overview of the key benefits and disadvantages of the clustering approach.
Chapter Two	Introduces the role of the public sector and specifically the government, in enabling the creation of clusters and their role in the process. It also provides a list of specific actions that the Croatian government could / should take to create an environment conducive to cluster creation and development and which would contribute to wider regional and overall country competitiveness. Updated June 2013
Chapter Three	Outlines legal aspects in the creation and development of clusters. It provides information about the different legal forms and entities that can / should be considered when forming a cluster.
Chapter Four	Details two approaches to cluster building – top-down and bottom-up, providing specific action steps for both approaches. Updated June 2013 with reference to and explanation of a hybrid 'third-way' (i.e.) combination of top-down / bottom up methodology, piloted by the Support to Cluster Development project (the Project).

Chapter Five	Introduces the process of 'transitioning' clusters and guides through 20 best practice steps on how to best move a cluster up the development / maturity curve.
Chapter Six	Identifies the key criteria to be considered when setting up a regional cluster.

The concept of clustering referred to in this handbook means *local concentrations of horizontally or vertically linked companies which specialise in related lines of business together with supporting organisations*. The definition as to what exactly constitutes a cluster tends to vary greatly. Concepts such as *industrial zones*, *local business associations* and *regional clusters of innovation* are used interchangeably and are commonly referred to as 'clusters' for the sake of simplification and sometimes as a marketing tool. Even though these concepts highlight or emphasise slightly different cluster aspects, their main theoretical building blocks tend to overlap.

The term 'cluster' was first coined by Michael Porter when he used it in his seminal work "*The Competitive Advantage of Nations*" to explain the concept of 'economic competitiveness' and what it stands for.

"A consequence of the system of [diamond] determinants is that a nation's competitive industries are not spread evenly through the economy but are connected in what I term a *cluster* consisting of industries related by links of various kinds" (Porter, 1990 p.131-132). It was then that various scientists and academics began to put forward their own definitions of clusters and clustering, but it was Porter who identified the commercial phenomena and first coined the term. In this handbook the following definitions are used as the basis for understanding.

Definitions of clusters

“Geographical concentration of interlinked companies and institutions in related branches of industry that complement each other by joint relations of exchange and activities along one (several) value creation chains.”

Michael Porter, 1990

“The co-location of partners, service providers, educational and research institutions related through linkages of different types”.

Europe Innova (2007)

Clustering has both advantages and drawback, both will be explored further in this handbook.

As mentioned earlier, clustering is not new in the developed world, there are many incidents of successful clustering initiatives from a range of developed economies around the world and a number of them have been used as examples in this paper. In OECD countries cluster building is already an advanced and accepted tool in economic development. Whilst an amount of work has been done on clustering in Croatia more work is required to harness the power of clusters and clustering as an economic and regional development tool. Croatian enterprises frequently lack critical mass, they suffer from an absence of trust, connections to local “knowledge and talent providers” and confidence at the all- important local level.

Collaboration does not come easily to many Croatian firms or support organisations. This may have its roots in the historic association of collaboration with the oppression of former regimes. However, getting early success in non-threatening arenas is a building block for bigger successes. Surviving in the global economy, the knowledge era, is all about speed, flexibility, adaptability, quality, innovation, networks and critical mass. This new style of doing business demands a team approach at a local level – a clustering approach!

Update note 2103: The experience of the Project in setting up the three pilot competitiveness clusters between February 2012 and June 2013 supports this assertion. The experiences and the process map used in the creation of three pilot competitiveness clusters are documented in a separate document called:

Strategic Action Process Map for the Creation of Three Pilot Competitiveness Clusters in Croatia (June 2013)

This handbook is intended to equip cluster initiators and leaders with the necessary knowledge, tools and techniques to move clustering in Croatia to a new level of development. The key areas underpinning the concepts and strategies of developing successful clusters discussed in the handbook are:

- Cooperation towards common goals
- Business Networking
- Teamwork
- Linking and aligning the different elements.

Chapter ONE: What are clusters and how do they work?

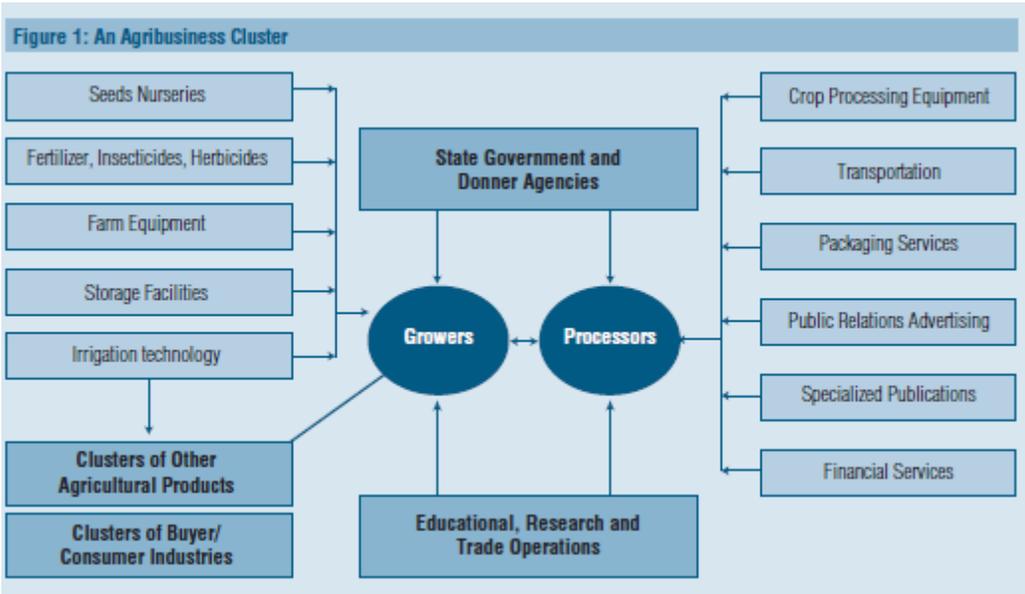
Benefits and challenges of clustering

As defined earlier, clustering is about the interaction of businesses of a similar type, healthy competition, networking and collaboration between them. Cluster theory emphasises the role of networks and relationships between the various parts of a cluster but not of individual firms, and also fits with models of innovation and competitiveness.

“Clusters promote both competition and cooperation. Rivals compete intensely to win and retain customers. Without vigorous competition, a cluster will fail. Yet there is also cooperation, much of it vertical, involving companies in related industries and local institutions. Competition can coexist with cooperation because they occur on different dimensions and among different players.”

Michael Porter (1998)

Figure 1: Example of an agribusiness cluster



Source: Cluster for Competitiveness- A Practical Guide & Policy Implications for Developing Cluster Initiatives, World Bank, February 2009

Clustering is a 'philosophy' based on the core principles of **integration (of activities) and collaboration (of members) for mutual benefit**. Cluster benefits come at three levels: individual firm level, sector/regional level and the wider economy level.

The benefits of clustering for the development of individual companies and for improving the competitiveness of a specific sector or region cannot be underestimated. At the level of the firm, clusters help companies to take advantage of market opportunities that they could not achieve alone. Clusters can reduce the 'pain barriers' of cost and risk and adapt international rules and standards to the local context. Companies no longer can rely solely on their internal processes and strengths. To maintain pace with innovation, technological development and evolving consumer expectations, companies have to adjust quickly and develop appropriate responses at a higher speed. This is when combining efforts, making use of synergies, pooling resources increases competitive advantage while at the same time, reducing the risks involved in launching new products or entering new markets. Clusters enable improvement of firms' capacity building by offering inter-company learning, experience sharing and mutual use of know-how. Finally, there are benefits in terms of business management. For instance, the use of joint sales channels augments the sales networks of each individual cluster member; personnel sharing (especially specialized functions such as R&D) reduce costs and time to market.

The regional and sector benefits from clustering derive from the ability of a cluster to raise the profile of a specific sector in a specific region locally and internationally. This will lead to an increase in the investment attractiveness of both, as it is an indicator of a 'business friendly' environment in a region with necessary policy support and governance.

Clusters add value to the development of the economy by creating groups of networked businesses in specific sectors and improving business capabilities by offering tailored support. They improve competitiveness, seen in a dynamic and global context, i.e. closely associated with innovation and the adoption of 'best practice'. They enable economic specialization of a particular region, in a range of related activities. Clustering allows for a differentiated approach, targeted at a wide range of economic activities, which takes into account the variation in industrial structures and business needs. Clusters can contribute to an increase in economy-wide competitiveness by facilitating policy reform, fostering private-public dialogue and becoming a catalyst for wider private sector development initiatives.

There are certain challenges that cluster initiators and leaders are confronted with when trying to build a cluster. The most obvious one is in developing a cooperative spirit amongst cluster members and participants. Building trust is a big challenge, hence command and control mechanisms, the rules of engagement and the ‘way we will work together’ should be carefully thought through at the very beginning and agreed with each cluster member. A coordinated decision-making mechanism should be introduced and observed.

Other typical challenges to be faced are:

- Agreement on the use of patents of newly developed product and process innovations
- Exposure of one’s own know-how if competitors are given access
- Allocation of profits
- Partly longer process time as a result of comprehensive coordination efforts by the players involved
- Lack of time to deal with additional responsibilities required by a cluster (cluster tasks that could interfere with day-to-day work)

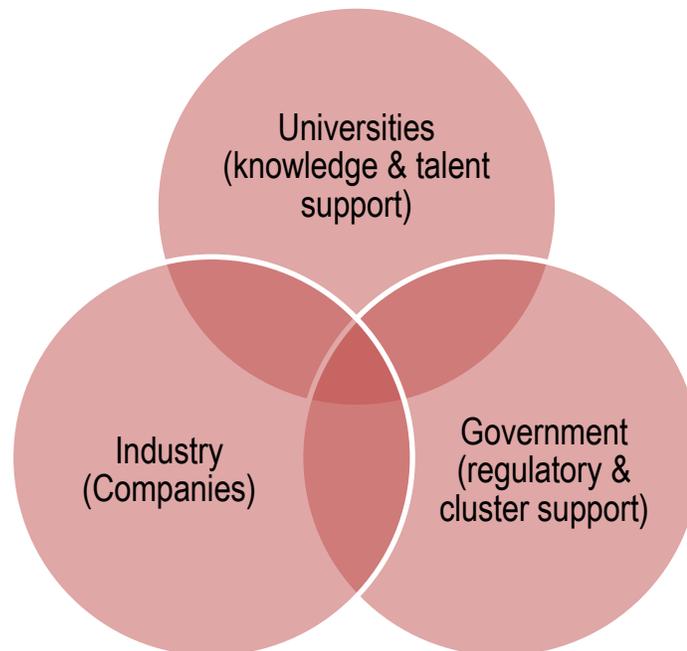
Given the complexity of cluster processes, piecemeal approaches addressing components one-by-one are unlikely to produce optimum results - a systematic, integrated and holistic approach is required and is recommended.

Update note June 2013: Just such an approach was adopted and implemented by the Project in its task to create the three pilot competitiveness clusters. Whilst the creation and implementation journey was by no means a smooth ride the difficulties would have been immeasurably greater had there not been a strategic action process map (SAP- Map) to give orientation and focus to the work of all involved in the process.

This integrated, collaborative and systemic approach has been described as *The Triple Helix* concept. The concept is built upon intensive cooperation between the three partners - industry, academia and the public sector. The *Triple Helix* concept promotes three principles: (1) a more prominent role for academia and centres of education / learning in innovation (2) collaborative relationships among the three major institutional spheres, in which innovation policy is increasingly an outcome of interaction rather than a prescription from government; (3) in addition to fulfilling their traditional functions, each institutional sphere

also “takes the role of the other” performing new roles as well as their traditional function. Institutions taking non-traditional roles are viewed as a major potential source of innovation in innovation.”¹

Figure 2: The Triple Helix concept of clustering



We are familiar with clusters such as Silicon Valley, a region just south of San Francisco that has become home to over 7,000 high-tech companies. We all know Hollywood, the corner of Los Angeles that is the movie making capital of the world. Similarly we are all familiar with the financial cluster located in the “square mile” called “The City” of London.

These clusters provide an environment that enables specialised local firms to develop the competitive ability to service large, global markets and extend to serve many sectors of industry.

However you do not have to be a Hollywood or a Silicon Valley to be a successful cluster! There are striking examples to be found where “small is equally beautiful” and which are shining examples of what small communities can do with clusters:

¹ <http://www.triplehelixconference.org/the-triple-helix-concept.html>

- Biella, Italy (population 48,000) is the world's leading luxury textile center. Half of all the firms in this city, which is not much larger than Karlovac, are in activities that relate to wool processing. Biella is home to some 1,300 textile manufacturers and 200 machinery manufacturers.
- Castel Goffredo in Italy (population 7,000), a community not much larger than Gospic, is home to 200 hosiery related firms, who together produce over half of Europe's socks.
- Dalton, Georgia, USA (population 25,000), similar in size to Vukovar, is home to 174 carpet mills, accounting for 85% of US carpet output, and almost half of the world's carpet output.

In many other industries, similar local specialisations can be seen:

- Wichita, Kansas (population 300,000) is the world's small-aircraft manufacturing center, with half of the world's small aircraft fleet taking off for the first time from this city, half the size of Zagreb.
- Montebelluna, Italy (population 25,000) produces 75% of the world's ski-boots along with other specialist footwear, and describes itself as 'the sports footwear capital of the world'.
- Renfrew, Ontario, Canada (population 10,000) has a mini-cluster in wood home construction, with a number of wood building products firms collaborating to service Pacific Rim countries.

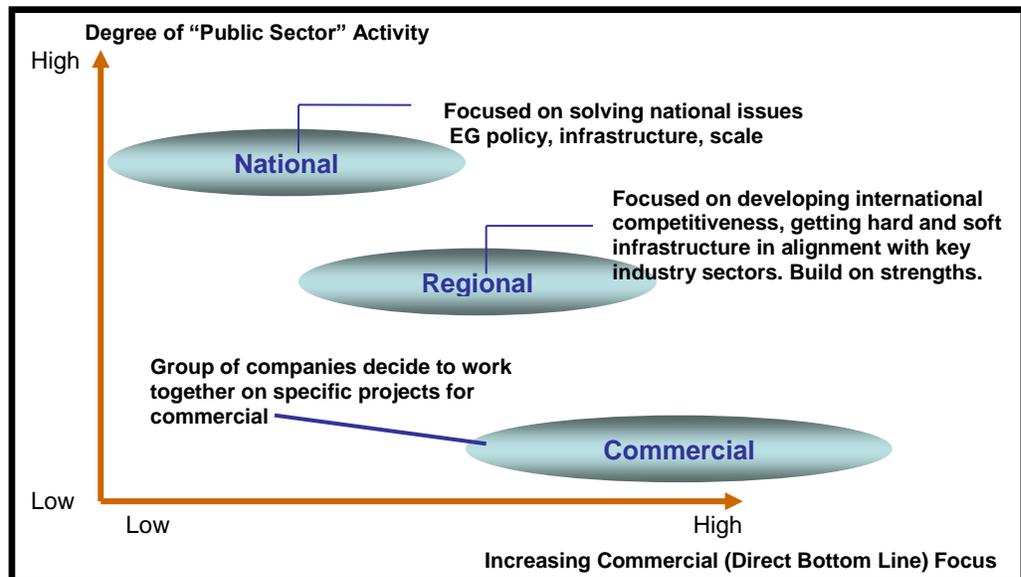
Due to globalisation we are seeing a number of localities around the world, often small, develop a particularly innovative environment in a specialised area, and establish a global reach. As a direct result, these communities generate wealth well beyond many other localities in their country.

Types of clusters

Clustering, the focus of this handbook, is one particular form of collaboration. There are a number of other forms and levels of collaboration which stimulate competitiveness and which enable businesses to develop critical mass. Clustering however creates an environment that enables other types of collaboration, in particular networking between firms and the development of supply chains, to flourish.

These different types of collaborative engagement are a continuum, with different levels of public activity and of commercial focus.

Figure 3: Types of clusters



Broadly speaking three different clustering approaches have emerged over recent years. Both are usually initiated and driven by Economic / Regional Development Agencies (EDA / RDAs):

- I. *National Clusters* are groups of companies and organisations who collaboratively address development issues for the cluster. Typically they address policy, infrastructure and scale related issues.
- II. *Regional Clusters* are the classic Michael Porter-type clusters, based on the premise that an industry will increasingly prosper in a specialised, networked environment. The focus is on building a supportive environment for the cluster participants, and extending the linkages between participating firms, their suppliers and related and supporting organisations. Stakeholders typically include enterprises, suppliers, educational organisations, professional support organisations and companies, etc.
- III. *Commercial Clusters* are consortiums of companies who have chosen to collaborate in a number of areas. They are membership based, with the fee structure often supporting a dedicated support person.

