

CONNECT & CREATE

Cluster Development Guide

A Practitioners Guide for Cluster
Policy, Strategy and Implementation





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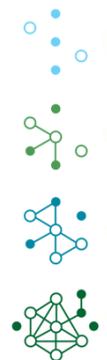
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PREFACE



Background

- In economic development policy, the term “cluster” is usually used to describe geographical concentrations of companies and innovation activities. According to cluster theory, both firms and regions benefit from clusters. “These benefits accrue as a result of co-location or geographic proximity that, in turn, creates lower input costs for firms through agglomeration economies and facilitates knowledge spillovers that produce innovation and increased productivity.”* The cluster approach was introduced by Michael Porter** in 1990. Since then, economists have used and defined the terms in many, slightly different ways.
- Clusters can be understood as both, a development approach aimed at facilitating networking and cooperation between companies and a real economic phenomenon, such as a Cluster management organisation***. They play a crucial role in boosting collaboration and networking among companies as well as in building bridges across different ecosystems, enabling innovation among SMEs. Clusters can also help SMEs to access global value chains and can act as drivers of industrial change and carbon-neutral ‘green’ transformation.
- European policy makers have started to apply the approach since the end of the 1990s. Today, around 3,500 cluster initiatives and similar approaches can be found across Europe****. Other regions in the world like North Africa, Sub-Saharan Africa and Asia have also significantly used the cluster approach to increase regional competitiveness. In recent years, clusters have assumed a new and increasingly important role in the framework of sustainable development and resilience in regional economies.



Objective and target group

The aim of the present document is to give practitioners comprehensive and recent information on how to best support cluster development in practice. It incorporates state-of-the-art trends and takes into account the new framework conditions resulting from digital transformation and technological convergence. It also considers the new reality of the COVID-19 pandemic and related societal changes which give rise to shifts in cluster policies.

The document consists of two parts: While the first part of this Guide, **PART I** (“**Strengthening Cluster Policies**”) is mainly intended to be utilised by GIZ and its partner organisations for developing and implementing cluster development projects, **PART II** (“**Strengthening Cluster Management**”) targets mainly cluster practitioners within clusters and cluster support organisations.

**Cluster
Development
Guide**

Mainly **GIZ** and related partner organisation as well as **their national counterparts**

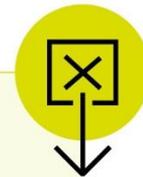
**Toolkit
for Cluster
Management**

Mainly **cluster managers or similar actors** (e. g. Business Park Management dealing with cluster development at an operational level)



In addition to displaying practical instruments for cluster practitioners, the guide includes the following topics:

- **Different shapes of cluster development:** Clusters are about agglomeration, competition and cooperation. This can be achieved by cluster initiatives, Special Economic Zones, Industrial Parks and other similar initiatives. The guide focusses less on which cluster type is the “right one”. It will instead endeavor to show that different development efforts must be matched by the appropriate management approaches.
- **Cluster emergence and different cluster development stages:** Clusters display different stages of maturity, from embryonic to advanced to specialised phases. The management requirements change in accordance with each stage of development.
- **Cluster strategies matter:** Developing a cluster strategy is important for each type of cluster. Strategies differ according to the stage of maturity a cluster operates in.
- **Interplay between clusters and regional development policy:** Clusters are more and more understood as active tools for regional development. Regional developers are in a good position to become partners for cluster management entities.



FURTHER READINGS

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PART

1

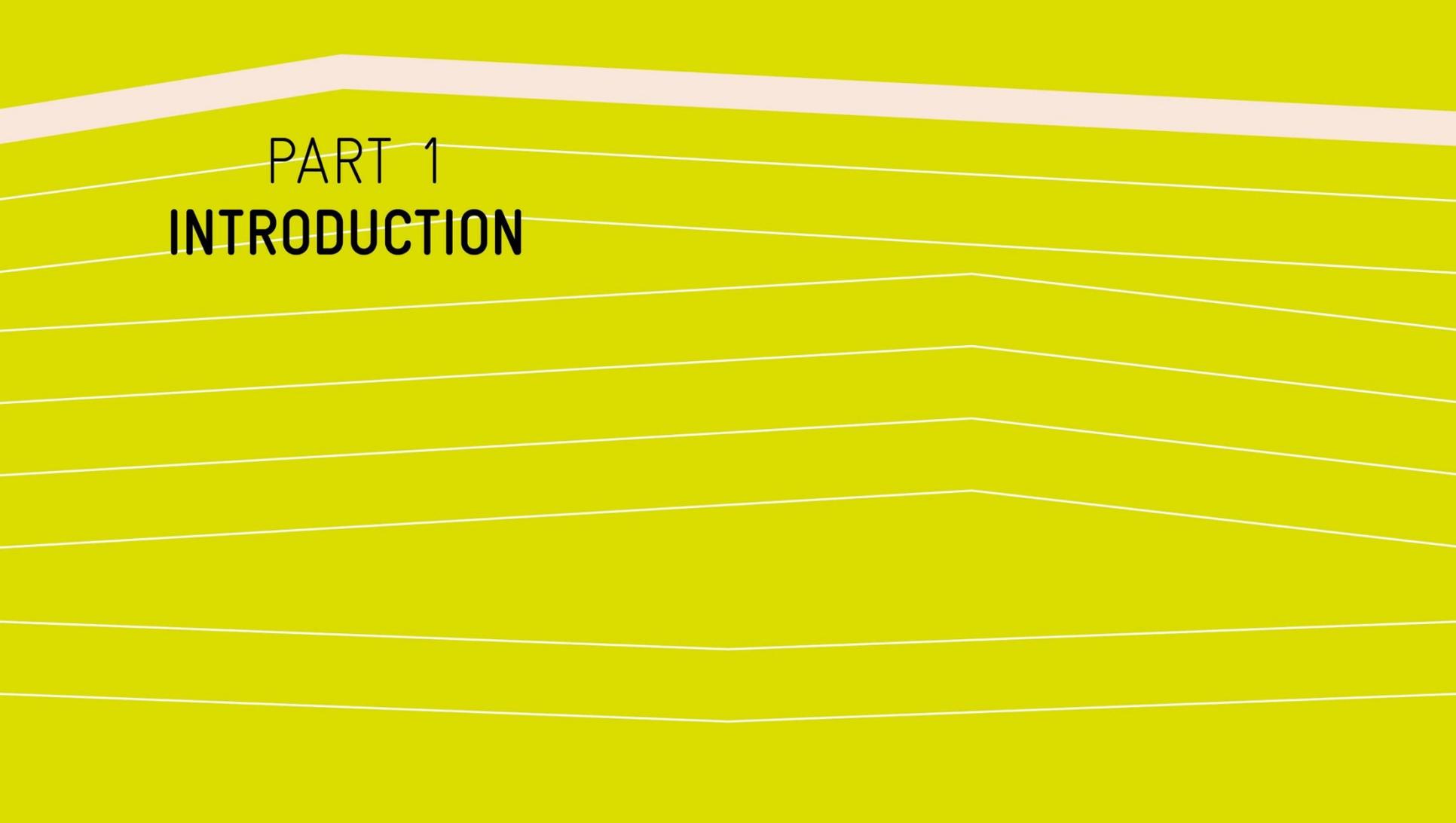


OVERVIEW OF PART 1



Strengthening Cluster Policies

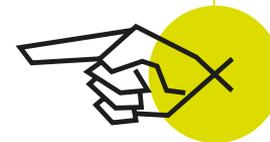
- **INTRODUCTION**
- **EVOLUTION AND RELEVANCE**
- **THE ROLE OF CLUSTER POLICY**

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PART 1
INTRODUCTION



OVERVIEW OF PART 1: INTRODUCTION



- **The cluster approach**
- **Strategic alliances as a precursor of the cluster approach**
- **Differentiating various shapes of cluster implementation**
- **Further readings**



The cluster approach

Since Michael Porter published his book on the competitive advantages of nations in the early 90s*, the cluster approach has become an important instrument of regional competitiveness policy all over the world.

Why clusters?

Due to globalized value creation processes, digital and carbon-neutral transformation as well as sectoral and technological convergences, today's businesses face complex and turbulent environments.

- They must sell a stream of new and better products in identified growth markets which are often heavily contested.
- They must take the lead in quality improvement and new technologies.
- They must produce and sell at competitive prices.
- To reach these goals, firms must innovate successfully through dedicated R&D on a regular and long-term basis.

Only very few businesses feature sufficient capital, market know-how, product knowledge and ability to learn on their own. To combat these limitations, businesses, especially SMEs, must focus on their core competences and establish well-structured collaborations with complementary partners.

Cluster participation plays a crucial role in boosting such collaboration of enterprises. To further support innovation, internationalisation and competitiveness, clusters can help to build bridges connecting different ecosystems, supporting innovation, internationalisation and competitiveness**.



The cluster approach

Over the past decades, the economy has flourished in regions where multiple businesses are engaged in strategic alliances with an industry or positioned along an associated value chain. Such regional ecosystems also include business service providers, R&D institutes, innovation service providers, universities and advanced training institutions. Regional agglomeration is a key ingredient for successful cluster development.

Clusters can arise on their own where suppliers and supplementary service providers relocate or establish businesses in places where there are already enough partners with complementary competencies. External economies based on shared infrastructure, skilled workers, knowledge networks and a culture of innovation present the opportunity to specialize and create a binding force in the region*. This can lead to a regional upgrade in terms of economic development, giving it appeal for new complementary business relocations and related cluster growth.

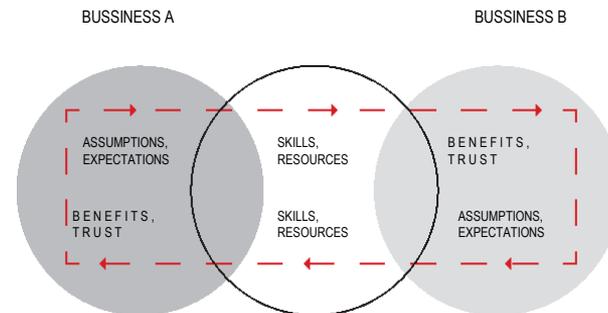


Strategic alliances as a precursor of the cluster approach

Forerunners of the cluster approach are so-called "strategic alliances". Strategic alliances generally have the **following characteristics** (among others):

orientation on benefits	orientation on strengths	partial link	functional autonomy
The partners expect a benefit for themselves.	The anticipated added value arises out of the interaction based on specific strengths of the partners.	The partners in the alliance bring in these specific strengths & competences, but not their businesses as a whole.	The partners in the alliance maintain their autonomy.

A cluster might grow organically where a critical mass of companies in an industry engage in strategic alliances within a given value chain.





Differentiating various shapes of cluster implementation

Regional economic or cluster policy often supports cluster formation and development by establishing or promoting the necessary hard and soft infrastructures. It is essential to build upon a critical mass of supplementary actors and competences. Cluster development does not necessarily serve as a short-term solution for any structural weaknesses in the system. Rather, it is a long-term commitment on the part of all actors concerned.

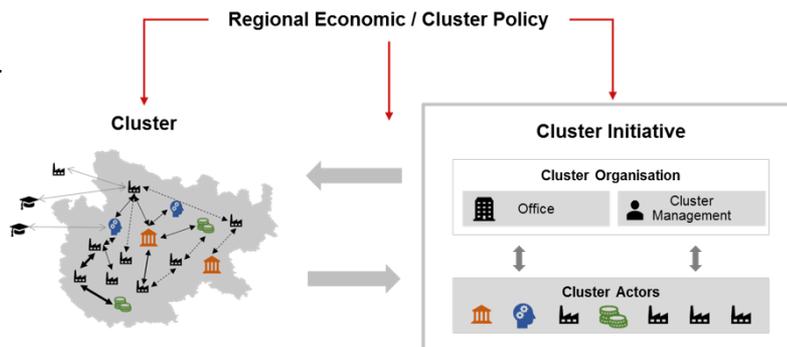
In many countries, policy promotes the creation of Cluster Initiatives, Special Economic Zones or Industrial Parks. These include related business services offered to the cluster participants by a coordinating entity such as cluster management or park management.

Such clustering initiatives are organised networks of alliances among a large number of different actors in a regional economic system.

All clusters share **four qualifying characteristics**:

- a spatial focus
- a sectoral focus
- a critical mass of firms
- a management unit

While clusters share these qualities, their implementation may take on various shapes portrayed in the following two slides.





Differentiating various shapes of cluster implementation

Inter-firm Network

(Inter-firm) Networks are alliances of firms that work together towards economic and/or environmental goals. They can be established between firms within clusters but also exist outside clusters. Networks can be horizontal (firms that compete for the same market) and vertical (firms belonging to different levels of the same value chain)[†].

Industrial District

In contrast to the theoretical construct of ‘growth pole’, the industrial district is a local system characterized by the active co-presence of a human community and a dominant industry constituted by a set of small independent firms specialized in different phases of the same production process. The term ‘Industrial District’ was initially developed by Alfred Marshall in 1890^{**}.

Growth Poles

Growth Poles are centers of propulsive industries, i.e. industries that dominate other sectors because of their large size, considerable market power, and/or role as lead innovators. Expanding industries (or even individual firms) represent poles of growth which attract, concentrate, and direct other economic resources.

The genesis of the growth pole idea was mainly in economics, rather than in geography space, although geographical agglomeration was not excluded^{***}.

Business Associations

Business Associations bring together firms with similar interests, therefore providing a wide range of functions, including voicing the collective interests of member companies they represent or offering services such as training, information, networking, organising trade fares etc. There is a huge variety of possible organisational structures a business association can have. Regional proximity is not a must^{****}.



Differentiating various shapes of cluster implementation

Special Economic Zone (SEZ)

SEZs are geographically delimited areas within which governments facilitate industrial activity through administrative, fiscal and regulatory incentives and infrastructure support that are different than those of the domestic country. SEZs are widely used across most developing and many developed economies^{*}.

Science and Technology Park (STP)

A science / technology park is an organisation managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting an innovative culture and the competitiveness of its associated businesses and knowledge-based institutions. A Technology Park has similar objectives as an Industrial park, but is more focused on technology and innovation.

To enable these goals to be met, a Science / Technology Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities^{**}.

Industrial Park

An industrial park is defined as a large tract of land, subdivided and developed for the use of several firms. It features shared infrastructure and promotes the close proximity of firms^{***}.

Eco-industrial Park (EIP)

EIPs are a dedicated area for industrial use at a suitable site that ensures sustainability through the integration of social, economic, and environmental quality aspects into its siting, planning, management and operations^{****}.