How clusters work

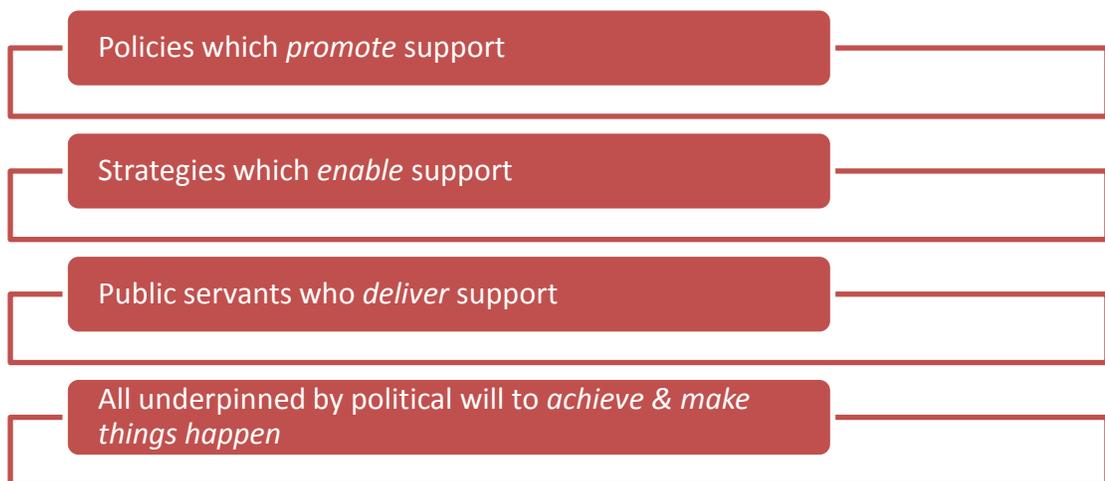
Clusters typically are not 'created' *per se*, they tend to form themselves and evolve over time - often over a period of decades.

The origins of clusters differ. The initial stimulus may have been:

- Availability of a raw material.
- Particular soil / climatic conditions.
- Proximity to a nearby market.
- A chance event, such as the return to a location of an entrepreneur with specific skills and ambitions.
- The establishment locally of a government funded R&D facility.
- Tradition/ history and culture in a location which has generated a reservoir of know-how and experience in a particular area/ specialism.

Clusters were already long in existence before the concept was defined by Michael Porter and the label of 'cluster' applied. Since then, however, policy makers have begun to formulate top-down approaches to encourage the further development of existing and potential clusters. Here, the role of government is one of facilitation by provision of an enabling environment – by which the following is meant (Figure 4):

Figure 4: The role of the government in cluster building



In Croatia, this task falls to the Ministry of Economy, Labour and Entrepreneurship whose role is discussed and specific actions are recommended in Chapter 3 of this handbook.

Update note June 2013: With effect from February 2012 The Ministry of Entrepreneurship and Crafts (MoEC) has lead responsibility for the development of clusters in Croatia. It is also acknowledged that, since the reorganisation of ministerial responsibility under the current government, the Ministry of Economy has a very important role to play for the development of clusters within the framework of national development policy.

Clusters are complex entities and a wide variety of interventions can potentially influence their development. The challenge is to select from and marshal the diversity of available policy instruments in order to achieve optimum effect. The methodology that follows focuses on those actions that can be orientated specifically to clusters but it is assumed that planners, when formulating policy, will consider the complete domain of interventions affecting economic development in general and, consequently, clusters.

Cluster structure – member types

Cluster members can be divided into four broad categories: core businesses, small businesses, soft support infrastructure, hard support infrastructure.

Core Businesses

The businesses that are the lead participants in the cluster, often earning most of their income from customers who are beyond the cluster's boundary.

Support Businesses

The businesses that are directly and indirectly supporting the businesses at the core of the cluster. These may include suppliers of specialised machinery, components, raw materials; and service firms including finance/venture capital, lawyers, design, marketing and PR. Often these firms are highly specialised, and are physically located close to the core businesses.

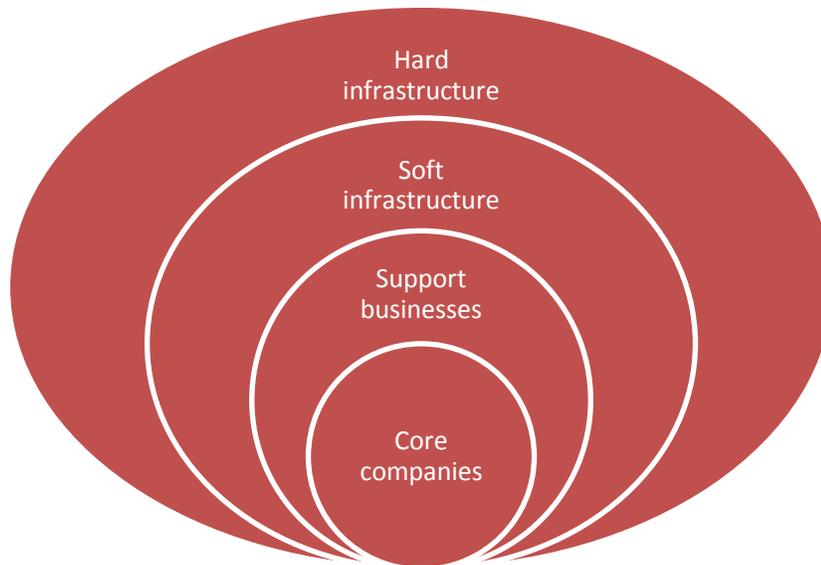
Soft Support Infrastructure

In a high performance cluster, the businesses at the core and the support business do not work in isolation. Successful clusters have community wide involvement. Local schools, Universities, polytechnics, local trade and professional associations, economic development agencies and others support their activities and are key ingredients in a high performance cluster. The quality of this soft infrastructure, and the extent of teamwork within it, are keys determinants of the development of any cluster.

Hard Support Infrastructure

This is the supporting physical infrastructure: roads, ports, waste treatment, communication links, etc. The quality of this infrastructure needs to at least match competitive destinations, be they local or further afield. These four separate elements in a cluster can be portrayed as circles, built around the core.

Figure 5: Cluster members



Source: Cluster Navigators Ltd, 2002

The people dimension

The success of a high performance cluster is in large part, due to people forming quality relationships and networking to achieve results – a ‘chemistry’. These linkages are informal, and are supported by more formal organisations / institutions. They work best at a community level where participants in the local industry already have formed a wide variety of relationships, and there is already some degree of dialogue and trust. Clustering builds on the teamwork that is already in place and formalises it into a framework.

The clustering process requires:

- People-to-people contact
- Consensus on key issues
- Collaboration at multiple levels
- Community wide involvement in the process of building new linkages between communities, businesses and government.

Figure 6: Successful clustering is about....



Cooperating towards common goals – firms and others within a concentrated geographical area working and establishing linkages and working alliances to improve their collective competitiveness². Clustering helps a clump of co-located firms and organisations turn into a high-performance system. This works at a system, rather than individual organisation, level. An active local cluster includes firms and support organisations working together to achieve results that would not be possible individually.

Business networking – a key component of any high performance cluster is extensive informal and formal networking between firms – even competitors – right across the cluster, and between firms and their supporting infrastructure. ‘Soft’ networks (such as local professional and trade associations) and ‘hard’ networks (strategic alliances between firms) are both important. The development of such networks is supported by a local culture that enables both competition and cooperation to thrive. It is much more than just lobbying Government under a new name. A clustering approach certainly does

² This definition is based on ‘Clusters as a Vehicle for Small Medium Enterprise Development: an alternative perspective’ Small Business Project, Johannesburg, 1999

provide an effective means of gaining access to government agencies and making local priorities clear, but the creation of a mechanism for wide improvements in areas of common concern is more important.

Teamwork – this is a key component of a local innovation system; Innovation increasingly relies on close interaction between the science base and the business sector, with the most effective communication of tacit information happening when the separate components of the cluster are near to each other. New products increasingly use different technologies, and technologies are increasingly based on different scientific disciplines. The degree of connectivity amongst knowledge agents, and between them and firms, is a key aspect of a high-performance innovation system. Companies, in particular specialised SMEs, rarely have the resources to innovate alone. However, unless an effective incentive system is in place to encourage linkages, firms are likely to remain isolated from knowledge agents.

Linking and aligning all the elements – an effective clustering approach links the separate elements of an innovation system, aligns the private and public sectors, and facilitates a ‘whole-of-government’ approach at a local level in support of local clusters. It is about people in the public sector, realising that their role is to support, encourage and find ways to do things not the opposite, which is policing and patrolling a set of bureaucratic rules and regulations.

This is what is meant by alignment – getting policies / strategies and people in-line and working together towards a shared goal of economic development and improvement for all.

Chapter TWO: The Role of Government in Building Clusters

Chapter 2A: Government Role in Cluster Creation

The argument is not that governments can create clusters, but that they can help to provide the business, innovative and institutional environments vital for cluster success. The key role for government is that of **enabling** – whether in the form of providing direct access to finance or in less direct ways through the creation of enabling policy frameworks, strategic action plans and trained, motivated public service employees. “Government should have a high-profile role in the initial stages, such as guiding the cluster mapping process and in the final stages, such as leading public-private dialogue on policy and institutional bottlenecks that inhibit industry development and the business development.”³ A range of mechanisms exist whereby government can engage with clusters. The following pages include a list of “Top 20” positive intervention activities for governments and government agencies to adopt. It represents a *Best Practice Guide* for Governments in terms of Cluster Development.

Government Role 1: Lay the foundation of support

It goes almost without saying that all governments should find and commit the resources to support the basic foundations for economic growth required by any cluster. These include a universal basic education for the population from early childhood through secondary and tertiary levels; an infrastructure of roads, public transportation, utilities, water, waste disposal and sanitation; health care, adequate housing and a healthy environment.

There are two levels at which Governments engage in economic development activities: national level and regional / local level.

Best handled at a national level	Best handled at a local level
Economic Policy Creation	Allocating resources to support many aspects of local economic development, including education, R&D, and the physical infrastructure.

³ World Bank (2009) Cluster for Competitiveness A Practical Guide & Policy Implications for Developing Cluster Initiatives, World Bank, February 2009

Creating support Institutions and structures	Development of local school – business partnerships
National SME Strategy development formulation	Developing training programmes with local educational institutions
Foreign Direct Investment strategy development	Setting up local SME support capability – incubators/ parks etc
National education / training curricula /standards and certification	Facilitating the development of linkages / networks / supply chains between local firms
	Supporting an informal venture capital market – “business angel” schemes or the benefactors of small business.

Government Role 2: Create policies which support and encourage not prevent and discourage

Effective clustering requires policies from the top which enable and encourage. Government is where national policy is formulated and decided.

Effective policy frameworks link the separate elements of an innovation system, and align the private and public sectors in a systematic and co-ordinated “whole-of-government” approach to SME development. This is what is meant by alignment – getting policies / strategies and people in-line and working together towards a shared goal of economic development and improvement for all.

Government Role 3: Collaborate and cooperate in networks

Government should aspire to establish itself as an integral part of networks and networking, providing support for the systems where appropriate.

The roots of many clusters lie in the numerous projects undertaken all over the world in the 1990s to encourage and support inter-firm collaboration via networks. Cluster-based business associations were considered essential to networks. Networks should not be confused with the more process-oriented term, *networking*. The former is a formalised alliance of firms; the latter is a social phenomenon of personal interactions that moves and spreads ideas, information and best practices throughout a cluster and imports them from other locations. The ability to both network extensively and to form networks selectively is vitally important to competitive clusters.

Government Role 4: Create and support communication channels

While effective clusters communicate frequently, a formal organised mechanism can simplify communication and structure the search for specific information. The Internet has enabled clusters to create quite sophisticated communications systems. Since these websites can also bring new business to a region, governments have reason to support them and link with them. A website might include a manufacturers' and service providers' database of products, capabilities and contacts, a supplier data base (including business service providers), and be a clearinghouse for business opportunities, personnel and job postings and new technologies. The site could also carry, or link to, information on government cluster policy and support interventions.

Government Role 5: Re-organise Government services delivery structures

Many government services are fragmented, for example training, education, financial, technological and promotional assistance is often the responsibility of different ministries and agencies. These may be re-formed as cluster oriented by shifting from a solution-oriented to a problem-oriented approach, from independent to interdependent needs and from individual to collective interests.

Such re-organisations can be accomplished with minimal change by going through intermediaries or brokers who signpost to services, or by setting up one-stop-shop service centres for clusters. A more significant change in approach would be the formation of cross-agency teams that include cluster expertise.

The most fundamental change would be to create new agencies that correspond to key clusters. In all cases, it is essential that staff have direct industry experience and an understanding of the problems the cluster companies face and their technologies, customers and markets.

Government Role 6: Re-organise government information delivery services

A useful action at the disposal of government is re-organising the delivery of its own information and services.

Clusters offer an opportunity to deliver information and services in an alternative manner by ensuring that these are cluster oriented rather than broad-based. Most countries organise and publish economic

data by sector and economic region or labour market but not by cluster. It would be helpful to regional and local development agencies, cluster organisations and service providers to have data aggregated and published for clusters that the state or private sector have identified. Employment, business start-up data, growth rates and market projections would help clusters and agencies plan and design programmes.

It is not only the provision of local information that is important. Without access to external best practices and markets – often the case in transition economies – clusters are limited to learning only within their own borders and are cut off from sources of new knowledge and technology that help to achieve competitive positions. The Internet overcomes some of this isolation but does not match the value of direct experience and broader personal relationships. The Government can further support in this area by providing support for trade missions, visits to international exhibitions and, particularly, focused study tours to relevant and appropriate locations.

Government Role 7: Create entrepreneurial support and learning networks

Entrepreneurs and young firms have a greater need for networking than existing companies because they have less experience and no established routines. They thrive on information, advice and knowledge. The most effective networks are based on some sort of existing relationships among entrepreneurs, such as incubators, economic development programmes, common sources of capital, associations, etc. Innovative companies can benefit greatly from networks forming, for example, around common problems or specific technologies.

Government Role 8: Build a specialised work-force

Nothing is more important to clusters in less favoured regions than the development of their human resources. In no other resource are clusters more dependent on the government, which is the biggest investor in education and training. Companies value access to a labour pool that is familiar with the operations of their businesses and able to apply their skills in the particular work environment of the cluster. Specialised, firm-specific skills are learned on the job and contribute to knowledge spill-over as people change employers.

Government Role 9: Use cluster as a context for learning

The context in which learning occurs matters. Institutions that teach in a cluster context produce workers who are more productive, informed about labour markets and better connected to employers. Educators classify their programmes by occupation but the skills used are defined by the context in which they are applied, and vary across industry. By designing curricula around the workplace and business of firms in a local cluster, workers can come to appreciate the value of the cluster, understand more about their regional environment, and perhaps be more inclined to follow career paths in the cluster rather than become economic migrants.

Government Role 10: Promote the development of cluster skill-centres

Rather than expecting every technical and business college to meet the specific needs of all firms, regions could designate centres of excellence around clusters. Cluster skill centres, associated with an existing institution, could become the lead entities for surveying industry needs, developing new curricula, staying in touch with cluster councils, updating skill standards, benchmarking practices in other areas and generally collecting information about cluster occupations and programmes.

The centre need not be bricks and mortar but can be a 'virtual' centre that might organize teams from various educational institutions to work on particular problems, conduct R&D, or develop curricula — and all products and information would be readily available throughout the country. Skills centres can help firms determine which training programmes have the most relevant teaching experience, technologies and track record with the industry. They can also provide on-site outreach and access to socially excluded populations.

Government Role 11: Stimulate innovation and entrepreneurship

Innovation and entrepreneurship are the engines of cluster development and growth. Most clusters have been formed by entrepreneurial employees of existing employers in pursuit of expanding supply chains or new market potential or in response to a company downsizing or closing. Although both innovation and entrepreneurship are influenced heavily by a region's educational processes and cultural norms, they can be enhanced by deliberate supporting policies created and driven by Government.

Government Role 12: Provide national and seek EU funding

Few cluster organisations can support themselves through membership fees alone, and nearly all continually search for sources of funds to support cluster activities. International, national or regional support, and sometimes cost sharing, is crucial to many of these organisations. By helping to identify and secure multi-year funding, states can give cluster organisations the support they need to firmly establish themselves within the cluster.

Government Role 13: Create enabling financing vehicles

New ideas and innovations, new business formation and expansion are amongst the most important strategies for cluster development. Embryonic clusters include many new and potential entrepreneurs. Cluster oriented investments needs range from seed-capital and product development funds, to venture capital for entrepreneurs, to working capital for more mature and expanding firms.

Government support can be provided by setting up appropriate financing mechanisms and by ensuring minimum bureaucratic regulations and impediments to access these funds.