Clusters vary across sectors and regions

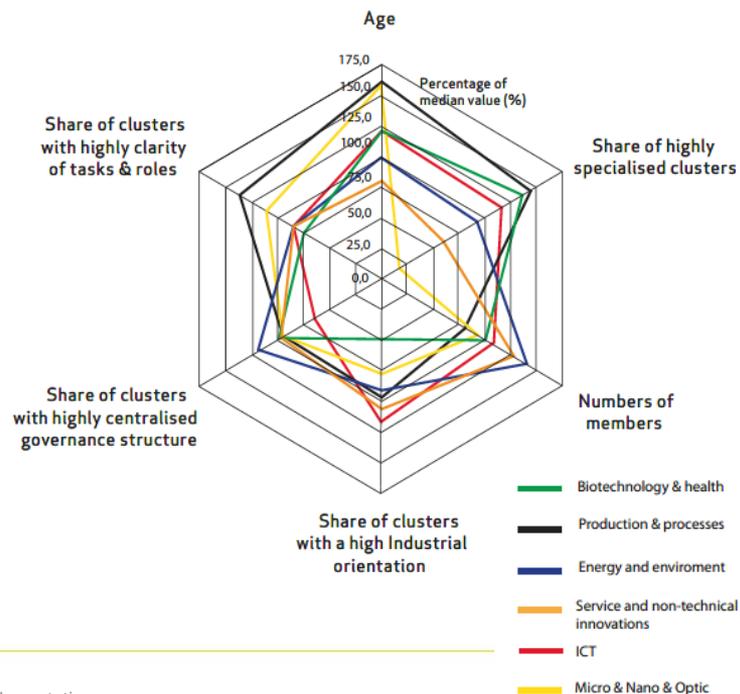
Clusters vary across different variables, for example with regard to the number of their members, level of specialisation of their members and their governance structure. These differences depend, amongst others, on:

Sector

Whereas manufacturing clusters usually focus on quality and productivity, agribusiness cluster might focus on organic sourcing or export promotion from the very beginning. For Biotech or Life Science clusters, R&D and innovation is often the prevailing field of activities. ICT clusters often focus on business generation and market penetration.

Country / Region

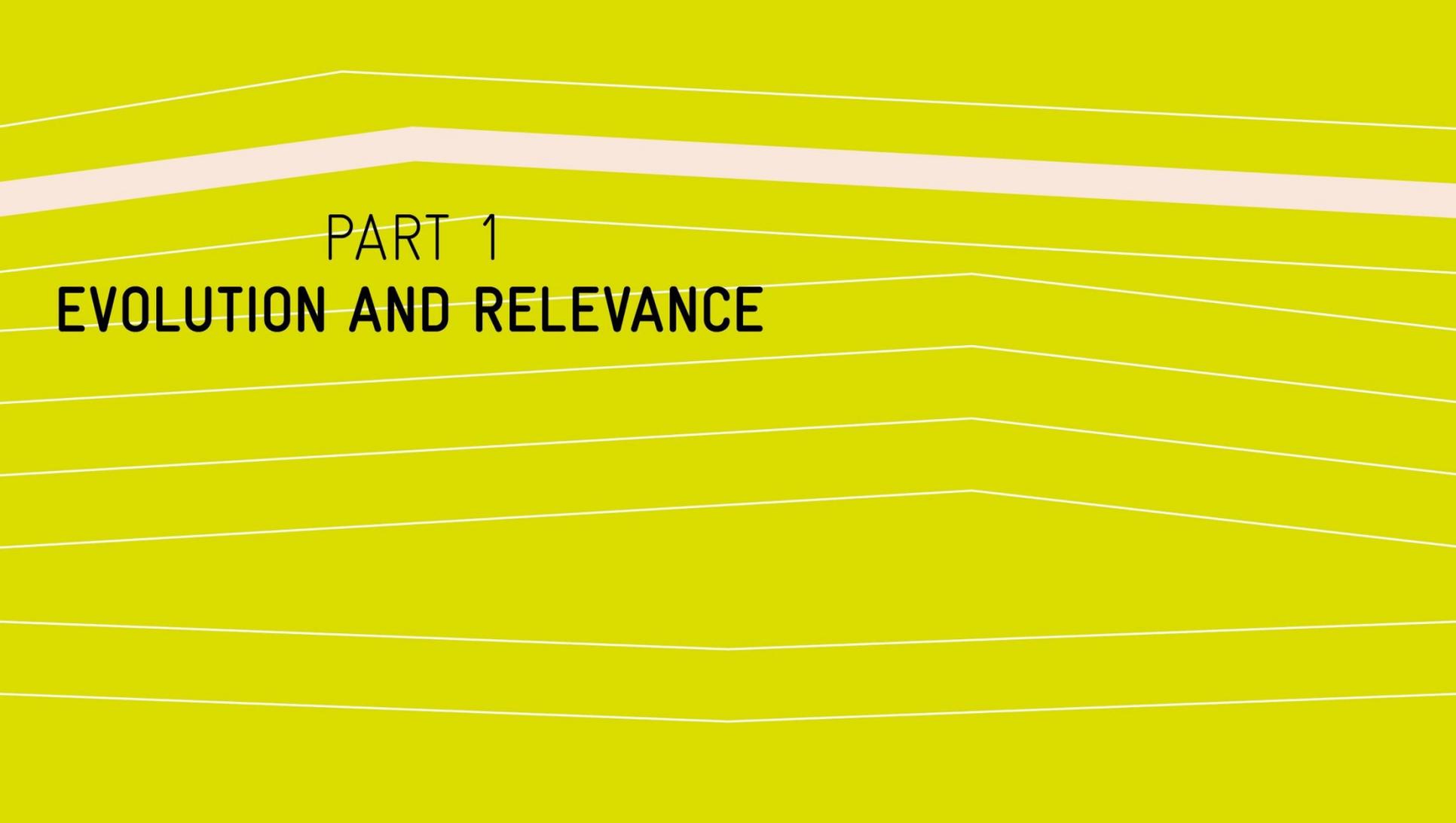
Of course also the maturity of the overall economy, industrial landscape and framework conditions shape the characteristics of clusters and their development path. Consequently, cluster development varies between countries and regions. For example, in developing countries, clusters often have fewer R&D institutions and universities among their members. Thus, country specific approaches for cluster development are the most promising way¹.





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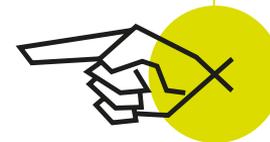
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PART 1

EVOLUTION AND RELEVANCE



OVERVIEW OF PART 1: EVOLUTION & RELEVANCE



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- **Clusters as integral parts of regional economic development**
- **Relevance of the cluster approach in development cooperation**
- **Key drivers, prerequisites and obstacles to cluster development**
- **Predominant cluster approaches around the world**
- **Further readings**



How the cluster approach evolved over time

The idea of businesses co-locating with related firms (including competitors) is nothing new – it could already be observed in ancient Athens. In the city center, the agora, fruit, fish, spice and perfume retailers and jewelers gathered in adjacent corners. In Germany, two regions with long traditions in specific products are Nuremberg for pencil manufacturing and Solingen for specialty steels.

Observers of this co-location phenomenon include the following:

1890

Alfred Marshall, described his observations on northern England in *The Concentration of Specialised Industries in Particular Localities* (1890): “When an industry has chosen a locality for itself it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another (...) and presently subsidiary trade grows up in the neighborhood”. The availability of skilled labour, intermediate goods, easy transmission and discussion of new ideas and improvements are pointed out by Marshall as major advantages.

1939

Joseph Schumpeter in 1939 highlighted the “swarm like appearance of entrepreneurs” and “the clustering of industry”^{**}.

1977

Arnaldo Bagnasco in 1977 established the term ‘Third Italy’ referring to areas in north-eastern and central Italy that are characterized by a strong presence of crafts-based small firms clustered in a constellation of specialized industrial districts^{***}.

1978

Giacomo Becattini in 1979 drew on his experience with Italy’s industrial districts, highlighting spatial economic development and social relationships. Becattini emphasized a passive “embeddedness” and an active “sense of belonging” to a place with a shared vision^{****}.

1990

Michael Porter popularised the relevance of clusters as a framework for economic development in 1990. By introducing the ‘Diamond Model’, Porter describes why some firms and some regions were particularly successful. His comprehensive work drew on research in ten leading trade countries: Denmark, Germany, Italy, Japan, Korea, Singapore, Sweden, Switzerland, the UK and the US^{*****}.

2008

European Cluster Policy Group, led by **Tea Petrin**, set the cornerstones for the modern European Cluster Policy Approach. This approach placed the importance of cluster organisation and related excellence at the core of the approach. It also established the importance of leveraging cluster development interventions through the support of framework conditions^{*****}.



Clusters as integral parts of regional economic development

Interdependency of clusters and economic development

It is crucial for the success of cluster development that cluster actors benefit individually based on a common goal. This means that cluster initiatives – through their work on behalf of members from the fields of science and business – must significantly contribute to the two following outcomes:

- (1) increased **competitiveness and innovation capacity of the individual cluster actors** through the synergetic interplay of different core competences,
- (2) the overall **development of the cluster in size, memberships, services, and growth accelerator.**

In the past, cluster initiatives primarily supported partners from business and science. The associated services often reflect the entire breadth of the needs of this customer group including networking, matching, training and education, working groups, cross-clustering, technology transfer, internationalization and more. Nonetheless, cluster initiatives may also operate on a smaller scale representing targeted efforts. For example, a cluster initiative might work on defining and refining thematic fields of strength of a region which could facilitate the work of business development agencies and other regional actors for purposes of regional economic development efforts. Thus, a cluster initiative usually represents a subset of actors in a regional ecosystem*.



Clusters as integral parts of regional economic development

Clusters as a tool for regional economic development

Today, clusters in Europe, US, Latin America and beyond are well acknowledged as tools for strategic regional economic development^{*}. The rise of the concept of **Research and Innovation Smart Specialisation Strategies (RIS3)**, introduced by the European Commission as mandatory requirement to receive European Structural Funds, contributed significantly to a comprehensive rethinking^{**}. Article 2(3) of the Common Provisions Regulation for the European Structural and Investment Funds defines S3 as

“regional innovation strategies which set priorities in order to build competitive advantage by developing and matching research and innovation strengths to business needs in order to address emerging opportunities and market developments in a coherent manner, while avoiding duplication and fragmentation of efforts.”

In order to implement priorities and open up new paths for a future-oriented transformation of regional economic structures, a critical mass of capacities in certain sectors (industry, technology, R&D and related fields) is needed. High-performing clusters can provide this. Strategically oriented cluster initiatives logically then become crucial vehicles in the design and implementation of holistic regional economic development strategies in the sense of S3. In turn, cluster initiatives benefit from such an integrated approach when successful diversification occurs by specializing on a certain number of prioritized economic activities^{***}.

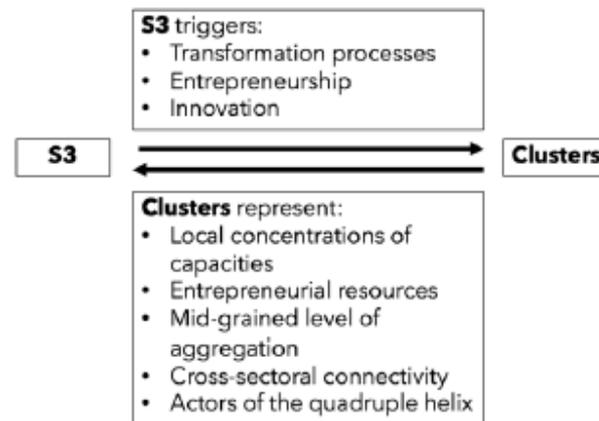
There is increasing evidence that cluster initiatives can be a significant tool for implementing regional economic strategies. Key conditions are access to market intelligence, readiness for continued adaptation to new framework conditions and overall neutrality^{****}.



Clusters as integral parts of regional economic development

Interplay between cluster and regional innovation and economic strategies*

Regional economic development, innovation strategies and clusters are strongly intertwined. A regional innovation strategy typically relies on existing local resource concentrations, which are often represented by clusters. Cluster initiatives are ideal “tools” to use in the process of developing and implementing regional strategies and thus strongly favoured by policy makers. In this perspective, clusters are vehicles transmitting innovation processes initiated by regional strategies to the business level, ultimately contributing to create jobs in innovative new fields. On the other side of the coin, clusters are often also direct beneficiaries of such strategies.





Clusters as integral parts of regional economic development

Involvement of different actors in the different phases of the development of a regional innovation strategy*

The process of developing regional innovation or economic strategies typically involves a broader set of actor groups. This is needed, since all these different actor groups represent different demands and fields of interest.

During the development process of an innovation strategy, which is typically grouped into analytical, development and implementation phase, the different actors take over different roles. However, the figure below nicely indicates that cluster initiatives play an important role throughout the entire strategy process. That's why cluster (initiatives) matters in regional strategy development and implementation.

	Economy		Research	Technology Transfer	Politics	Regional Development	
	Companies	Chambers / Unions	Universities / Research Institutions	Technology Transfer / Innovation Centers	Regional Politics	Economic Development	Cluster Initiatives
Analysis							
Regional Capabilities	➔	⬆	➔	➔	➔	⬆	⬆
Global Megatrends	➔	➔	⬆	⬆	➔	➔	⬆
Development							
Identification of structure-changing processes	➔	⚡	⚡	⬆	⚡	⚡	⬆
Definition of strategic focuses	➔	⚡	➔	➔	⬆	⬆	⚡
Implementation							
Tools / Methods	➔	➔	➔	⚡	⬆	⬆	⚡
Implementation of Activities and Actions	⬆	⚡	⬆	⬆	➔	➔	⬆
Evaluation and Performance Measurement	➔	➔	➔	➔	⬆	⬆	⚡

⬆ Active involvement needed ➔ Active involvement preferable ⚡ Reactive involvement



Relevance of the cluster approach in development cooperation

Benefits of clusters for SME development

Globalization and digital transformation processes increase the demand for innovation. Competitiveness and innovation on SME level depends on multiple competences, which rarely one SME can raise on its own. Reaching out to select partners is essential in order to integrate and bundle necessary competences and to leverage synergies for successful outcomes.

Clusters offer SMEs, especially in developing countries, an opportunity to stimulate each other's business development and to establish an international profile through networking, cooperation and joint undertakings. International visibility matters in a globalized business world. For example, Northern African regions with predominantly SME structures, such as Morocco or Tunisia (to mention just a few examples) have been able to improve their international position as car assembly hot-spot through cluster formation in the past.