Government Role 14: Allocate resources and investments to maximize impact and send signals

Clusters provide a rationale for allocating resources to maximise impacts on the economy. Major investments in an important element of a cluster — often research and development or large industrial parks — are common ways to build a cluster's reputation and attract additional firms. Some countries have attempted to purchase clusters with sufficient investment but with mixed success. The ways that state agencies allocate resources to clusters should be particularly sensitive to the degree of maturity of the cluster. Embryonic clusters have very different needs from mature clusters. The re-organisation of agencies and institutions to focus on a specific cluster is only appropriate for established clusters. Industrial parks and incubators with a cluster theme will help attract new members to an embryonic potential cluster.

Government Role 15: Promote competitive funding programmes

One of the easiest ways to encourage collaboration amongst firms and achieve economies of scale is to consider only multi-firm proposals when directing competitive funding. Typical targets for such funding might include:

- Supported concentrations or associations of businesses,
- Consortia of companies for technical and managerial services needed to train associate companies,
- Consortia of small companies to develop or improve workplace sites.

Government Role 16: Invest in cluster-based R&D

Much of leading edge research takes place at public universities. Historically, it has been funded through a competitive process reviewed by peers in the same field, but not necessarily linked to regional economies. Funds have normally been based on publications, not commercialization, but in some instances the process has given birth to clusters in or around the parent universities.

Further, while many less favoured regions lack flagship research universities, some might have post-secondary institutions that also are beginning to assume responsibility for industry R&D. Research at these institutions is more likely to be driven by the needs of the local economy and less by the global interests of the faculty, and investments can have more immediate payoffs.

Clusters can be supported by (a) adding to the review criteria for funding, the relevance and commercial potential of the research to the regional economy and (b) shifting more research funds to institutions in less favoured regions.

Government Role 17: Promote the use of incubators

Incubators are now widely used instruments for supporting new and small business enterprises, the basic concept being provision of low-cost shared space and services, combined with technical assistance. Limiting tenants to potential cluster members justifies more highly specialised services and assistance, promotes inter-firm business within the incubator and encourages learning and technology transfer among firms.

Government Role 18: Create technology centres

Many developed economies have invested in technology centres as part of regional economic development policies. The centres are often associated with educational institutions but some are independent. A focus on local cluster technologies can successfully stimulate innovation and facilitate technology transfer.

Government Role 19: Use clusters as a promotional tool

Countries around the world have used clusters to promote themselves as a desirable place to visit and do business. Scotland, New Zealand, Canada, Spain and Ireland have all effectively used clusters to market regions to investors and customers.

Government Role 20: Support the development of export networks

Individual small and mid-sized companies lack resources and knowledge of other countries to effectively exploit global market opportunities. Government can support the formation of cluster-based export associations. The purpose is to pool individual enterprise knowledge and resources to create a critical mass which can be used to identify and exploit export opportunities. Often the result is a forum for cooperative behaviour that stretches well beyond exporting

Successful cluster case – Toolmakers in Slovenia: Effective Policy as a Tool for Innovation Slovenia is among the most successful of the transition economies. The Slovenian Ministry of Economy has been promoting clustering since 1999. The systematic integration of cluster policy in the economic development strategy of Slovenia has created a high level of innovation capacity throughout the economy. One of the reasons is its policy of anchoring clusters at the heart of a proactive industrial policy aimed at supporting SMEs and raising the productivity levels and innovation potential of Slovenian industry by dedicating significant resources for the process. The toolmakers cluster in Celje has evolved from a series of captive suppliers to former Yugoslavian large players, like the home appliances manufacturer *Gorenje*, to a real network of companies and institutions collaborating and competing. The cluster, which formed as an association that acts as governing body and represents the sector, has achieved significant support from both national and regional government, resulting for example in the creation of a small technical centre on site. *Source: Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness” by Competitiveness.com, under the Europe Innova Cluster Mapping Project for the Enterprise and Industry Directorate General of the European Commission. January 2008.*

Chapter 2B: Specific Steps for the Government in Croatia

The Ministry of Entrepreneurship and Crafts (MoEC) has lead responsibility for the development of clusters in Croatia. It is also acknowledged that, since the reorganisation of ministerial responsibility under the current government, the Ministry of Economy has a very important role to play for the development of clusters within the framework of national development policy.

It is also recognised that other Ministries, agencies and local government have direct links to some clusters, for example, Ministry of Regional Development and EU Funds, Ministry of Science, Education and Sport, Ministry of Tourism, Ministry of Agriculture, City and County Administrations. They have their own communications programmes. Some clusters have horizontal links to these various ministries and may receive support and funding from these other ministries. In many instances individual cluster partners (e.g. academia) have direct responsibilities and reporting links to other ministries. While taking into account that the lead responsibility is with the MoEC, responsibility for its implementation must be coordinated between both Ministries.

Overall responsibility for promoting clusters and communication is therefore at times a distributed responsibility in Croatia that requires leadership from MoEC, good communication and cooperation. This reflects policy and communications reality in EU and OECD countries.

The existing strategy on clusters, *Cluster Development Strategy in the Republic of Croatia 2011-2020 (April 2011)* was developed by the former Ministry of Economy, Labour and Entrepreneurship (MELE). It sets out six main areas for the future strategic development of Croatian clusters:

- ❖ Improving the management of Croatian cluster development policy
- ❖ Strengthening of clusters and cluster members
- ❖ Promoting innovation and transfer of new technologies
- ❖ Strengthening of export potential and internationalisation of clusters
- ❖ Strengthening the knowledge and skills for cluster development
- ❖ Effective use of EU funds and EU Community Programmes

The Project has made a number of recommendations to enhance and strengthen the implementation of the existing policy for clusters and they are captured under the following recommendations;

❖ BUILD SCALE AND CAPACITIES OF CLUSTERS

Achieving better scale clusters i.e. more members, management, budget and activities must be a central goal of clusters policy in Croatia. The strategy must seek to assist clusters to build better scale and capacities and a process of categorization. The purpose of the categorisation is to concentrate most efforts and grant funding on clusters that offer best prospects for growth (i.e. sales, exports, output, and jobs) and especially clusters that are in priority sectors specified in national development plans

❖ CATEGORIES OF CLUSTERS + CONTINUITY OF SUPPORT

In general clusters policy should seek to build and support self-sustaining clusters by providing a continuity of support, for example, full range of support and grants over a 3 year period, to clusters with identified growth potential and thereby underpin their efforts to build self-sustaining organisations.

❖ INTERNATIONALISATION OF CLUSTERS

The pressing challenge for many companies, especially SMEs and especially in times of recession is to maintain their sales on both home and international markets. Clusters policy will therefore seek to give high priority to new actions and plans by companies on generating sales. Where instruments are available under general SME support programmes such as market feasibility grants or business support programmes these will be introduced to cluster management and companies. Joint action by clusters (e.g. recent joint marketing by a textiles/leather cluster and a wine cluster in Croatia is an example) will be strongly encouraged and supported.

❖ MEASURING PROGRESS – SALES, EXPORTS, OUTPUT, JOBS

The Project has also recommended that policy must put in place clear metrics to monitor and measure performance and progress with clusters. Initially the proposed 10 indicators to be monitored in cooperation with cluster managers are:

- ❖ Number of clusters supported

- ❖ Number of member companies
- ❖ Range of cluster activities
- ❖ Export promotion initiatives undertaken
- ❖ Sales and exports of all cluster companies
- ❖ Employment and annual change
- ❖ R&D expenditure (% of sales)
- ❖ R&D project contracts with universities
- ❖ Cluster budget
- ❖ Cluster staff

As data is accumulated it will be possible to benchmark Croatian clusters versus other Croatian-based and international clusters and to extend the number of indicators. This is a later stage of work and progress that will be considered after the new policy is well established and triple helix partners will be consulted on this process.

UNIVERSITY/RESEARCH INSTITUTIONS – POLICY + COMMUNICATION + INSTRUMENTS

No university in Croatia appears to have a stated policy on working with clusters. At the same time individual faculties, technology transfer centre and professors have active links with numerous companies on consulting and R&D projects. In order to signal to companies, to academics and the wider public it would be beneficial for a stated policy on working with clusters and cluster companies to exist in all universities. Under new clusters policy this issue should be pursued with universities' management. Typically most clusters and members companies in Croatia do not have an R&D agenda with universities and research bodies. Their links with these institutions range mostly from non-existent to consultancy links on specific technology problems. The challenge for all triple helix partners is to create better structures, initiatives and supports to change that and put in place more medium to long term R&D projects that will enable companies to upgrade and add value to their products and services and thereby become more competitive in home and international markets. Policy should seek more active outreach by universities. To facilitate that process instruments such as technology audits of companies, R&D vouchers and other R&D incentives should be examined by the Ministry of Entrepreneurship and Crafts.

❖ FORUM OF EXPERTISE AND CAPACITY BUILDING ON CLUSTERS

Building and developing clusters is an on-going permanent process that needs management development and capacity building in leadership, management, business strategy, sales and marketing, production, R&D, new technology, distribution, customer support, stimulating innovation, managing growth clusters and companies need to build their expertise. Over the past two years the Project has provided a new stream of expertise and advice through interactive workshops and cluster clinics. It needs to be continued on a national basis after the Project completion and universities and technology centres are well placed to fill this role. Clusters policy must encourage action here.

❖ COMMUNICATIONS POLICY

A new communications strategy has been developed by the Project and is available for further inspection if required. This strategy sets out the basis for effective and consistent communication, responsibility for and purpose of strategy to ensure wide awareness and transparency and how information should be disclosed. Recommendations include the full publication of institutional and programmes information (e.g. calls for proposals, Ministry structures and organogram, register of clusters, policy review and assessments), cluster policy and communications strategy, sectoral strategies, project-related information (PNIs). Recommended methods and communication tools include cluster brochure, website PNI profiles, newsletter (quarterly), cluster profiles of success, information on international partners, cluster events, press release and media pack and information on training are some of the methods and tools proposed.

❖ INTER-MINISTERIAL COORDINATION AND COMMUNICATION

While the Ministry of Entrepreneurship and Crafts is responsible for the development of clusters in Croatia, the broader process involves various Ministries and public bodies that support clusters and cluster activities – for example, the Ministry of Economy as well as state agency AIK, Ministry of Regional Development and EU Funds, Ministry of Science, Education and Sport, Ministry of Tourism, Ministry of Agriculture and City and County Administrations.

To coordinate and guide efforts on policy it is proposed that a ‘Clusters Coordinating Committee’ should be established with representatives from these institutions as well as 3-4 representatives from other triple helix partners. This committee should be instigated and chaired by MoEC and meet twice yearly to report on progress with clusters and share information on support programmes. The cluster community in Croatia needs strong and effective leadership and coordination of national policy and support programmes by public sector partners if progress is to be

achieved by clusters in delivering results. This has not been the case in the past and it is vital and critical to new policy that the coordinating structures are put in place.

❖ PRIORITY INFRASTRUCTURE AND PROJECTS OF NATIONAL IMPORTANCE

New 'Projects of National Importance' (PNIs) have been identified and are being progressed within the recently established pilot competitiveness clusters. The current focus is on food, wood and auto sectors with a further number currently being formed in such sectors as pharmaceuticals, media, ICT and others. This major initiative is in line with current cluster policy and fits well with the associated strategy and it has the added benefit of bringing together various clusters in collaboration with triple helix partners.

Chapter THREE: Identification of the Preferred Organizational and Legal Model for the Formation of Clusters

“Innovation, imitation and entrepreneurship are what propel virtually all competitive clusters. The most successful clusters build mechanisms that can speed the movement of ideas, innovations, and information from firm to firm throughout the economy. The mechanisms and entities for collecting and disseminating knowledge are consequently vitally important to cluster competitiveness”.

Maxwell Stamp Project report ‘Analysis of the Business Environment’, I. Steuert, November 2011)

Choosing an appropriate organizational structure for clusters is of vital importance as clusters consist of a number of business members and partners whose input, communication, rules of engagement and rules for cooperation should be formally organized and structured to ensure transparency, fair play to all members and members’ accountability. There are three dimensions to structuring clusters: **legal form/status**, **structure** (competences, role and responsibilities of members: who does what, who is responsible for what within a cluster) and **systems** (modus operandi: formal organization of processes within a cluster). This chapter discusses various options for selecting an appropriate legal form for a cluster and gives guidance on cluster organization and structure required for a successful cluster.

Legal Model for a Cluster

The choice of a legal form of a cluster depends on the goals of the cluster. The following four questions should be posed when deciding on what legal status to choose for a specific cluster:

- 1) What is the vision/mission and purpose of the cluster?
- 2) How closely do the partners in the cluster wish to cooperate?
- 3) What is the role of commercial activities in the cluster?
- 4) How quickly should new members be integrated – exclusivity versus inclusivity?

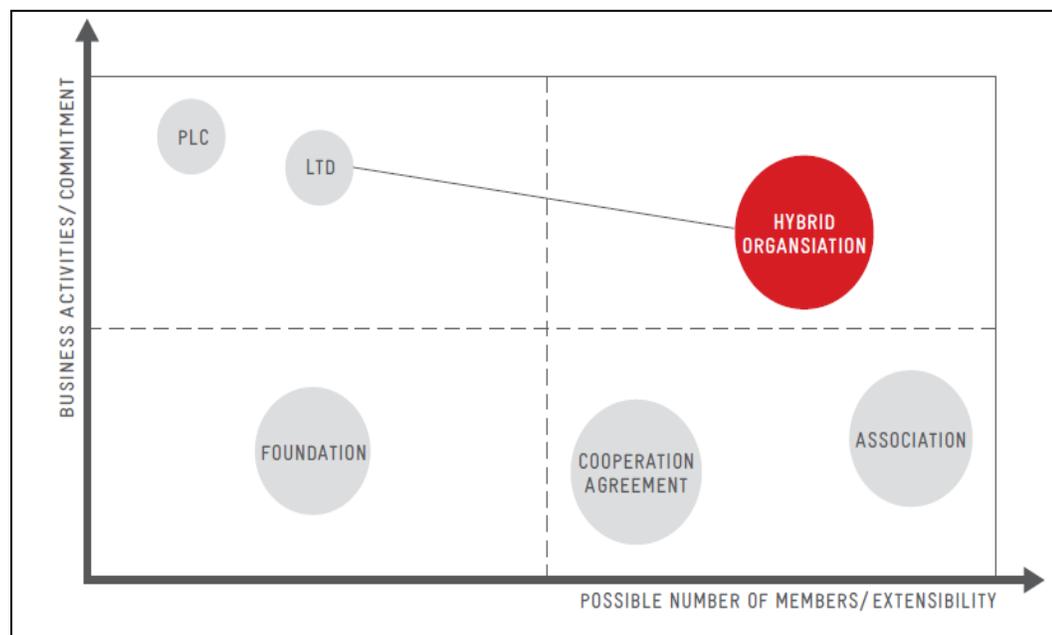
Broadly speaking, the legal form of a cluster that will focus heavily on commercial activities will differ from

the one focused solely on R&D activities. The rule is that “structure follows strategy”.⁴

Some possible legal forms for clusters are:

- Association (non-profit or for-profit)
- Private limited company (LLC)
- Joint stock company
- Hybrid forms (mix of association and public or private limited company)
- Foundation

Figure 7: Matrix of legal models for clusters



Source: “Cluster Management – a Practical Guide” by GTZ, December, 2007

Based on the study of existing Croatian clusters and their legal forms, carried out within the framework of the EU funded project “Support to Cluster Development in Croatia”⁵, the legal forms of clusters in Croatia vary. Furthermore, there exists no clear understanding of what legal status is most relevant and

⁴ “Cluster Management – a Practical Guide” by GTZ, December, 2007

⁵ Report on Appropriate Legal Structure of Croatian Clusters by Sandra Hisak, December 2011.

appropriate for the Croatian market among cluster managers and organizations that promote cluster development. Clusters that have been established in the past five years are registered as either associations, or limited liability companies (LLC) or as a 'common economic interest group' or a cooperative. The majority of these clusters are Associations or LLCs. There are also clusters of hybrid legal status, i.e. clusters registered as associations for performing non-commercial activities and LLCs for engaging in for-profit activities.

As with anything, there are advantages and disadvantages. Many register clusters as associations due to a considerably easier registration procedure and the ability to apply for grants. However, this legal form is limited as it does not allow any commercial activities to be undertaken. Being an LLC permits the cluster entity to carry out for-profit activities and reclaim the Value Added Tax (VAT) however, the registration process is cumbersome and can be a barrier to forming such type of enterprise.