Objectives of cluster development in development cooperation

Whereas the overall objectives of cluster development are similar for well-developed and less developed regions, the focus areas may differ. Whereas joint R&D and innovation as well as common product development is at the core of many cluster activities in developed countries, cluster in less developed countries often focus on productivity improvement, raising quality of products, skill development, policy advocacy or export promotion*.

There are many examples, some of which are portrayed on the following slides.



EXAMPLE

Fishery Cluster Uganda*

CHALLENGE	CLUSTER OBJECTIVE	KEY FACTORS & INSTIGATORS FOR SUCCESS	RESULT
New regulations and enforcement of EU market standards caused risk of potential exclusion for Uganda fishery processing firms from global supply chain.	<ul style="list-style-type: none">▪ Skill development of employees of cluster firms on how to meet hazard analysis and critical control points (HACCP) criteria, mandatory to export to EU.▪ Trained the minimum number of firms needed to assure the minimum amount of supply.	The key success factor was the common undertaking for fishery process-related upgrading: government, donor agencies, fish-processors association and private firms worked closely together. The Development Organisation and Fish-processors Association (UFPEA) was key instigator that took the lead.	85 % of cluster firms rapidly upgraded the process to meet EU requirements, mainly down due to the proximity that facilitated knowledge spill-overs needed to spread mandatory knowledge as fast as possible among the cluster firms to avoid ban-out from EU market.



EXAMPLE

Automotive Cluster Serbia*

CHALLENGE	CLUSTER OBJECTIVE	KEY FACTORS & INSTIGATORS FOR SUCCESS	RESULT
<p>After the disintegration of Yugoslavia, the automotive industry faced huge transformation processes. Furthermore, productivity and quality was not appropriate to be exposed to global competition.</p>	<p>Besides productivity and quality improvements, the main goal of the cluster development was to enable more firms to become embedded in global automotive supply chains and to increase export shares.</p>	<p>There were several key success factors that contributes to the successful cluster development. Firstly, the key instigators: The Serbian Ministry for Economy as well as GIZ were the key drivers behind the development, assuring strong political and financial backing. Secondly, a professional cluster manager was recruited, well experienced in setting up Automotive clusters in the Balkans. Thirdly, key automotive firms actively joined from the beginning. Finally external investors stepped in, which made the cluster very attractive. The time sequence of the individual success factors contributed to the overall success of the cluster.</p>	<p>Today, almost 15 years after its inauguration, the Automotive Cluster AC Serbia is still very active and lively. It gathers 40 members and 15 support partners. It is commonly considered as one of the good practices of cluster development in the West Balkans. The current focus of the cluster management is on new services, support in digitalization and topics on ecology.</p>



EXAMPLE

Georgian Apparel and Fashion Association (GAFA)*

CHALLENGE	CLUSTER OBJECTIVE	KEY FACTORS & INSTIGATORS FOR SUCCESS	RESULT
<p>Up until 2015, Georgian apparel SME produced mainly for the local market. Their huge export potential was untapped. Producers lacked access to international markets, were unable to document their adherence to international standards and lacked sales power and experience in presenting and marketing their products.</p> 	<ul style="list-style-type: none">Integration of the industry into global apparel value chains with a focus on sustainabilityBranding “Made in Georgia” as a quality seal for sustainable clothing and fashion. 	<p>The first step was to identify market opportunities through an in-depth analysis of the value chain. Next, three selected companies were strengthened in their capacity to comply with international buyer standards. The basis of the cluster was then expanded to further industry players including fashion designers, producers of men’s and children’s wear and to the regions of the country. Cluster members implemented innovative approaches, e.g. production of eco-textiles or specific clothing produced with and for persons with disabilities.</p>	<p>The Georgian Apparel and Fashion Association was registered in December 2020 with 24 members and continues to grow. Focusing on sustainability and innovation, GAFA prioritizes digitalization in the production process as well as for online sales globally. The Association (the term “cluster” is avoided because of its connection with the corona pandemic in Georgian public discourse) will drive export and thus create jobs¹.</p>

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Key drivers, prerequisites and obstacles to cluster development

Success factors for cluster development

Regardless of the objective and shape of a given cluster, there are certain features which apply to all successful cluster development processes:

All involved cluster actors should **trust** each other. As relevant internal data is always used as part of the collaboration, such trust is essential.

- All cluster actors are involved **voluntarily** and retain their **independence**. This is the only way to ensure a high quality of project input and output.
- Cooperation occurs in a **dynamic and open style**. A rigid structure would be unable to exploit arising opportunities.
- As cluster actors remain competitors in other areas, there is no movement toward cartel formation. This boosts the dynamic level of the alliances and ensures a stimulating environment (“**coopetition**”)
- The cooperation results in clear **additional benefits** to all participating cluster actors.

For SMEs in particular, there is also the appeal of gaining **access to missing resources, know-how and network partners**, while offering their own contributions to the partner. This allows each partner to concentrate on its strengths while using the other businesses to supplement the other areas.



Key drivers, prerequisites and obstacles to cluster development

Prerequisites for successful clusters

(PART I)

There are no “quick wins”, but medium and long term development.

Clusters are a tool for the further development of existing regional or entrepreneurial strengths, not for resolving structural weaknesses in the short-term.

A critical mass is needed.

An adequate number of supplementary and active businesses is a prerequisite for successful cluster development.

Actively involve champions.

Reaching a critical mass of engaged cluster actors matters. Individual instigators, anchor firms and interested policy makers are vital for a cluster development process right from the very beginning.

Common core competences have to be in place and common goals envisioned.

A clear focus on core competences, a common identity and a common vision is required from the start.

(PART II)

Professional cluster management is the main engine.

Clusters need professional cluster management structures with competent, experienced and motivated people.

There is no “one size fits all” support for cluster actors.

The premise is, that cluster management must offer services that add value for cluster actors.

Targeted policy support stimulates clusters but doesn't build clusters.

Authorities can provide decisive support for clusters through appropriate stimulating programmes, partnerships and innovative service models, such as the “one stop shop” model. However, they cannot “build” clusters.



Key drivers, prerequisites and obstacles to cluster development

Potential obstacles to clusters and cluster development

(A) Stemming from potential cluster actors

- A mismatch between structures and cultures of the cluster actors
- Lack of legal or financial possibilities for cooperation among cluster actors
- Lack of trust among the cluster actors (shortcomings in the cluster culture)
- Lack of knowledge of the actors
- Lack of understanding of added value when engaging in cluster activities and why getting engaged becomes beneficial for all
- Vague or unrealistic expectations of cluster actors.

(B) Stemming from cluster (management) structures

- Lack of informal networking trust building activities based on (shared) experiences
- Lack of cluster management personnel as well as lack of professional experience and competence among cluster staff
- Lack of financial resources dedicated for cluster management
- Lack of consensus-based strategy and common goals
- Lack of relations to relevant partner entities outside the cluster (risk of “lock-in”)

Obstacles (A) and (B) mutually reinforce each other.



Predominant cluster approaches around the world

Europe

On the level of the European Union, selected policy instruments to develop innovative regional strategies were introduced in the early 1980s. Explicit cluster policy programmes have been around since the late 1990s.

To assure common principles in these approaches, the EU policy focused on improving framework conditions for clusters in all Member States as well as on supporting internationalization.

The European Commission has implemented several actions and initiatives in this regard:

- The **European Cluster Observatory** fosters the understanding the role clusters play in industrial change and transformation processes,
- The **European Strategic Cluster Partnership** and **B2B missions** aim at the internationalization of clusters,
- The **European Secretariat for Cluster Analysis (ESCA)** promotes cluster management excellence,
- The **European Cluster Collaboration Platform (ECCP)** facilitates knowledge exchange between European cluster managers.

Besides the European Commission, its member states have developed further cluster policies in recent years. Although country specific cluster support programmes focus on different priorities and use different instruments, all pursue the same objectives: They seek to provide **need based support of cluster actors** and promote the **improvement of conditions for sustainable regional and sectoral development of clusters**.





Predominant cluster approaches around the world

Africa

Cluster development approaches vary across Africa. Support has been provided by a range of donors and multilateral agencies, usually with short-term horizons and therefore limited sustainability. Some cluster projects have not been sufficiently resourced to move beyond analysis stages.

- In **Northern Africa**, the French “Technopoles” approach prevails.
- Many **Sub-Saharan** countries stimulate competitiveness and job creation through SEZs, Business Parks, and physical infrastructure.
- Cape Town, **South Africa**, was an early adopter with ten clusters under development. As with the Cape IT Initiative, business energy led to government engagement.
- In **Tanzania**, **Uganda** and **Mozambique** universities provided neutral ground and knowledge to introduce clustering before donor support was concluded. For the Ugandan Fishing Cluster in Lake Victoria, the national government has provided critical support*.





Predominant cluster approaches around the world

North America

In the **USA**, relative to Europe, there are few well-resourced long-term clustering initiatives underway and very few attempts to connect related US clusters. Public interventions tend to focus on improved framework conditions*. Noteworthy initiatives include the Massachusetts Medical Cluster, the Cumberland Emerging Technology Cluster, the New England Water Innovation Network and the Research Triangle Clean Tech Cluster**.

Canada's more substantial experience with clustering initiatives started with Quebec, drawing on France. Canada has recently scaled up significantly with a national cluster competition to select five Superclusters offering \$950 million in co-funding over five years to the winners: the Digital Technology Cluster, the Protein Industries Cluster, the Next Generation Manufacturing Cluster, the Scale AI Cluster and the Ocean Cluster***.





Predominant cluster approaches around the world

Australia and Oceania

Cluster development in **Australia** has had sporadic public support. A number of regional governments have supported short-term interventions. More recently, three of the national Industry Growth Centres have cautiously engaged in cluster development. One is organising a national competition to select four regional food clusters to receive three years of support.

Internationally, **New Zealand** was one of the first economies to support cluster development, following the close advice of Prof. Porter. While New Zealand's initial efforts discontinued due to lack of momentum, the country's few frontier firms with an international reach are reinvigorating interest in cluster-based regional development.

With EU support, a very short-term cluster development project encouraged four small **Pacific Island countries** to identify and engage in a pilot cluster program. Papua New Guinea's ICT cluster continues to grow.

While both Australia and New Zealand have hosted Global Conferences of the TCI Network, cluster development has yet to gain substantial policy support in the South Pacific.





Predominant cluster approaches around the world

Latin America and the Caribbean

- Latin America has made huge progress in cluster development since the 1990's. The most active regional chapter in the TCI Network is Latin America.
- Many countries, including **Bolivia**, **Brazil**, **Chile**, **Colombia** and **Mexico** have implemented long-term cluster policies. Most are continuing. The Inter-American Development Bank has been an important partner and chambers of commerce have also been particularly active.
- Cluster support programmes place significant attention on monitoring results and evaluation to improve the design and implementation of the programmes.
- Compete Caribbean has been active in introducing the merits of a clustering approach to many of the small **Caribbean countries**. The organisation is a joint venture of the UK and Canadian development agencies.





Predominant cluster approaches around the world

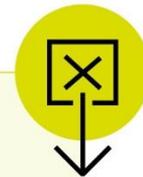
East and Central Asia

There are a variety of cluster development approaches across Asia. Some countries, including **China** and **South Korea** have focused on SEZ and Industry Parks; **Japan** has a focus on R&D clusters which remain relatively isolated from businesses.

- **Russia** has implemented a very top-down cluster approach with success in sectors where Russia is particularly strong in, such as defence as well as in oil & gas. Recently it has made impressive progress with business-driven clusters.
- **India** has extensive experience in cluster development with a focus on SME growth resulting in part from UNIDO support.
- A number of donors such as the World Bank have provided short-term support for clustering activities in many countries. These include **Pakistan**, Bangladesh, **Sri Lanka**, **Thailand**, **Viet Nam** and **Cambodia**.

In a number of countries, there is a movement away from investing in physical infrastructure and providing financial incentives to individual businesses towards promoting competitiveness of industry clusters, incentivizing specialized industries and enabling high-level skills development and innovation*.





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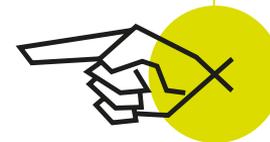
The background is a solid yellow color with several white, wavy horizontal lines that create a sense of movement. A prominent, slightly thicker pink horizontal band is positioned in the upper-middle section of the image.

PART 1

THE ROLE OF CLUSTER POLICY



OVERVIEW OF PART 1: THE ROLE OF CLUSTER POLICY



Creating conducive framework conditions for cluster development

- **Introduction to cluster policy**
- **The interplay between cluster policy and other policies**
- **Key success factors**
- **Dos & don'ts in cluster policy**
- **Importance of the cluster approach within GIZ**
- **Further readings**



Introduction to cluster policy

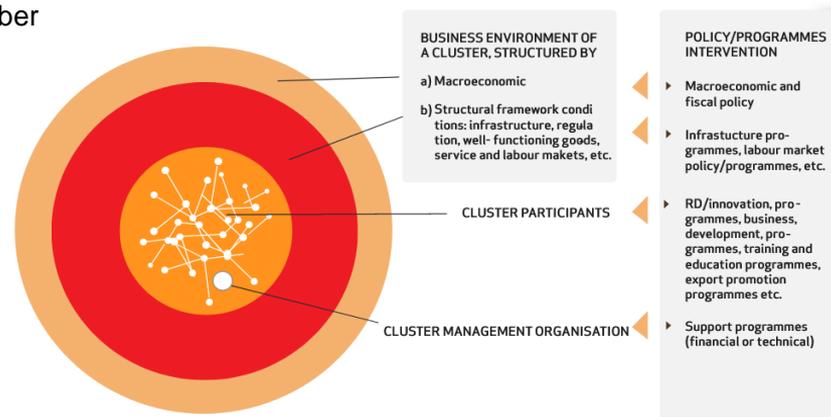
A Cluster policy is an expression of political commitment to strengthen existing clusters and/or facilitate the emergence of new ones. Cluster policies aim at establishing favourable business environments for innovation and entrepreneurship and the development of new value chains .

The motivation is that the cluster approach offers **greater benefits compared to**

- **firm-level interventions**, as cluster-level actions can create greater leverage and reach a larger number of firms.
- **industry-level interventions**, as interventions on cluster level avoid many of the distortions relating to suppliers along the value chain that otherwise often emerge.
- **economy-wide policies**, as they can be better targeted at the specific issues faced by companies in a set of related industries*.