The hybrid type of legal identity is often recommended as a legal form for clusters. During the initial stage of cluster formation when members develop their vision, mission, goals, set the rules of engagement and communication, registering as an association is sufficient for the cluster to operate. However, as the cluster matures and is ready to engage in joint commercial activities an LLC is the most suitable legal form. The hybrid type has a number of advantages:

- A cluster with the identity of an Association has no difficulties in registering new members and it is open to everyone willing to work for the benefit of that sector in the *region*. This is not the case with a limited company, as it is too complicated and too expensive to introduce new company members after the limited company has been established;
- The Association is eligible to attract and bid for EU grants, while a limited company is not;
- The operational costs for both legal identities are divided between the Association and limited company;
- The new sources of finance available through the commercial activities of the limited company opens the possibility to employ one or more professionals to assist the cluster manager so as to provide additional services and to coordinate the activities of the cluster, and also provide the opportunity to undertake more sophisticated activities;
- Through a limited company and its commercial activities the cluster as an Association becomes more attractive for new members to join;
- New (Association) members can cooperate (without difficulty) with the limited company on

commercial projects if there is joint or common interest. Cooperation can be administered through a cooperation contract.

- The Hybrid legal form enables the combination of commercial and non-commercial activities.

Legislation differs from country to country, hence there is no 'one size -fits-all' approach as to what legal form is more appropriate or relevant in a particular country for a particular cluster. After the vision, mission, goals and strategy of a cluster are identified and agreed, legal advice should be sought on the issue of legal formation.

The Support for Cluster Development project report on '*Appropriate Legal Structures for Croatian Clusters*' offers the following recommendations for Croatian policy makers to enable easier conditions for the formal registering of clusters:

- Allow a cluster to assume the 'limited company' status enjoyed by Croatian Business Incubators or RDAs, and/or
- Investigate the possibility of creating a company limited by guarantee model as used in the UK, or to adopt and adapt the Austrian "common interest" limited company" (gGmbH).
- Either would allow the cluster to undertake soft and hard activities, receive subsidies and grants, and to retain profits from commercial activities for use in pursuing the general activities of a cluster.

Cluster Management Organisation

Irrespective of what legal form is selected for the cluster, it is important to determine and decide on a formal cluster management structure. This involves determination and agreement on the following issues:

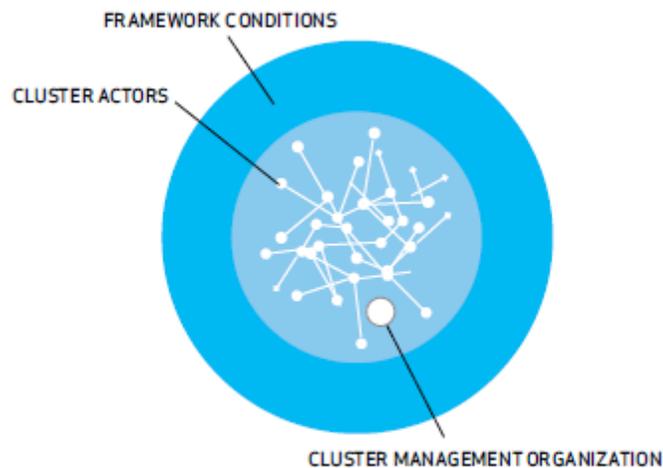
- Structure and composition of the cluster governance structures
- Cluster management roles and responsibilities – who does what and who is responsible for what
- Cluster management *modus operandi* – how the cluster management structure will interact with cluster members on a day to day basis.

Cluster management organization has been underestimated over the years as Porter's cluster approach did not regard this success factor for different reasons. Many of the cluster programs in Europe now focus

heavily on the establishment and development of cluster management organizations. Clear evidence has evolved in the past couple of years that cluster management excellence plays a decisive role for the successful development of clusters.

Cluster excellence is determined by three key dimensions: framework conditions, cluster actors and cluster management organization (Christensen T, Köcker G, Lämmer-Gamp T, 2011). Its key role is in creating and driving a strong and purposeful dynamic among cluster members and stakeholders.

Figure 8: Cluster excellence dimensions⁶



Excellence in cluster management depends on the following elements:

- Development strategy and its implementation;
- Cluster management and organisation;
- Sustainable resourcing - financing and staffing of the cluster;

In the report 'Cluster are Individuals' by Lämmer-Gamp et al the authors demonstrate, through their research of over 140 cluster management organisations across Denmark, Finland, Germany, Iceland,

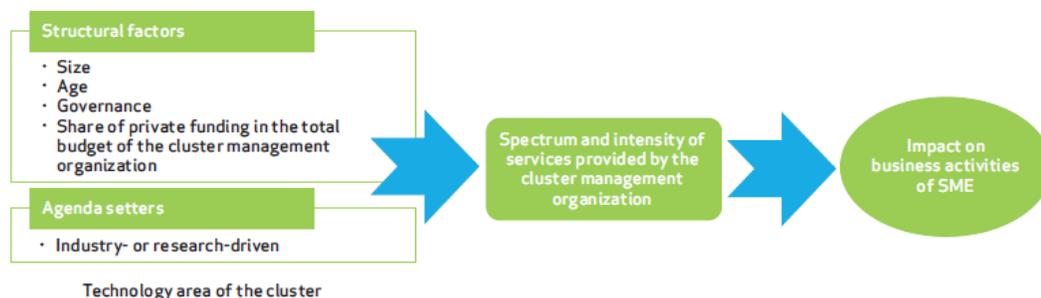
⁶ From: "Lämmer-Gamp, Thomas/Meier zu Köcker, Gerd/Christensen, Thomas Alslev, 2011: Clusters Are Individuals. Creating Economic Growth through Cluster Policies for Cluster Management Excellence, Danish Ministry of Science, Technology and Innovation/Competence Networks Germany, Copenhagen/Berlin"

Norway, Poland, Sweden and Austria, that effective cluster management organisation is one of the five key drivers of overall cluster effectiveness and success (Lämmer-Gamp et al, 2011).

KEY FINDINGS – drivers of cluster effectiveness ⁷	
1	Research-driven clusters are much more similar to industry-driven clusters than expected
2	Clusters with a low or high share of public funding are similar in terms of structure and governance, but different in terms of impact
3	The visibility and attractiveness of a cluster and the impact of the cluster management organization on SME development depends on its size, age, institutionalization and degree of industrial orientation
4	The characteristics of a cluster depend on the technology field it is operating in
5	<i>Clusters with a high impact on business activities of SME feature an active cluster management</i>

This research demonstrates that a cluster management organization can influence the development of a cluster through the provision of targeted services for its members. The analysis of the benchmarking results demonstrates that the more active a cluster management is in this regard, the higher its impact on the development of business activities of cluster members is (Lämmer-Gamp et al, 2011).

Figure 9: Key determinants for impact on business activities of cluster members⁸



In light of the above findings and conclusion, the following ‘classic’ structure with its elementary but distinct elements is recommended:

⁷ From: “Lämmer-Gamp, Thomas/Meier zu Köcker, Gerd/Christensen, Thomas Alslev, 2011: *Clusters Are Individuals. Creating Economic Growth through Cluster Policies for Cluster Management Excellence, Danish Ministry of Science, Technology and Innovation/Competence Networks Germany, Copenhagen/Berlin*”

⁸ Ibid.

- Advisory board (executive board)
- Steering committee (membership committee)
- Management office (cluster manager and administration)
- Topic / theme specific working groups

Figure 9: Organization Chart of a Cluster



It is advisable to formulate and formalize the structure of the cluster in a set of articles which are signed by all members and provide a binding basis for cooperation in the cluster. The articles should specify the legal form, goals, membership, rights and duties, and cluster organs and their functions. A Job description for the Cluster Manager should be drafted which specifies the role, specific responsibilities of the job holder. Further an operations manual should be written which sets out the operational policies, procedures systems and day-to-day working methodologies in order to guide the work of the cluster management organization.

Update note June 2013: In terms of the three pilot competitiveness clusters, the Project always placed a high emphasis on getting the management and organizational aspects of the competitiveness cluster's right. Whilst the work of "Lämmer-Gamp, Thomas/Meier zu Köcker, Gerd/Christensen, Thomas Alslev, 2011 was instructive the importance of cluster organization and management was well understood by the project team. For this reason a significant amount of resources were put into supporting the management of the clusters. Three dedicated, experienced strategic managers were recruited to act as full time "cluster development facilitators". Their role was to work closely with the cluster presidents, management boards and key members to develop a cluster strategy and operational

plans which would give a solid and clear focus for clusters activities for the next 3 years and would also shape the working sub- structures of the clusters to reflect their strategic focus.

Chapter FOUR: Top-down and Bottom-up Approaches to Building Clusters

Clusters typically originate in two ways. One is the top-down route, in which a cluster priority list is drawn on the basis of a cluster analysis. The other is bottom-up, in which the initiative to develop a cluster strategy comes from actors within sectors themselves. Both routes have disadvantages. The top-down approaches face the problem of why certain activities were included (especially if some of these turn out to be less successful), while others were excluded. It appears to be difficult, in particular, to resist the temptation to include 'fashionable' clusters (new media, telecom, culture), even if a genuine background in these activities is lacking (Lagendijk A, 1999). Even if this temptation can be resisted, however, the process of prioritizing will inevitably be based on certain arbitrary choices.

Bottom-up approaches, on the other hand, generally benefit from existing inclinations to collaborate but often fail to reach sectors of the economy where collaborative attitudes are lacking, even if they have clustering potential. Bottom-up approaches, also have certain caveats. Bottom-up approaches will benefit from the fact that, because they are initiated by agents directly involved in certain business activities, they can be expected to bring with them certain levels of membership support, commitment, leadership and, last but not least, resources for matched funding (Rosenfeld, 1995). However, by solely responding to bottom-up initiatives, regions will clearly run the risk that only business groups which already have certain levels of associational capabilities, organisational and financial leeway and political clout will receive support. Other activities may have clustering potential but lack such a starting point. Top-down intervention, as part of a region-wide governance structure, may thus offer special assistance to 'association-weak' sectors in the economy⁹. In general, a mixture of top-down (pre-selection) and bottom-up (self-selection) may well provide the best approach to developing clusters. The mechanics of each are discussed on pages below.

Update note June 2013: This chapter now a description of 'the third-way' proposed in the above text - the hybrid combination of simultaneous 'top-down and bottom-up' actions, which was pioneered by the Project. The third way is described in detail in the document **The Strategic Action Process Map for Creating Three Pilot Competitiveness Clusters in Croatia (June 2013)** which is appended to this handbook for completeness and reader convenience.

⁹ Good practices in SME Cluster initiatives. Lessons from the 'Core' regions and beyond, Arnoud Lagendijk, 8 November, 1999, AL ADAPT report (02/11/99)

Chapter 4A: Guidelines for Top-Down Approach to Building Clusters

STEP 1: Analyse the Local Economy – Identify the embryonic and the more developed local clusters and prioritise which ones to concentrate on initially

The objective of this analysis is to firstly identify the clusters that are drawing wealth into the local economy, and secondly, to prioritise these for attention. The clusters may be embryonic, at an early stage of development, or more mature and substantive within the locality. The focus needs to be on the driver clusters within the community that are already serving 'export' customers, be they tourists from a neighbouring community or overseas customers¹⁰. *Identify agglomerations of businesses that might constitute existing clusters or have the potential to become clusters.*

The Croatian economy is not so large or complex as to make this a particularly difficult task. Tapping into local knowledge via economic agents at subnational level – for example, the Economic Departments of local Administrations, Chambers of Commerce, the prospective Regional Development Agencies – could conceivably suffice as a first step.

A more systematic approach would be to classify all economically active entities in the country according to a sufficiently detailed Industrial Classification System (such as NAICS used in North America, UKSIC in the UK or OKVED in Russia).

Companies can then be grouped according to activity and mapped according to geographic location to identify whether significant local concentrations of specific industries exist. The conclusions from this second approach should be validated by reference to local understanding and knowledge.

How to identify the clusters within a locality?

A top-down approach based on available statistics is used in many countries. These could indicate, for example, that while 10% of all firms (or a category of skills) are located in a region, 50% of firms in the electronics sector are located in the region, giving a very strong location quotient of 5, i.e. five times the expected average.

¹⁰ In any community a number of clusters –in such areas as retail, vehicle servicing and construction – will predominantly be serving local customers and will grow largely as a result of the driver clusters.

Criteria for prioritising clusters:

- Should relate to the size of the opportunity (current exports, and possible growth; current and potential employment; number of firms)
- The infrastructure currently in place (specialised education/training facilities, a neighbouring CRI, specialised physical infrastructure).

The current culture of the cluster (degree of interaction / networking between firms; the motivation cluster stakeholders have to move forward; the availability of potential private sector leaders; the current existence of effective associations). To be most effective, the cluster process should work on a *portfolio of clustering initiatives*. This will encourage positive competition between cluster groups, and provide the opportunity to pick up on and address cross-cluster issues.

Decide on Boundaries

Clusters may cover only a part of a local government region, or traverse two or more regions. The cluster boundaries need to be carefully considered, with each cluster having a unique 'catchment area'. Some clusters will have a broad coverage; others will have a very local focus. Primary-based clusters and tourism clusters will tend to have wider boundaries than manufacturing or other service-based clusters.

Local council boundaries are irrelevant when establishing the commercial boundaries of a cluster. Cluster boundaries are determined by today's commercial agenda not yesterday's political decisions. The cluster region needs to be small enough to feel like a community, yet large enough to have enough critical mass to address key issues. Factors to consider are:

- 1) *How do customers view the region?*
- 2) *What is the physical distance between the participants in the cluster?* A drive of an hour, possibly less, may set the boundary. This can be the limit for frequent face-to-face communications; further than this and participants could have difficulty meeting formally, or informally, on a regular basis.
- 3) *No 'one-size' will fit all local clusters;* a multimedia cluster will have a much more compact arena than an extensive forestry cluster.

- 4) *What is the critical mass to enable the key issues to be adequately addressed: e.g. for a tourism cluster, having an adequate promotion budget.*
- 5) Boundaries are flexible – as clusters evolve, boundaries will also evolve. The boundaries will also evolve as the focus of the clustering initiative tightens, for example from 'horticulture' to 'organics'.
- 6) Some initiatives may benefit from linkages with neighbouring clusters; others are likely to be in competition. As with firms, clusters benefit from both cooperation and competition.

STEP 2: Carry out a cluster stock take - Gather information about the cluster in the local economy

Having identified an existing or potential cluster, an understanding of its current nature and status is required in order to formulate appropriate interventions for further development. Gathering information to establish status would necessarily require interviews with cluster members. The information obtained can also be used to benchmark the cluster by comparison with the profiles of similar clusters in other locations.

Interviews with key stakeholders in the local cluster will enable the EDA/RDA to:

- Understand the cluster's opportunities and constraints;
- Assess the quality of linkages across the cluster and the Extent to which the local players are working as a team;
- Make an assessment of possible leaders;
- Introduce the cluster concept to skeptics.

Based on the initial research and interviews, the facilitator needs to prepare a brief discussion paper on the key features and characteristics of the cluster and the likely issues that will arise. This is a public document, and should be made available to everyone with an interest in the cluster. Appropriate criteria for characterizing a (potential) cluster can include:

- 1) **Stage of development.** The idea here is that clusters undergo a 'life-cycle', for example from embryonic to emergent, to high growth stage, to maturity and eventually to obsolescence. At the very least there should be some recognition that different clusters may be at quite different stages of development, and hence raise different policy issues and challenges: **embryonic** – small, not yet operating as a cluster but with apparent potential for long-term growth; **developing** – a

significant agglomeration operating as a cluster or with the potential to do so, opportunities exist for new entries and further development; **mature** – probably has developed as far as it can go and new companies could find entry difficult or unattractive.

- 2) **Depth.** Cluster depth is a key variable in the assessment of cluster strength. A deep cluster will have a comparatively large number of existing industrial linkages, with other potential linkages identified: **deep** – large number and variety of interlinked members, including institutions; **shallow** – smaller number of members, confined to core manufacturers and service providers.
- 3) **Employment.** Cluster employment dynamics are based on the history of total numbers employed. The possibilities are: growing, declining; stable.
- 4) **Significance.** Here the intention is to suggest the geographic significance of the cluster:
 - Local concentration
 - Regionally significant
 - Nationally significant but concerned almost entirely with domestic market
 - Internationally significant and competitive.
- 5) **Nature of linkages.** Involves identification and classification of the types of linkages existing in the cluster:
 - Input-output
 - Markets
 - Shared knowledge

With the possibilities for a pro-active clustering approach identified and short-listed, the next step is to undertake an initial review of the priority clusters. The purpose of this stock-take is two-fold:

- To identify the dimensions and nature of the local cluster and its place in the local economy
- To introduce the clustering process to the key stakeholders, securing their ongoing involvement in the process.