The performance and development potential of clusters depend on three dimensions which have to be considered by policy makers when introducing policy or programme interventions (see figure below)**.

- Dimension of **framework conditions (environment of a cluster)**
- Dimension of **cluster firms**
- Dimension of **cluster management organisation**





The interplay between cluster policy and other policies

Cluster policy interventions can address one or several of the aforementioned levels.

The best impact results from supporting all three levels in parallel and over a long period based on one policy approach or the interaction of several policies.

Improving framework conditions

Cluster actors need favorable framework conditions for growth and job creation. This includes sufficient infrastructure such as roads, electricity, and IT networks but also low tax burdens, minimal bureaucracy and secure legal frameworks among other conditions. As mentioned before, cluster policy is not a single policy but rather a set of measures with a dedicated focus on improving cluster development.

- Tax exemptions for Textile Industrial Parks in Ethiopia contribute to cluster development by attracting investors to invest in local textile cluster firms. They also serve as a motivator for local firms to move into such cluster facilities.
- Stimulating Foreign Direct Investments in the 90s in the Massachusetts region (US) resulted in huge foreign investments in local cluster firms and attracted international firms to move into the Medical Technology Cluster in Boston*.
- Improved intellectual property regulations in China stimulated local cluster actors to invest in R&D and innovation**.
- The German Initiative SI Jobs supports job creation through cluster developments in Africa. One objective of this effort is to improve certain framework conditions for around 14 selected clusters.



The interplay between cluster policy and other policies

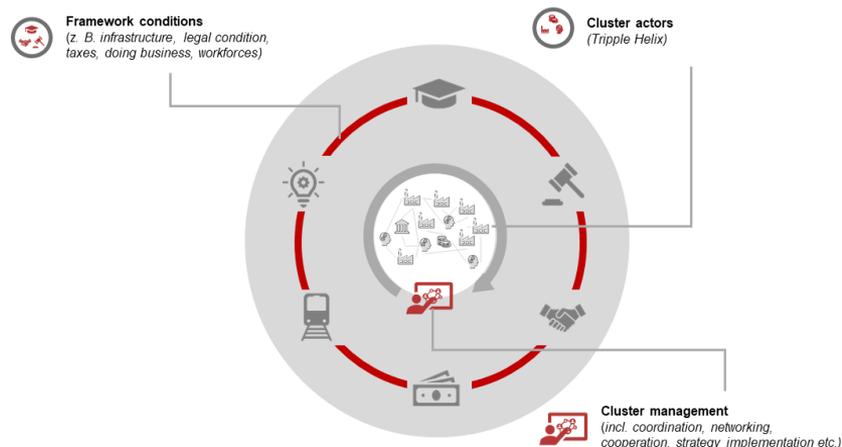
Direct support of cluster actors

Cluster policy can provide direct incentives for cluster actors. These may include matching funds for firm-level investments, skill development programmes for employees working in cluster firms, subsidies for innovation creation, and export promotion support for cluster actors. Incentives to match industry and academia are also typical policy measures. By focusing on a given cluster, such measures can achieve good leverage with limited resources.

- The German Cluster Cutting Edge Programme directly supported actors of selected clusters by providing up to 40 Mio EUR funding for innovation from 2012 – 2016 for each selected cluster.

Cluster organisations

Providing financial support for cluster management organisations to stimulate networking, matchmaking, trust building or cooperation among the cluster actors is one of the most common approaches of cluster policies.

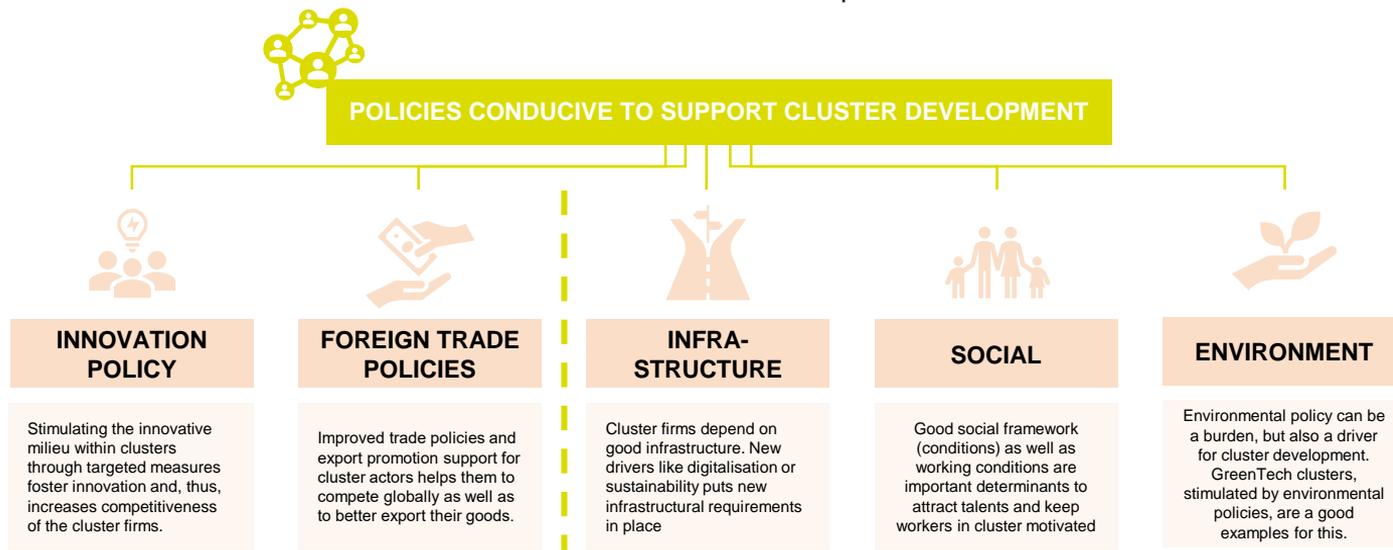




The interplay between cluster policy and other policies

By bundling actors and knowledge, clusters serve as important hinge between business, research and society in various thematic fields at the micro level and corresponding policy areas at the macro level.

Clusters are mouthpieces of challenges and development potentials at the local or regional level. Therefore, cluster policy becomes a relevant lever in all policy areas that are relevant for integrated and sustainable regional development.





Key success factors

Many of the mentioned prerequisites for successful clusters in [chapter 2](#) apply to cluster policy, too. The most essential aspects to support cluster development on the part of cluster policies are:

No wishful thinking, but thought-through and long-term cluster policy.

- No **“one fits for all” solution**, there is no blueprint for cluster development support.
- Clusters are no remedy for short-term solutions to structural insufficiencies in the regional economy.
- Focus on **evidence based regional capabilities and strengths** and establish a common understanding of cluster policy.
- **Long-term cluster policy** matters. Cluster policy is a long-term commitment from the public and private sector.

Bottom-up vs. top-down cluster policy at different maturity levels.

- Be aware of **different maturity levels** of clusters and adjust support programmes accordingly (e.g. financial support for building cluster management capacities at embryonic level, individual hands-on support for strategy building at advanced cluster development level).
- Find a **good balance between top-down and bottom-up** approaches when designing cluster development support programmes.
- Bottom-up-oriented cluster policy can **incentivize regional cooperation and engagement** among cluster-relevant actors.

Cluster policy thrives on continuous exchange and transparency.