There is no substitute for an Economic Development Agency rolling up its sleeves and personally engaging with the cluster participants, forming the beginning of a long-term relationship. This key step in the cluster development process should not be delegated or contracted out. The knowledge and contacts gained during this review process are central to the role of an effective development agency and where possible, build on existing

associations and teamwork that is already in place. Effective clustering is an inclusive process, and existing associations and their officials may well feel threatened by interest and activity in what they may perceive as 'their turf'. In addition to reviewing the published information, get more detailed and recent information from the senior stakeholders within the local cluster. The focus of these interviews should be on identifying common roadblocks and opportunities. For reasons of confidentiality these may not always surface in a workshop setting.

The process outlined here may suggest that this second stage in the cluster development process is distinct from the next stage: the establishment of the Leadership Group. In practice, this is often not the case. Where leaders can be clearly identified, get their involvement and support from the very start of this process. In no way should the clustering process suggest that their authority is being undermined. The development of the Leadership Group is an ongoing process, and can usefully start while undertaking the initial cluster stock-take.

STEP 3: Establish the Leadership Team – carefully choose the appropriate people to participate in the leadership group

The key step in the establishment of all clustering initiatives is the early formation of a Leadership Group that is specific to the cluster. The facilitator plays a leading role in establishing this Group. It may initially be very informal, but over time will evolve and formalise. The facilitator needs to identify a group of senior stakeholders who collectively cover the broader dimensions of the cluster, and convince them of the merits of participating in the cluster. It is not always easy to get the key "movers and shakers" involved during the early stages. They may well be sitting on the fence watching skeptically to see if this particular initiative will take off or flounder. Senior people need to feel that there will be a pay-off for their time and involvement. Maintaining this attention is often dependent on generating early benefits for the stakeholders. An early, and simple, measure of the success of a clustering initiative is the willingness of senior participants to turn up to the next meeting; an early warning sign is if they delegate, or are 'no-shows'.

The Leadership Group, usually some 6-8 people who are comfortable working together, should be predominantly from firms in the cluster core. The group should not be dominated by government representatives or association officials. It does not need to be in place straight away. The facilitator will usually be responsible for forming the initial Leadership Group and 'anointing' the Chairperson. A mechanism for electing the Group may be developed later. Temporary teams with an issue focus will be developed under this Group. These teams benefit from tight integration with the Leadership Group through a Group member being part of each team.

The selection of the Chairperson from amongst the Leadership Group is a crucial aspect of cluster development. The facilitator needs to quietly establish whom the lead candidate for this position is, and make the initial approach. Occasionally, when it is not clear who the initial Chair should be, the facilitator will need to step in and provide this leadership. A useful approach for many clusters is to have Co-Chairs; possible one from a firm at the core, and one from the supporting soft infrastructure. The facilitator is usually a long-term member of this Group, in part to represent the broader interests of the community, and in part to ensure that the development agenda for the cluster continues to move forward.

STEP 4: Develop the cluster vision and mission – define the desired future for the cluster

The initial stock-take will have established the current position of the cluster. Building on this is the establishment of a vision, a desired future, for the cluster. If there is not agreement on the broad shape of this preferred future from across the cluster, then it will be even more difficult to subsequently gain agreement on the early action agenda to start moving the cluster towards this preferred future.

The facilitator needs to balance the need for a vision against the possible reluctance to create one. This is one of the most difficult aspects of the process, and it is not unusual to find only limited enthusiasm to participate in this discussion. Broad, high-level agreement is sought, not a detailed picture of the future. A ‘starter’ vision for a cluster could be: “To double the cluster’s scale of activity within five years”. Appropriate measures of performance/achievement for a cluster could be exports, employment, number of core firms, or the number of visitors.

It is likely over time that the vision will become more focused and more specific as the nature of the cluster’s competitive arena and the opportunities available to cluster members are better understood.

Successful cluster case – Biosciences in Budapest: Exploiting the Home-Team Advantage

Hungary has an impressive record in scientific research, including one resident Nobel prize winner and nine other Nobel winners who studied in Hungary, but won while working abroad. During the 1980s Hungary showed a relative openness to foreign co-operation in R&D, and during the 1990s the country became more actively involved in international cooperation. Budapest is now a biosciences hub with solid strategies for building sustainable competitive advantage, with the Government playing a major role by creating favourable framework conditions that enable researchers to follow leading developments across the world.

A number of cluster mapping exercises have taken place locally in Hungary, identifying mostly small size clusters, fine-tuned to smaller regions. Even though the Hungarian cluster development policy could be characterized as top down by the central government, the methodology has been successfully appropriated by regional authorities and other players. But unfortunately, there's a lack of feedback to the central authorities.

While the Hungarian authorities would like to define the cluster perimeter as including the local pharma industry, the biosciences players see themselves as satellite research facilities of the global pharma industry. The leading companies in the cluster go so far as to say that the presence of a local pharmaceutical industry is not relevant for their innovation capabilities. This is true insofar as the most advanced users of the areas of excellence developed by the Hungarian scientists are not necessarily the local pharmaceutical industry players – given that the global pharmaceutical market has a total of 200 players, therefore it is easier to gain good visibility for good products. Academic excellence that can give rise to product development of commercial applications is not necessarily routed through Hungary-based companies. In fact, the cluster needs more Foreign Venture Capital (FVC), not Foreign Direct Investments (FDI).

By its nature, the biotech industry is always targeting new markets. The Hungarian biosciences cluster is well connected to the leading US market. The American influence can be seen in another way, too: even though we talk about a research driven business, Hungarian programmes for scientific research in universities is prompting innovation inside and outside the universities, in a similar way to the US. In this context, the current biotech clustering efforts have – naturally – helped in focusing national and regional R&D&I resources.

Source: Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness” by Competitiveness.com, under the Europe Innova Cluster Mapping Project for the Enterprise and Industry Directorate General of the European Commission. January 2008.

STEP 5: Identify the ‘stepping stones’ – identify the key steps to the desired future

After the “desired future” or vision has been established the cluster stakeholders need to identify what broad steps are necessary to make it happen to deliver on the vision. It is critically important to achieve a common understanding across the cluster on the key issues that need to be addressed. Identifying these issues through a workshop process is more powerful than having an ‘independent review’, and creates an environment that encourages those with passion for an issue to step forward in the next stage. The prioritisation of these stepping stones should be by passion, rather than strategic impact: if no one within the cluster has the passion to address an issue or opportunity, then it simply remains on a ‘to-do’ list owned by no one.

Once the Leadership Group is firmly in place, it will be valuable to review more diligently the initial strategic agenda that develops through the workshop process.

STEP 6: Create an agenda of immediate actions – highlight the short-term projects

With the key stepping stones now identified, there is the need to move on from the broader, long-term agenda to identifying the short-term actions that will start moving the cluster towards the preferred future. The objective of this step is to start developing an action agenda for each of the short listed issues. This involves:

- Outlining the activity
- Defining the expected results
- Identifying the resources that are needed
- Identifying who from within the cluster has the specialised skills/contacts/knowledge needed and could be encouraged to participate in driving particular projects.

This action agenda is not producing a 'wish list', in the hope that others will move on the priority activities. Task forces work best if they select themselves. Occasionally the facilitator will need to be proactive in encouraging people to step forward. Each task force should have a leader and other supporting members, and if possible include a member of the Leadership Group. The term 'task force' is preferred over 'committees' - the task forces should be viewed as self-destruct teams that are dismantled as soon as objectives are realised.

STEP 7: Institutionalise the Cluster – set up an institution / organisation which will sustain the clustering process into the future

Many cluster initiatives are initiated by RDA/EDAs, but over time move to a different home. To be effective in the long-term, the cluster process needs a permanent organisation before the initial enthusiasm wanes. Often, a new organisation is created and formalised. The process can take 12-24 months, but occasionally this occurs much more quickly over a few months. The ideal end point is a self-funding organisation with the Facilitator continuing as an active member of the Leadership Group.

This new 'mezzo' organisation will likely serve a smaller geographic area than existing professional/trade organisations, and cover a broader range of organisations within that locality, reflecting the wide range of participants from across the cluster.

STEP 8: Upgrade the strategic agenda - look longer term and move to longer-term, more sustainable projects

Once a Leadership Team is firmly in place, momentum has been established and some early benefits generated for the cluster participants, there is a base in place for upgrading the strategic agenda. Longer term / higher risk activities can now be undertaken without threatening the clustering initiative.

These could include:

- Benchmarking the cluster against regional and international clusters
- Identifying capability gaps
- Developing a collaborative action agenda to address these
- Increasing awareness amongst schools of the career options within the cluster and developing school-business linkages
- Developing the cluster's identity, the brand, which may well support a number of clusters
- Joint initiatives with neighbouring and related clusters.

Take the opportunity, too, to extend the number of people directly involved in cluster initiatives. With larger organisations, the time may be right to build on the CEO's involvement in the first year and include second level managers - tomorrow's leaders – as the drivers of specific cluster programmes.

When there are a number of clusters under development, each with a portfolio of initiatives, it is time to establish a mechanism to address the cross-cluster issues and opportunities that should by this stage have surfaced. Some of these aspects may be at the convergence of two or three of the clusters; others may well be more systemic and overarching within the community. They may, for example, relate to the level of services offered at the local airport, to the upgrading of secondary and tertiary education facilities, or the development of a regional branding programme. Establishing an Economic Development Forum, drawing together the Chairs of each of the cluster Leadership Groups, can provide a useful vehicle for addressing these broader issues. Such a Forum could over time evolve into being the Board of the local Economic Development Agency. An annual 'town-hall' public meeting is useful in publicly highlighting the cluster programme, and renewing the enthusiasm and commitment of the Leadership Groups. Such meetings should feature the business leaders from within the cluster, not the cluster facilitator or local politicians.

Chapter 4B: Guidelines for Bottom-Up Approaches to Building Clusters

As with any sort of construction you start with an expression of what you want the completed building to look like – the design. The concept, the vision of what you want the final outcome to be! You begin with the end defined! In the context of a building – this ‘vision’ is normally in the form of an architect’s drawing. The same analogy applies when constructing an organization. You must first start with a statement of what you want the final ‘outcome’ to look like and to do! These are the vision and mission statements and they are critical, and essential first steps in the process of building any organization.

It is an established and accepted fact that 90% of organizational strategies fail, not because of any inherent weakness in the strategy itself, but because the **execution** of the strategy was poor i.e. operationalizing the intent which is inherent in the strategy statement. The basis for successful execution is thorough, comprehensive and realistic planning.

The basis for sound planning is a planning framework or structure. The benefit of this approach is that it guides the process and the sequencing of tasks and actions, it ensures that all elements of the research / analysis/ evaluative process are covered and it enables disciplined, structured monitoring and control of the process as it goes forward.

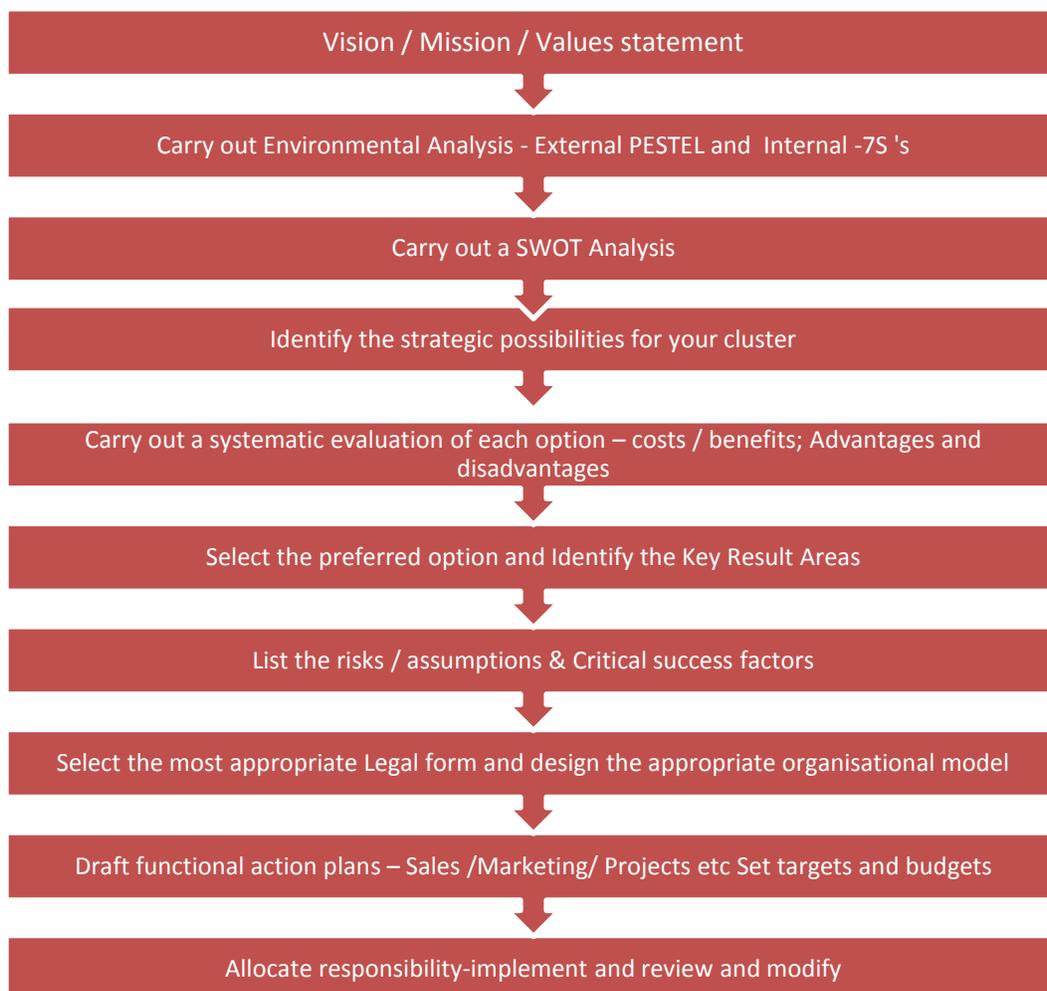
A bottom-up approach, through individual and group discussions, uncovers other clusters or potential clusters. It also helps in understanding the core competencies of any clusters identified through the top-down approach. *Cluster-Musters*’, initial cluster workshops pulling together people from across the community, have been successfully used to identify local clusters. A discussion around an Economic Development Agency’s board table, with local bank managers, journalists, freight companies or courier companies and others would also highlight local concentrations of activity. This bottom-up approach is particularly useful in highlighting niche-clusters that would not be picked up by any published statistics, such as organic foods, and service clusters such as retirement or seismic engineering.

The bottom-up approach also serves to more clearly define the activity within the cluster. Tight definitions are much more valuable than broad classifications, such as highlighting ‘furniture’ rather than the broader ‘timber processing’; ‘outdoor apparel’ rather than ‘light manufacturing’; ‘daffodil bulbs’ rather than ‘horticulture’; ‘rural telephony equipment’ rather than ‘electronics’; ‘adventure tourism’ rather than ‘tourism’; ‘oil and gas engineering’ rather than just ‘heavy engineering’. The short-listed clusters that emerge from both, the top-down and the bottom-up review should:

- Already be generating 'export' income for your locality
- Already have a range of firms with some linkages between them. (A large factory with multiple sub-entities all producing for an internal supply chain does not constitute a cluster)
- Already be a major contributor to the local economy, or have a clear opportunity to make a substantial impact and have appeal for the initial funders.

The clusters that emerge from this process will not be equal in importance. A selection process may be needed to shortlist those for immediate attention.

STEP 1: Put a structured planning framework in place – an example of bottom-up planning framework



STEP 2: Define your Cluster Vision / Mission and Values

This critical foundation building step is often skipped because, many managers are put off by the challenges of expressing what are often fuzzy or unclear thoughts about something that does not actually exist and are more comfortable and familiar with the tangible and concrete analytical discussions which take place at the next stage in the process. It is often easier to adopt the 'make a start and see how it goes' approach. This is the foundation stone for all else that will follow. If it is missed you fail at the foundation stage. By failing to plan properly you are, unfortunately, planning to fail.

Key questions to be asked at this point are:

1. What is the purpose of the cluster – the reason for being of this cluster initiative?
2. What is it we want to achieve by setting up this cluster?
3. How will we know we have been successful in our efforts – i.e. what will a successful cluster look like, be doing, be recognized as and for?
4. What values will we adopt? What is important for us in the way we do business?
5. Do all potential cluster member share these values? If not, what will we do about it?

STEP 3: Start the analysis – external and internal

Perform an Environment Analysis using the PESTEL framework. Where will the cluster fit and sit in the existing economic/ institutional cluster architecture? Perform a market and competitor analysis using Porter's 5 forces framework. Perform an internal resources analysis using the McKinsey's 7'S' framework- systematically reviewing: We will look at each of these tools in turn:

PESTEL Analysis

There are many factors in the macro-environment that will affect the decisions of the managers of any organisation. Tax changes, new laws, trade barriers, demographic change and government policy changes are all examples of macro change. The same applies to clusters operations. PESTEL analysis helps analyse the above factors to choose an appropriate strategy of action. The acronym PESTEL represents:

- *Political factors*. These refer to government policy such as the degree of intervention in the economy.

- *Economic factors.* These include interest rates, taxation changes, economic growth, inflation and exchange rates.
- *Social factors.* Changes in social trends can impact on the demand for a firm's products and the availability and willingness of individuals to work.
- *Technological factors:* new technologies create new products and new processes.
- *Legal factors:* these are related to the legal environment in which firms operate.
- *Environmental factors:* this involved considering factors which can influence both the local physical environment and wider ecological issues such as, air, water, and climate change.

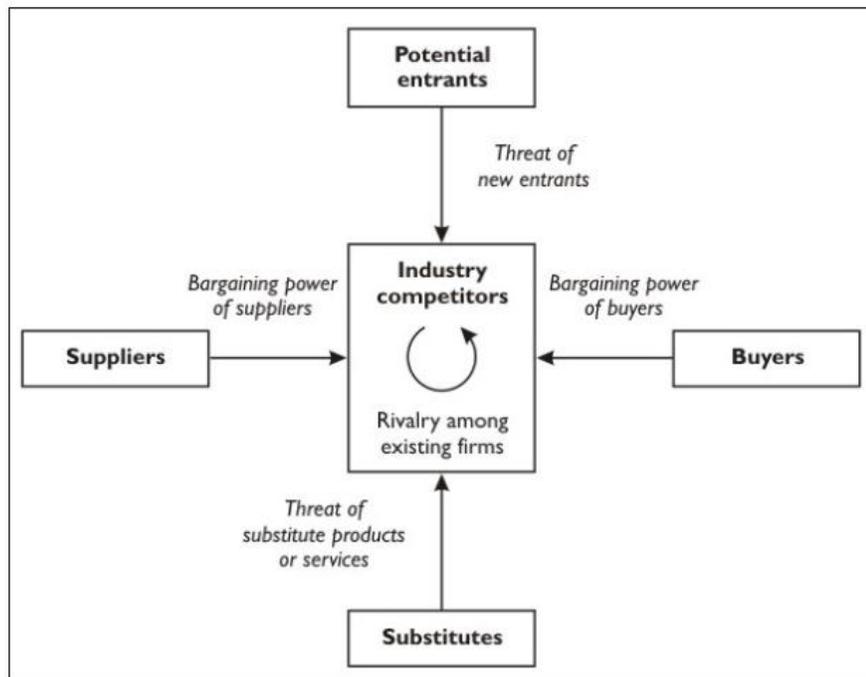
Porter's Five Forces Analysis

The Porter's Five Forces tool is a simple but powerful tool for understanding where power lies in a business environment / sector or industry. It is essential to understand your relative competitive position- strengths and weaknesses. The Five Forces model analysis the five key influencing pressures which determine the competitive power in a business environment. These 5 elements are:

1. **Supplier Power:** Here you assess how easy it is for your suppliers to drive up their prices and your costs. The fewer the supplier choices there are the more powerful is their position.
2. **Buyer Power:** Here you ask yourself how easy it is for your buyers (customers) to drive prices down. If you deal with just a few, then the easier it is for them to dictate terms to you.
3. **Competitive Rivalry:** What is important here is the number and capability of your competitors. If there are many competitors offering equally attractive products and services, then your strength is diminished, because suppliers and buyers have alternatives open to them if they are unable to get the terms they want from you.
4. **Threat of Substitutes:** The degree of substitution threat is determined by the ability of your customers to find an alternative way of satisfying their need by using a different product / service than the one which you provide.
5. **Threat of New Entrants:** The competitive environment is also influenced by the ease of which new entrants can enter the market. The key determinant is the 'barriers to entry' concept. If the barriers to entry into your sector are high i.e. heavy financial investment is required or sophisticated technological capability is required or specific and specialist skills are required, then the attractiveness of the sector is significantly decreased enabling you to

preserve your favorable competitive position and take fair advantage of it.

Figure 10: Porter's Five Forces Model



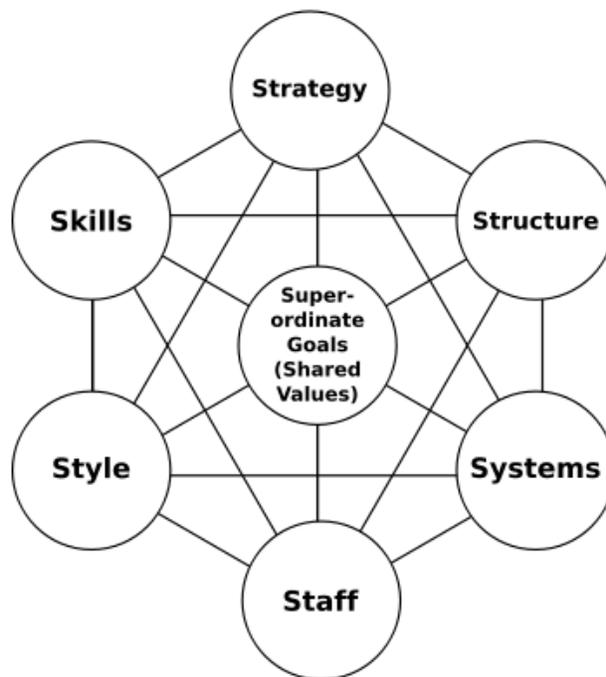
Internal Analysis - McKinsey's 7S Framework

How do you go about analyzing how well your organization is positioned to achieve its intended objective? Some approaches look at internal factors, others look at external ones, some combine these perspectives, and others look for congruence between various aspects of the organization being studied. Ultimately, the issue comes down to which factors to study. While some models of organizational effectiveness go in and out of fashion, one that has persisted is the McKinsey 7S framework. The basic premise of the model is that there are seven internal aspects of an organization that need to be aligned if it is to be successful. The model is based on the theory that, for an organization to perform well, these seven elements need to be aligned and mutually reinforcing.

The 7S's referred to are: *strategy, structure systems, skills, style, staff and shared values*. Applying the model in a systematic and thorough way enables managers to identify both strengths and weaknesses in their internal operations, thus enabling them to make 'protect / correct' decisions to either maintain the

current situation in a given element or to make change decisions to realign and correct some aspect which is not functioning optimally. The strength of the 7S framework is its flexibility and adaptability. It can be used to assess the effectiveness of an existing functioning entity – a cluster or a specific cluster member. More basically, especially in start-up situations it can be used simply as a checklist to ensure the comprehensiveness of the cluster start-up planning process i.e. to cover all the essentials to ensure nothing is omitted, or it can be used to analyse and assess a single functional of a cluster – for example the Sales function or the marketing function, the Financial function or the HRM function. The McKinsey 7S model can be applied to elements of a team or a project as well. The alignment principle applies regardless of how you decide to define the scope of the areas you study. Its strength is its simplicity and its adaptability.

Figure 11: McKinsey's 7S Framework



Let's look at each of the elements specifically:

Strategy: the plan devised to maintain and build competitive advantage for the cluster over its competition.

Structure: the way the cluster organization is structured and who reports to whom.

Systems: the daily activities and procedures that staff members engage in to get the job done.

Shared Values: called "superordinate goals" when the model was first developed, these are the core values of the company that are evidenced in the corporate culture and the general work ethic.

Style: the style of leadership adopted.

Staff: the employees and their general capabilities.

Skills: the actual skills and competencies of the employees working for the cluster / company.

Placing Shared Values in the middle of the model emphasizes that these values are central to the development of all the other critical elements.

7S Checklist Questions

Here are some questions to use to help explore and understand the current cluster organizational situation.

Strategy:

- What is our cluster strategy?
- How do we intend to achieve our objectives?
- How do we deal with competitive pressure?
- How will changes in customer demands be dealt with?
- How will strategy be adjusted for the future?

Structure:

- How is / will the cluster organization / team be organized?
- What is the hierarchy?
- How do the various departments coordinate activities?
- How do the team members organize and align themselves?

- Is decision making and controlling centralized or decentralized? Is this as it should be, given what we're doing?
- Where are the lines of communication? Explicit or implicit?

Systems:

- What are the main systems that run the organization? Consider financial and HR systems as well as communications and document storage.
- Where are the controls and how are they monitored and evaluated?
- What internal rules and processes does the team use to keep on track?

Shared Values:

- What are the core values of our cluster organization?
- What is the cluster team culture?
- How strong are the values?
- What are the fundamental values that the cluster team was / should be built on?

Style:

- How participative is the management/leadership style?
- How effective is that leadership?
- Do members tend to be competitive or cooperative?
- Are there real teams functioning within the cluster or are they just nominal groups?

Staff:

- What positions need to be filled?
- What knowledge / experience mix do we require ?
- Are there gaps in required competencies?

Skills:

- What are the strongest skills represented within the cluster team?

- Are there any skills gaps?
- What is the cluster known for doing well?
- Do the current employees/team members have the ability to do the job?
- How are skills monitored and assessed?

STEP 4: Summarise with a thorough and accurate SWOT statement

SWOT Analysis is a useful technique for understanding your cluster's strengths and weaknesses, and for identifying both the opportunities open to your cluster and the threats you face. The SWOT is an overarching 'consolidation statement'. It summarises the outcomes and the findings of the PESTEL and the Internal Resource analysis and frames the outcomes in a contextual statement of 'where we are now'. It captures the results from the perspective of the business relative to its market and the competitive environment. What makes SWOT particularly powerful is that, with a little thought, it can help you uncover opportunities that you are well placed to exploit. And by understanding the weaknesses of your cluster you can manage and eliminate threats that would otherwise catch you unawares. More than this, by looking at yourself and your competitors using the SWOT framework, you can start to craft a strategy that helps you distinguish yourself from your competitors, so that you can compete successfully in your market.

How to Use SWOT Analysis

Strengths:

- What advantages does your cluster organization have?
- What do you do better than anyone else?
- What unique or lowest-cost resources can you draw upon that others can't?
- What do people in your market see as your strengths?
- What factors mean that you "get the sale"?
- What is your cluster's *unique selling point* (USP)? - what differentiates your cluster offering from others in the marketplace Consider your strengths from both an internal perspective, and from the point of view of your customers and people in your market.

Look at your cluster from the perspective of your competition. For example, if all of your competitors provide high quality products, then a high quality production process is not a strength in your clusters market, it's a necessity.

Weaknesses:

- What could you improve?
- What should you avoid?
- What are people in your market likely to see as weaknesses?
- What factors lose you sales?

Again, consider this from an internal and external basis: Do other people seem to perceive weaknesses that you don't see? Are your competitors doing any better than you? It's best to be realistic now, and face any unpleasant truths as soon as possible.

Opportunities:

- What good opportunities can you spot?
- What interesting trends are you aware of?

Useful opportunities can come from such things as:

- Changes in technology and markets on both a broad and narrow scale.
- Changes in government policy related to your field.
- Changes in social patterns, population profiles, lifestyle changes, and so on.
- Local events.

A useful approach when looking at opportunities is to look at your strengths and ask yourself whether these open up any opportunities. Alternatively, look at your weaknesses and ask yourself whether you could open up opportunities by eliminating them.

Threats

- What obstacles do you face?
- What are your competitors doing?
- Are quality standards or specifications for your job, products or services changing?
- Is changing technology threatening your position?
- Could any of your weaknesses seriously threaten your business?

When looking at opportunities and threats, the PESTEL analysis carried out earlier can help to ensure that you don't overlook external factors, such as new government regulations, or technological changes in your industry.

STEP 5: Brainstorm strategic options and possibilities for the cluster and carry out a systematic evaluation of each option

Brainstorming is a popular, simple and powerful tool for generating ideas through synthesized or 'thinking outside the box' as it is sometimes called. It helps generate creative solutions to a problem.

Brainstorming combines a relaxed, informal approach to problem-solving with lateral thinking. It asks that people come up with ideas and thoughts that can at first seem to be a bit crazy. The idea is that some of these ideas can be crafted into original, creative solutions to the problem you're trying to solve, while others can spark still more ideas. This approach aims to get people unstuck, by "jolting" them out of their normal ways of thinking.

A fundamental rule of brainstorming sessions is that no criticism of ideas is allowed: You are trying to open up possibilities and break down wrong assumptions about the limits of the problem. Judgments and analysis at this stage stunt idea generation. Ideas should only be evaluated at the end of the brainstorming session – this is the time to explore solutions further using conventional approaches.

It is particularly useful when you want to break out of stale, established patterns of thinking, so that you can develop new ways of looking at things. It also helps you overcome many of the issues that can make group problem-solving a sterile and unsatisfactory process.

Used with your team, it helps you bring the diverse experience of all team members into play during problem solving. This increases the richness of ideas explored, meaning that you can find better solutions to the problems you face.

It can also help you get 'buy-in' from team members for the solution chosen – after all, they were involved in developing it. What's more, because brainstorming is fun, it helps team members bond with one-another as they solve problems in a positive, rewarding environment.

Brainstorming overcomes conventional group problem-solving which can be fraught with problems. Confident, "big-ego" participants can drown out and intimidate quieter group members. Less confident participants can be too scared of ridicule to share their ideas freely. Others may feel pressurized to conform with the group view, or are held back by an excessive respect for authority. As such, group problem-solving is often ineffective and sterile.

By contrast, brainstorming provides a freewheeling environment in which everyone is encouraged to participate. Quirky ideas are not just accepted they are welcomed, and many of the issues of group problem-solving are overcome. All participants are asked to contribute fully and fairly, liberating people to develop a rich array of creative solutions to the problems they're facing.

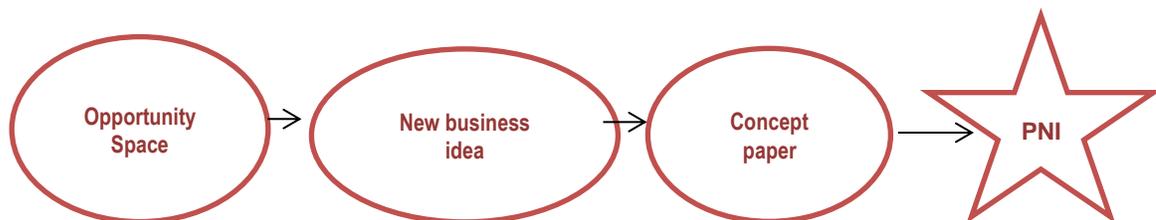
Update note June 2013: The 'Brainstorming process for the pilot competitiveness clusters was an "extended affair'. The process commenced in late 2011 with a number of exploratory sectorial meetings which were organised through the Ministry for Economy. As follow-on to these meetings three structured, facilitated, meetings with representatives of each of the three sectors took place in the course of week 23rd – 26th April 2012. The purpose of the meetings was to create a collaborative forum for cluster activists representing each of the three elements of the Triple Helix (clusters, government and academia) to come together to identify, examine and select innovation opportunities which could be used to form the basis of collaborative cluster based projects into the future. The strategy was to move the discussion from "rearward" looking to "forward" looking i.e. futurising around visionary, ambitious, large-scale, sector projects that would require the entire sector to unite together to deliver and which if realized, would have enormous impact on both the functioning of the sector and the success of the sector into the future. The objective of the meetings was to identify new 'opportunity spaces" i.e. new business opportunities either product and / or service based, through a dynamic, collaborative and innovative facilitation process which incorporated the existing sectoral and business experience of the participants in the identification of new opportunities.

The meetings were facilitated by a three-man Senior Expert Group from the Business Innovation Brokers – a world renowned centre for Innovation, Entrepreneurship and new Business Development based in Bilbao, the Basque Country. As mentioned earlier the targeted participant numbers for each event was about 30 people comprising 50% cluster practitioners, 25% government and 25% academia). Originally conceived as 'opportunity space' identification, refining these into more specific *business ideas* became a core function in the establishment process with contributions coming from a number of sources. This was

brought into being via a series of regional sector gatherings by means of invitation across each of the three selected sectors. Participants were invited to propose areas within the sector where there was obvious potential for improvements through value adding ventures and structured projects. The contribution of the Project, having initiated this phase, was in the form of bringing discipline to the thinking process and streamlining contributions from a variety of sources within the meetings. This process management was a very important factor in ensuring that appropriate and realistic business ideas were generated.

The scale of opportunities and the numbers of ideas that emerged from this “co-creation” process was encouraging. It became clear that, at some point, it would become necessary to choose a limited number of these, based on defined criteria, and progress them to concept development stage. The single-most non-negotiable criterion to be brought to bear in the progression from *business idea* to concept development stage was that the idea should be achievable technically (within the constraints of the current technological and skills levels available to Croatia), have clear potential to impact the specific sector and be of national importance (i.e.) have the potential to have cross-sector engagement and capability to impact at national GDP level.

The graphic below illustrates the **Opportunity Progression Chain**:



Example of typical questions which might be asked at this juncture are:

- What do we want to achieve through the strategic alliance or cluster?
- Can we use other means to reach our goal?
- What partners does the project need?
- Do the partners have sufficient economic, organisational and innovative capacity?
- What benefits (strengths) are the partners bringing into to the network?

- What benefits does the network offer its partners?
- What existing successful or solid strategic alliances can the networking build on?
- Is the “chemistry” between the partners right?
- What trust-building measures are required?
- Are the goals and functions of the strategic alliance or network clear to all the relevant stakeholders?

The following approach is recommended for developing a cluster strategy:

- Step 1: identify “clusterpreneurs”
- Step 2: hold a strategy workshop with all cluster members and partners
- Step 3: form a core team or strategy group to develop the strategy
- Step 4: develop the strategy (first draft)
- Step 5: hold more strategy workshops with all cluster members (feedback)
- Step 6: draft the final version of the cluster strategy
- Step 7: adoption of the final cluster strategy by all cluster members.

STEP 6: Select the preferred option and identify the Key Result Areas for cluster focus

The work does not finish when a preferred strategic option is selected. Critical for doing immediately after an option is selected is identifying the key result areas for a cluster. Key result areas are those areas your effectiveness or otherwise in which will determine success or failure of cluster performance. Identifying clear and specific set of key result areas for a cluster will help cluster managers have clearly defined goals, measure and communicate progress against plans, identify areas for improvement or further development within the cluster and ultimately contribute clusters’ successful development and growth.

STEP 7: Identify risk and assumption and list the factors which are critical for the success of the cluster strategy

Risk is a probability or threat of damage, injury, liability, loss, etc. Risk management systems exist to minimize the probability and develop strategies for mitigating the risk. Risk management is a balancing act – it encompasses maximizing opportunity while minimizing threats. Creation and development of clusters will unavoidably be subject to various risks, so they need to be ready with their responses and mitigation programmes. The need to identify

potential risks for a cluster and develop a proactive and forward looking risk management system is crucial for effective operations of a cluster. Typical risks would be strategic, operational, financial, market, currency, etc. – the kind of risk any economic operator could encounter.

STEP 8: Select the appropriate legal form for the cluster and design an appropriate organization structure

The process of selection of an appropriate legal type for a cluster cannot be overestimated as it will set the boundaries of cluster performance. That's why after the vision, mission and goals of a cluster are defined and agreed, the next step is to consult a lawyer and choose a relevant legal form. Legislation varies from country to country, hence use of a food local lawyer is recommended. Chapter 3 of this handbook covers this item in fuller detail and in addition the reader is referred to a full and separate report on the subject of legal forms and structures titled "*Report on the appropriate legal structure of Croatian clusters*" prepared by the Support to Cluster Development Project and submitted in December 2011.

Similarly, a proper organizational structure must be put in place to ensure both fair governance of the cluster and also to ensure appropriateness, transparency and fairness in the decision making, communication and command and control processes within the cluster organization. Again the reader is referred to Chapter 3 of this guidebook for fuller coverage of this critically important item.

STEP 9: Draft functional/operational action plans, targets and budgets

Once the cluster strategy has been formulated it has to be turned into concrete activities this is done by means of the 'action plan. The purpose of the action plan is to provide a framework for the individual action steps required to convert the intentions expressed in the strategy into specific, concrete actions which when aggregated will move the strategy from concept to concrete.

The actions individual actions in the plan should be assigned to specific individuals who from that moent forward have responsibility and accountability for their implementation. Additionally a realistic time- deadline should be set for the completion of each action tasks, together with a description of the results to be achieved – the so-called "deliverables". Milestones are set for achieving particularly important results of implementation, which help closer tracking of success in implementing the strategy.

The following points in particular should be considered when implementing the strategy:

- Ensure there is clear allocation of responsibility for tasks and results.
- Involve as many cluster members as possible in implementing the strategy – making each clear about what their roles and responsibilities are.
- Proceed in small but very specific steps which do not overstrain the cluster members' often scarce resources.
- The first activities should be ones that can quickly deliver concrete results and promote a shared sense of success among members.
- Ongoing communication to members of both the goals of the strategy and the current level of implementation is crucially important.
- Deadlines should be kept as closely as possible.

It is helpful to define interim goals and corresponding milestones on the way to achieving the overall goals for the cluster. This combines operational concreteness with maximum possible flexibility for future developments.

STEP 10: Allocate responsibility then implement and review

Cluster strategies should not be static constructs, but should ensure the dynamic development of the cluster, and with it the long-term competitiveness of its members. The strategic evolution of the cluster is a basic prerequisite for the cluster's ability to adapt flexibly to changes in both internal and external conditions (markets). There is a form of cluster life cycle. Development and implementation of the strategy both involve managing this life cycle in line with changing market conditions and innovation cycles.

It is essential to have a monitoring mechanism in place to review goals for current relevance at regular intervals and, if necessary, revise and adjust the goals. It can often be necessary to reconsider and reformulate existing goals as part of a reorientation of a cluster. To emphasise the particular importance of goals as a joint basis and roadmap for cluster work, a cluster's most important goals should be fixed in the articles.

For implementation and control of the strategy it is important to define concrete metrics and operationalised goals. A suitable tool for this is the "balanced scorecard".

This is a tool to assist long-term strategic decision making, and uses four dimensions:

- Financial
- Customers and markets

- Business processes
- Learning and growth

These dimensions offer an almost total view of the organisation or cluster, its relevant environment and the dynamics of interactions, which makes possible rapid correction or adjustment to new developments, or response to deviations.

The clusters performance is seen as a balance between these four dimensions. Developments are presented on easily grasped scorecards.

Chapter FIVE: Transitioning your cluster from 'good to great' – 20 best practice steps

Once you have established your cluster and it has begun to move up the maturity curve the time comes to consider the next strategic steps – transitioning from 'good to great'. There are hundreds of examples of both successful and unsuccessful clustering attempts. It is well worth the time spent therefore, learning from the mistakes of others! This chapter sets out a list of the “top-20” internationally accepted best practice action points – the “Do’s” – of cluster development for practitioners to remember and to follow. The first of these is “learn from the experience of others”!

BEST PRACTICE 1: Provide a focus for attracting investment

Targeting companies abroad helps regions boost chances of success in the competition for plants interested in locating within the region. A more ambitious goal is to use targeting to create a potential cluster. Despite the fact that most clusters developed as accidents of history or evolved from local conditions, it is not unknown for regions to aspire to initiate a cluster, particularly in the high tech sectors, by enticing companies in. Clusters provide an environment that attracts specialised investments, which then further enhance the location. The availability of technical skills, support firms and training organisations nearby, all help to attract new investment. Good availability of people is important for attracting a headquarters or R&D facility as is the proximity of a research university.

Concentrating on building sustainable SME growth, rather than hoping for a windfall offshore investment is the best bet. The attraction of investment then becomes in part an in-fill strategy; identifying the gaps within the clusters that can be filled through inward investment.

BEST PRACTICE 2: Focus on building your brand

Clusters increase the success rates of marketing efforts. Marketing, and especially exporting, has been one of the most widely accepted multi-firm activities. The most successful clusters result in a brand that identifies a place with quality, establishes customer loyalty and becomes a prime destination for retail and wholesale buyers.

The cluster can also be a means to brand a product in order to distinguish it from competitors. Regions can support branding through their marketing efforts and state publications. Famous brands are common in agriculture, food and drink with, for example, French champagne, Scotch whisky, Belgian chocolates, Parma ham, etc. Many countries take pride in connecting their wines to location, whether it be Spain, California, South Australia or New Zealand. In other fields, examples are Finnish cell phones, German machine tools, Danish furniture, Waterford crystal, and so on - all globally recognised brands associated with clusters.

Another way to establish a brand is to selectively host cluster conventions and trade shows. Conventions attract customers, suppliers and potential investors from all over the world. A cluster must already be established to use this strategy, but it can help to further secure a region's advantage.

BEST PRACTICE 3: Share the workload

Clustering is a team activity, not a solo effort (there is no 'I' in the word 'cluster'). It is vulnerable if dominated by an elite few. A clustering process is not a closed shop - attracting new people into the process is important in developing a collaborative approach. It can also deepen the pool from which new leaders, with energy, vision, local contacts, and the ability to pull in additional resources, can emerge.

A clustering initiative is a collaborative, team-driven strategy. If the key initiatives are developed and agreed to by the Leadership Group, it is much easier to obtain their energy and enthusiasm in driving those initiatives forward. With many initiatives, the workload is largely carried by the EDA/RDA sometimes with the active involvement of the Chairperson. With this comes the danger not only of volunteer burnout, but also of a limited number of initiatives being addressed rather than a broad portfolio. That loses the opportunity of having different participants from across the cluster working collaboratively (often for the first time) on the development of specific initiatives.

BEST PRACTICE 4: Create local structures for local clusters

Clusters are predominantly a local activity, and for development initiatives to be sustainable they should be driven by local organisations. Business buy-in to the local structure is essential. Two types of structures have evolved to accommodate local economic development:

1: An EDA/RDA that is one step removed from local councils, funded beyond 12 months, with a private sector culture, and a Board dominated by the private sector but also having local political representation. This Board can be well positioned to provide the coordinating role of an Economic Development Forum, bringing together the Chairs of the local cluster groups. An EDA/RDA type structure can where necessary cross over local political boundaries, and give flexibility for salary structures.

2: A Local Authority managed initiative. This can provide security of council funding, staffing stability, enable a "whole of council" approach.

With either structure, the availability of small scale kick-start project funding, with low administrative hurdles, will

speed up new and existing clustering initiatives.

BEST PRACTICE 5: Early political support helps

Participation by the Chair of the Development Agency and local Mayor can assist the early stages of a clustering initiative by demonstrating support and convincing cluster stakeholders to emerge.

BEST PRACTICE 6: But private sector leadership must follow

Leadership needs to move as soon as possible from the initial politicians, through the Cluster Facilitator, to the private sector. Clustering should not be positioned as a 'government initiative'. Well-respected business leaders need to visibly take charge as soon as possible.

BEST PRACTICE 7: Focus on facilitation...not more analysis

A key role in stimulating the development clusters is the availability of a neutral cluster facilitator. As the eight stage process identified, what is needed is a relationship builder within a community, not a researcher / analyst. Many cluster managers are not comfortable in taking on this high-level facilitation/relationship building role. They are more secure in a traditional back-room analyst / meeting role, sending out mail questionnaires, minute taking, and responding to the information needs of potential investors. The skills focus should be on facilitation and dialogue skills not administrative ones.

The facilitator needs to have:

- The personal skills to motivate and empower senior cluster stakeholders
- The ability to build long term relationships, and to motivate when the going gets hard
- Close working knowledge of the activities represented by senior stakeholders
- Knowledge of the clustering process, and of the resources available to support clustering initiatives
- Credibility and integrity.
- The flexibility to participate in many meetings that will be beyond normal working hours. In the following section a formal position objective is given for a cluster facilitator, the key accountabilities defined, and the position requirements and key performance indicators identified.

BEST PRACTICE 8: Move early into action – look for “low-hanging” fruit

A clustering initiative needs to be action orientated, holding the commitment of stakeholders through generating early benefits. Aim initially for small modest benefits, (the low hanging fruit) focusing on aspects that offer early, low-risk results, without substantial effort. For example, developing a web-site with interactive links to local firms is a lower risk strategy than developing a cluster branding programme underpinned by a quality accreditation process. It is not always easy to maintain momentum with initiatives. The key stakeholders in a cluster are the firms at its core. A cluster programme needs to win their support and action early on. Cluster programmes are in danger of being driven more by short term political agendas, with a media/election focus, rather than the perspective of participating firms. This is particularly so where the cluster facilitator is a council employee.

It is not difficult, using a workshop process, to get early agreement on priorities for action. Some initiatives are vulnerable, as months into the ‘clustering programme’ all that has been achieved is research, analysis, meetings, yet more meetings, and reports. Private sector participants, especially SMEs, are likely to drift away from such programmes.

Early initiatives are needed, that generate early results. These need not be substantive initiatives-these can develop as trust and engagement build.

BEST PRACTICE 9: Build for the long-term

Building the trust required for effective collaboration takes time. Benefits only tend to come 6-24 months into the process. Yet many sponsors of local clustering initiatives want short term, immediate pay-offs. New political leadership may force the introduction of new economic development initiatives before clustering benefits emerge. Central Government agencies may introduce new, well-funded initiatives that divert attention from more fundamental but longer term activities. Focusing on meeting the needs of the firms at the core of the cluster should be the priority.

BEST PRACTICE 10: Build a cluster portfolio

Successful local economies are not completely dependent on just one or two clusters for growth and job creation. It is good practice to develop a portfolio of initiatives which generate benefits for a large number of cluster stakeholders, and ensuring that not all eggs are held in one basket.

Developing a portfolio of clusters at the same time helps widen the opportunity base mitigate sector dependency risks and increases competition (and innovation) for resources. Competition and rivalry between Leadership Groups are positive, as long as they don't become destructive. Working simultaneously on multiple fronts enables cross-cluster issues to be addressed. A senior Economic Development Forum can provide the vehicle for this. Not all initiatives will bear fruit; the initial focus needs to be on low risk / early return initiatives. Larger, longer-term projects are better introduced after the cluster group has achieved some positive results.

Successful cluster case - Malta tourism cluster: a traditional offer in need of an innovative push

A significant part of Malta's land is difficult to farm, making the country heavily dependent on imports. Since the country's independence from the UK in the early 60s, the Maltese tourism and advanced services cluster has been greatly developed. In fact, GDP in Malta is mainly generated by services, comprised 73% from tourism and 24% from industry. Over a million people visit Malta each year. Malta Enterprise, a government-funded agency uses cooperation and clustering to enhance the cost competitiveness of the micro and fragmented business entities, even though some observers report that clusters are underdeveloped in Malta due to the fears of local entrepreneurs of losing their competitive edge if they join forces. In fact, there is a high degree of interaction and healthy collaboration, specifically among hoteliers due to regular sharing of information on rates and occupancy levels, and natural HR mobility. This interaction is not as fluent amongst the other actors in the cluster, such as diving and language schools. The cluster has not reached its full potential, however, by thus far eschewing opportunities to innovate by, for example, leveraging Malta's other key sector, IT, to join the global trend towards web-based marketing of tourism.

In the 1970s, the government led "sun and beach" mass tourism boom, which was supported by a large and barely regulated construction boom, resulted in a large increase in tourist volumes but with lower spending per tourist. The difficult period of the early 1980s due to the high dependency of the UK market, which was in recession at that time, forced the industry to adopt more aggressive marketing approaches and market diversification strategies, both in terms of the origin of tourists and of their interests: i.e. cultural tourism, language learning, diving, conferences and incentive packages. Since its restructuring in 2004, the Malta Tourism Authority (MTA) has shifted its approach from a geographical-focus in its tourism development to the development of 7 tourism segments, with a considerable effort in branding (Tour operators and leisure; Conferences and corporate incentives; Language learning; Sports (diving); Gozo (rural and ecotourism); Culture & history; Other growth sectors). The EU's Structural Funds are targeted at driving quality assurance in the industry. At present, tourists still are primarily British (45%), but increasingly other European markets are being developed, whereas tourists coming from the US & Australia are primarily from the Maltese Diaspora returning to visit friends and relatives. Tourism in Malta competes in a market segment with high price elasticity and increasingly sophisticated tourists. Competing destinations are mainly the Spanish islands, Tunisia, Turkey and Cyprus.

The role of the MTA is vital in coordinating cluster efforts, defining strategy and marketing Malta's tourism products, because the Maltese tourism cluster, as is often the case in this sector, is highly atomised, with 6 large companies and the remainder being (very) small companies. The key action areas on which the MTA has been focusing (branding, training, quality assurance, heritage restoration) are certainly of vital importance for the competitiveness of the cluster.

Source: Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness" by Competitiveness.com, under the Europe Innova Cluster Mapping Project for the Enterprise and Industry Directorate General of the European Commission. January 2008.

BEST PRACTICE 11: Both High-tech and Low-tech

Politicians often see clustering initiatives as only being applicable to high-tech activities. However a true knowledge-driven economy is not restricted to a few glamorous clusters, but a basket of them, with varying degrees of technology intensity.

Innovation needs to be fostered across the whole technology spectrum; the focus should not be restricted to a few hi-tech firms in emerging clusters. High-performance apparel, furniture, or processed foods clusters are just as much hi-tech as IT or electronics.

If no high-tech clusters exist within a community, political leaders may even command that they be created. Such wishful thinking drains energy away from the life blood of the community - the developed and the embryonic clusters that are already present.

BEST PRACTICE 12: Market sector focus

If the cluster boundary is taken too broadly, as 'light manufacturing' rather than 'processed foods', for example, then the initiatives that emerge are likely to be too generic to have much impact. There will be only limited commonality, and the lowest common denominators will make little impact on bottom lines.

It is important to focus on what has meaning for the cluster stakeholders. This will probably evolve over time.

BEST PRACTICE 13: Geographic focus

The geographic boundaries of a cluster often do not coincide with political boundaries. Often economic development professionals see value with cross-border cooperation, but their political masters less so. Boundaries only matter

when the cluster requires significant involvement from two or more local governments. Many clusters extend beyond local government boundaries, others often cover only a corner of a Local Authorities territory. These different boundaries are of no interest to participating businesses, or international customers.

BEST PRACTICE 14: Use a neutral corner

1. To overcome inertia

There is often grudging reference within a locality to the number of plans that were developed with little action, and wish lists left sitting on the table. The deadlock can be broken under the auspices of a clustering initiative, with neutral facilitators who are able to provide a forum for open dialogue and action. Using facilitators from beyond your community may be of value, particularly in the early stages. However, this is not a substitute for the Development Agency doing the groundwork within their community, and knowing well the key cluster stakeholders.

2. To move tacit information

When knowledge is changing rapidly, as in new and emerging industries, interaction is vital. Frequent and repeated contact is best. Tacit knowledge, unlike codified knowledge, cannot be easily transferred because it is not explicit. Easy switching between jobs, both amongst firms and between firms and technology providers, helps tacit knowledge to be passed on. Organise cluster breakfast meetings, cluster specific training courses/workshops seminars, site visits, and participation in missions/trade fairs.

BEST PRACTICE 15: Develop Trust

Social networks both formal and informal, are vital for high performing clusters **to work**. From these linkages trust and dialogue develop. Many (unsuccessful) clusters have too few linkages. Proactive clustering helps build the interactions necessary for a high performing cluster, moving the cluster on from being a 'clump' of firms which happen to be geographically close to a densely networked system. Arrange site visits for cluster stakeholders to build trust. All too often the premises of other companies are seen as being 'out-of-bounds'.

BEST PRACTICE 16: Bring additional resources to the table

In the early stages additional resources are important to gaining private sector attention. This could include funding from government agencies, public utilities, funding / allocation of resources from private sector organisations, or the

early development of training programmes by the local polytechnic to support the cluster. A successful clustering process enables groups of businesses such as small businesses, artists and craftspeople to build the critical mass to jointly access resources. The cluster facilitator needs to be fully aware of the external resources that can help move forward the local agenda.

A word of caution: a clustering programme can lose momentum if support firms, such as local printers and real estate agents come to dominate cluster meetings, even though they bring financial support.

BEST PRACTICE 17: Connect to universities and technology institutes: key sources of knowledge and ideas

Tertiary institutions internationally are emerging from a narrow role as learning institutions, to a broader role serving as technology generators, and generators of new companies. In the US it is often community colleges – the equivalent of polytechnics – that are filling local vacuums by providing the training and social hubs of local cluster. They are offering specialised training for SMEs, building alumni networks, providing technology transfer, and also acting as the neutral catalyst in bringing the diverse stakeholders in a local cluster together to establish areas of collaborative engagement. Germany's Fachschule provide a similar role. We have yet to see a similar pro-active role develop widely in Croatia.

BEST PRACTICE 18: Cluster Benchmarking – Opening Eyes

Benchmarking provides a learning opportunity and helps build team spirit. However, the benchmark location needs to be carefully chosen. New information and analysis can provide the healthy key to questioning the status quo, current assumptions, and resetting direction. Sometimes participants in a cluster have myopic views of international trends and emerging competitors. A well-researched and presented 'data shock' or a simple invitation to speakers from similar (foreign) clusters to address local meetings can galvanise the necessary action.

Update note June 2013: The Project has designed and built a cluster benchmarking tool (CBT). This CBT fully complies with EU best practice in cluster organisation benchmarking as defined and utilised under the ECEI. It is, therefore, readily transferrable to cluster benchmarking in a wider Croatian context and beyond. This CBT uses a series of indicators, grouped under six dimensions, to evaluate cluster organisation performance. The CBT tool and methodology have been handed over to the Ministry for Entrepreneurship and Crafts, from whom full details can be obtained.

BEST PRACTICE 19: Build media coverage – use integrated marketing communications strategy (IMC)

A clustering initiative needs broad community involvement, and the media is a key means of securing this. One person amongst the cluster's Leadership Group should have responsibility for maintaining media contact. As part of a pro-active media campaign, a newsletter primarily aimed at cluster members can usefully be distributed to both the local and national media.

BEST PRACTICE 20: Focus on internationalization - when and where appropriate

Internationalisation means extending the cluster reach into foreign markets. The obvious benefits of this strategy are developing businesses' international trade and attracting foreign investments to the clusters' region. However, internationalisation may not be either possible or appropriate for all clusters. Competing successfully in international markets requires a strength and sophistication in management, strategy, marketing and finance which may not be present in all clusters. Internationalisation should only be considered therefore, when there is both the internal resource capacity and a clear competitive justification and rationale for doing so. According to the EU TACTICS Internationalisation Handbook Guidelines (version Draft 2 WG 11/03/11) the key challenges faced when implementing an internationalization strategy are as follows:

- Developing strategies and competencies for working internationally
- Identifying partners and developing cooperative (and commercially valuable) relations internationally
- Financing international activities (particularly for SMEs)
- Agreeing on functional governance/decision-making structures in transnational settings¹¹

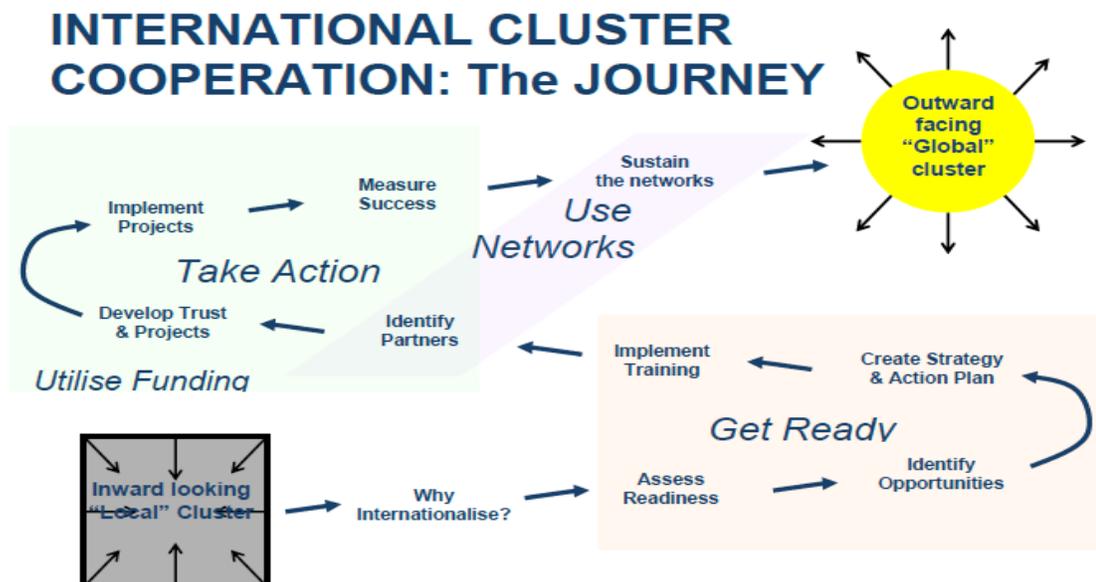
¹¹ Taken from: KIA-#947746.1.TACTICS Internationalisation Handbook Guidelines version Draft 2 WG 110311
<http://www.proinno-europe.eu/eca/page/results-publications>

Figure 12: Internationalisation model¹²



A guideline handbook on internationalization referred to above, is, at time of writing of this handbook (January, 2012) being produced by the EU TACTICS. For reader information the following is an extract of 10 steps for successful internationalization identified and summarized in this 'work-in-progress' document from the TACTICS team.

Figure 13: International cluster cooperation – 10 steps¹³



¹² Improving the cluster infrastructure through policy actions, produced by the CLUNET- European Cluster Alliance Consortium of Partners, January, 2010 <http://www.proinno-europe.eu/eca/page/results-publications>

¹³ KIA-#947746.1.TACTICS Internationalisation Handbook Guidelines version Draft 2 WG 110311 <http://www.proinno-europe.eu/eca/page/results-publications>

The reader will observe that there is an element of overlap between some of the 10 steps to internationalization and some of the previous 19 best practice steps identified by this handbook. Hence, there are common elements in both processes, as in order to develop a cluster, whether locally or internationally, certain things / steps have to be in place regardless of the focus of the efforts.

There are examples of successful internationalization of regional clusters – the Bulgarian furniture cluster is one such example and is described below, however, as previously cautioned the challenges of internationalization should not be underestimated.

Successful internationalization: the Bulgarian Furniture Cluster- a case study in effective execution!

The Bulgarian Furniture Cluster is a national based business organization, established in 2008. The cluster consists of 22 SME furniture manufacturers, 5 design studios, 2 NGOs and 2 educational institutions who decided to join resources, capabilities and potential with the purpose of increasing their competitiveness in foreign markets.

The Cluster developed as a result of the confluence of two events: The first EU Pilot Cluster project in Bulgaria 2005/6 - which supported the creation of The Troyan, Furniture cluster and subsequent connections made by the then Executive Director of the Branch Chamber for the Wood Processing and Furniture Industry, in Germany, during the Football World Cup of 2006.

After a few difficult years, especially with logistics and quality issues, the first hotel fitting contracts were acquired which led in turn, to further longer-term contracts. Whilst the hotel furniture niche happened largely by chance, it was not surprising, as the 2000s were a period of heavy expansion in the hotel sector, especially in Western Europe. These successes enabled cluster consolidation, provided a platform for further expansion and created an aspirational ethos within the group. They also gave the cluster a significant list of references, which enabled them to move further and gain more business.

To become a member of the cluster enterprises much be able to demonstrate; technical knowledge, modernization - new technology, new materials, new processes, optimization and efficiency in production as well as the more subjective management criteria of management competence, a proper understanding of and willingness to engage in 'cluster cooperation'.

The cluster operates as a professionally managed, successful commercial business with professional management practices very much in evidence i.e. a systematic business planning process - setting objectives and reviewing performance against plans. Regular, formal, structured communications i.e. quarterly cluster management meetings with attendance levels of 70% recorded. A programme of member visits – 'getting to know you' events. Focus groups working on marketing, design/trends, HR and education. A programme of networking and sector representation at national and international level -trade missions to the Holzcluster in Austria and The Chair Triangle in Italy. Strategic partnerships – partnering with Cluster Land, Holz Cluster, etc. Joint Marketing Activities,, participation in fairs such as:

- The Sleep Event London 2010
- Milano Design Week 2011 (via Tortona)

- IMM Cologne 2011

Results over the past 5 years have been highly impressive:

- Aggregate turnover of more than €50 million in 2011, total aggregate employment 2650 people ,economic growth of 12% (first 6 months of 2011)
- Fully furnished 52 hotels across Germany in the past 5 years - a total of 5,685 hotel rooms furnished across Europe to-date, achieved 'preferred supplier' status for 2 Hotel Groups in Germany
- Furnished the Peugeot administration office and the Citroen Racing Service offices in France and will furnish 300 Showrooms of Citroen in France by the end of 2012
- Furnished 2 Business Centers in Hannover and Cologne and have delivered dining room sets for 12 'Home Furniture' Stores in Finland
- Currently tendering for a contract to furnish 6000 rooms in the Olympic village of Sochi for 2014

Success is attributed to:

- Clear understanding of the cluster's purpose and objectives
- Shared vision for the cluster
- A committed membership, selected for their progressive thinking from across the country - no imposed geographic boundaries
- Effective leadership and strategic thinking – not yet common in SEE
- Energetic cluster management organisation
- Trust, fairness and sharing of: information, resources and workload

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Chapter SIX: Criteria for Forming Regional Clusters

The regional economy is a complex political world in which local firms and regional actors may have as many differences among them as between them. Indeed, other dividing lines may be identified, for instance between small-scale indigenous economic development (SMEs and related business support organisations) and large-scale production (large firms, foreign producers, inward investment agencies, RDAs).

The regional cluster approach is not just another form of delivering regional support to SMEs. The innovative aspect of the cluster approach is that it frames business support in a regional strategic perspective. This means, in practice, that cluster initiatives, by helping groups of firms, also aim at strengthening the regional economic structure. Structural changes are achieved by strengthening specific sectors such as automotive, environmental etc., but also by improving the links with and quality of the support infrastructure (Lagendijk A., 1999).

Like all forms of business support, regional cluster approaches should not simply respond to business needs (in the sense of self-declared wants). Rather, the specific objectives of a cluster initiative should be based on an assessment of how business performance can be modified in order to serve regional interests. Regional interests may be based on the wish to keep firms in the area, to build links between large firms and SMEs, to improve regional assets (technological capacities, labour market, collective intelligence on external technological and market development). Such regional assets have been defined as 'club goods'. Obviously, business actors will only co-operate with regional strategies if they feel it is also in their (individual or collective) business interest (Lagendijk A., 1999). These or similar contextual considerations should set the criteria agenda and drive the decision process.

Cluster initiatives can only be successful if they manage to align business and regional interests. One result of this alignment is the creation of 'club goods', productive assets anchored into regions underpinning the competitiveness of specific regional business groups.

"Good practices in SME Cluster initiatives. Lessons from the 'Core' regions and beyond.", Arnoud Lagendijk, 8 November, 1999

When assessing regional and business needs, careful attention should be paid to which factors underpin business competitiveness. This means that business development should be perceived from an integral perspective, taking

account of management issues, technology, training, quality, finance, marketing etc. This should be followed by a strategic assessment of how a group of regional firms may (re)position itself in the global market, and an assessment of which (business and regional) capabilities are most in need of improvement.

Cluster creation approaches should take a broad view of business development, based on careful assessment of the competitive positioning of groups of regional firms in the global economy. This may result, at least initially, in an emphasis on modernisation (upgrading) rather than on innovation (creating unique technological advantages) in cluster creation criteria.

Clusters are a tool for the further development of existing regional or entrepreneurial strengths. They are not suitable as a short-term solution for structural weaknesses. When starting from scratch it's best to understand the critical success factor and to make formation decisions only in locations where these criteria have been met. There are two specific dimensions to the general criteria framework:

- **External dimension** – macro considerations: i.e. economic/ market regional conditions and economic criteria. An adequate number of supplementary and active businesses with at least a European level of competitiveness are a prerequisite for successful cluster development.
- **Internal dimension** – micro considerations: organizational and operational aspects
 - There should be a clear focus on core competences which are identifiable in practice. Clusters must have a common identity.
 - Clusters need appropriate, lean and professional control and management structures.
 - Existence of appropriate stimulating support programmes, partnerships and innovative service models (such as the “one stop shop” model), but they cannot “build” clusters.

External dimension -economic and developmental criteria

Chapter 2A-Step 2 of this manual elaborates some of the criteria for regional cluster formation in the context of the top-down approach to cluster building. This chapter, whilst including consideration of the criteria already mentioned provides a wider more general base of criteria which could/ should be considered when setting up a regional cluster.

- 1: Growth potential- in terms of profits, products, people, markets etc

- 2: Solid or established economic base in the regions and upon which to build.
- 3: Potential for economic diversification into higher-skill and higher wage industries.
- 5: Cluster has high-potential sub-clusters or niche areas that have demonstrated strong growth potential.

Criteria for prioritising clusters:

- Should relate to the size of the opportunity (current exports, and possible growth; current and potential employment; number of firms)
- The infrastructure currently in place (specialised education/training facilities, a neighbouring CRI, specialised physical infrastructure).

Internal dimension; -organisational and management criteria

Chapter 3– legal forms and organizational structures – highlighted effective internal (cluster management organization) capabilities one of the three key determinants of overall cluster effectiveness. This makes the identification of the existence of such factors or the potential for the existence of such factors critical. As a guide criteria in this dimension which might be assessed in any evaluation exercise would consist of:

- The existence of entrepreneurial attitudes and competence within the proposed cluster
- Evidence of trust in alliance partners and involved institutions (or shortcomings in the alliance culture)
- Levels of business knowledge and acumen amongst the proposed / likely partners
- Levels of informal networking that exist
- A clear and shared understanding of the cluster purpose, mission objectives and modus operandi
- Realistic expectations of cluster capability and performance.
- Financial Stability of the enterprises/ potential cluster members - as relevant and appropriate

- Experience and capacity of the potential cluster management team
- Interest and commitment of the potential cluster community to making the initiative work

However, to be most effective, the cluster creation process should work on a ***portfolio of clustering initiatives***. This will encourage positive competition between potential cluster groups, and provide the opportunity to pick up on and address cross-cluster issues.

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