- Set **realistic goals** that can be **measured** through an indicator-based system. Also encourage cluster management to implement strategies with clear goals and measurable indicators.
- Establish **PPP dialogues** at a regular basis – no matter the development level of a cluster. This helps to continuously monitor policy measures and to capture needs and challenges of cluster actors.
- **Policy evaluation** is crucial for regular updates and refinements of policy programmes or measures.

Cluster policy as part of an integrated policy system.

- Cluster policy shall be **embedded** or linked to other regional policies and not be considered as a stand-alone policy. It is not merely a cluster funding policy.
- Foster close coordination and **alignment between different policy areas** in order to avoid redundancies and an cannibalization between regional economic support instruments.



EXPERIENCES AND GOOD PRACTICE EXAMPLE

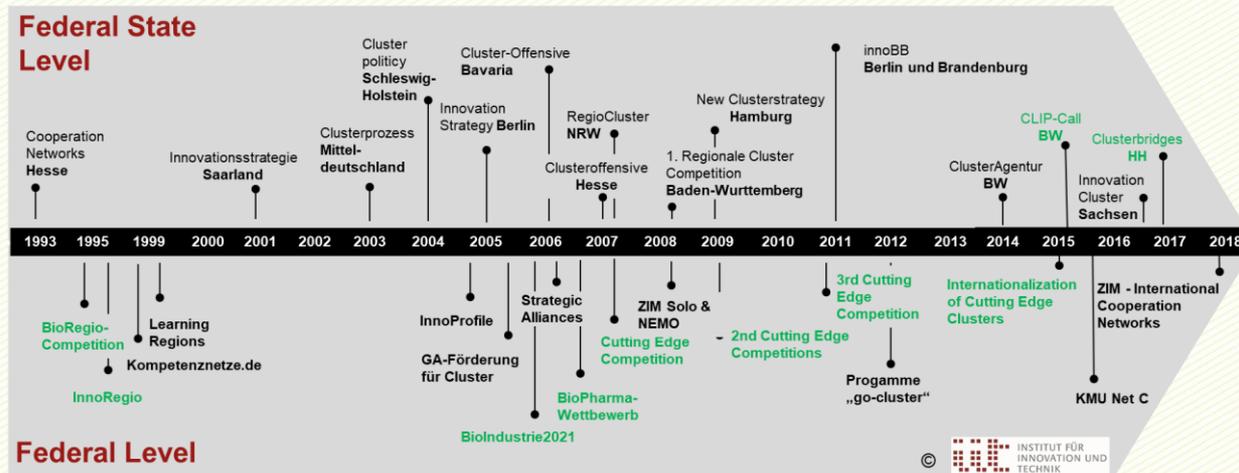
Good practice example for long-term engagement – experiences from Germany

Germany: 25 years of cluster support – the holistic cluster development approach

Cluster policy in Germany is not a stand-alone policy; rather, it is well embedded in economic and R&D policy on Federal and Federal State level. The Figure below reveals various support programmes implemented since 1993 intended to support cluster development*.

These programmes target several levels of cluster development (see [previous chapter](#)).

For example, Germany's Leading-Edge Cluster Competition supported cluster actors (firm-level funding of R&D, in total 600 Mio. EUR funding for collaborative R&D among cluster actors), but also provided funds for the cluster management. The figure also indicates that policies for cluster development in Germany happened continuously on two levels. Support provided on Federal State Level mainly aimed to initiate cluster development (early stage), whereas on Federal level, striving for cluster excellence (cluster management excellence and innovation excellence) was the core objective.





EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example of developing cluster support schemes – experiences from Romania, Tunisia and Georgia (1/3)

Romania: Competitiveness Operational Programme (COP) and Programme for Development of Innovative Clusters¹

MAIN OBJECTIVE	FUNDING PRIORITIES	ROLE OF CLUSTER POLICY
<p>The overall goal is to build a modern R&D environment that focuses on the businesses' needs and facilitates cooperation between the private and academic sector through clustering. Relevant programme components are:</p> <ul style="list-style-type: none">▪ Reinforcement of the research, development and innovation (RDI) capacity (resources and infrastructure)▪ Boosting private investments in RDI▪ Develop Centres of Excellence▪ Strengthen the links between businesses and research institutions, and▪ Strengthening of cluster initiative and their management.	<ul style="list-style-type: none">▪ R&D and innovation supporting economic competitiveness and the development of businesses▪ Information and communication technologies for a competitive digital economy▪ Financial support for selected cluster organisations	<ul style="list-style-type: none">▪ This example shows how different policies and related programmes can go hand in hand to provide added value for all actors involved▪ Cluster organisations were strengthened to support industrial and academic actors to participate in the COP programme.▪ Two programmes contributed to cluster development, also in areas of export promotion, industry development and human resources development and cities development.



EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example of developing cluster support schemes – experiences from Romania, Tunisia and Georgia (2/3)**Tunisia: “Tunisia Digital 2020” and Cluster Development***

MAIN OBJECTIVE	FUNDING PRIORITIES	ROLE OF CLUSTER POLICY
<p>“Tunisia Digital 2020” is a five-year strategy targeting ICT technologies in order to significantly increase the number of jobs and export earnings within the ICT sector.</p> <ul style="list-style-type: none"> ▪ This strategy aims to make Tunisia an international digital reference and make ICT an important lever for socio-economic development. ▪ Through this strategy, Tunisia would like to create employment, value added by innovation and improve business competitiveness by the development of ICTs ▪ The GIZ-implemented project works hand in hand with Tunisia Digital 2020 and supports the development of two cluster like entities 	<p>Whereas the Tunisian government is providing funds for the Programme “Tunisia Digital 2020”, the current development of two clusters in the field of Industry 4.0 in Sousse and Sfax is supported by GIZ. Besides mandatory infrastructure for both cluster initiatives (Competence Centers), the staff of the centers are co-financed as well.</p>	<p>The project is well aligned with the Tunisia Digital 2020 strategy. Both efforts support the clustering and digital transformation of at least 200 manufacturing companies. Tunisia Digital 2020 provides additional support for cluster actors, like improved ICT infrastructure or SME support measures. Both initiatives go hand in hand with the “Smart Tunisia” Initiative that offers export promotion and attracts international partner in the offshoring sector.</p>



EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example of developing cluster support schemes – experiences from Romania, Tunisia and Georgia (3/3)

Georgia: National Cluster Development Policy Framework*

MAIN OBJECTIVE	FUNDING PRIORITIES	ROLE OF CLUSTER POLICY
<p>The main goal is to foster the development of clusters across all sectors through a coherent cluster policy and programme.</p> <ul style="list-style-type: none">▪ Create knowledge and expertise among policy makers and staff of the national enterprise development agency▪ Elaborate appropriate policies and tools▪ Delivery of cluster support programmes and initiatives to SME▪ Impact Monitoring▪ Feedback into future policy making and adjustment of instruments	<ul style="list-style-type: none">▪ Strengthen the capacities of research institutions and business development organisations to promote cluster development▪ Financing mechanisms to set up new or support mature clusters▪ Internationalisation of cluster organisations: participation in international fairs, workshops and seminars	<ul style="list-style-type: none">▪ Clusters as drivers for fragmented sectors in a small country▪ Focus on sector development and synergies derived from increased competitiveness▪ Driving productivity and standards at company level, leveraging innovation and stimulating new business opportunities for SME



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Dos & don'ts in cluster policy (1/5)



DESCRIPTION

Understanding Clusters:

During the 90s of the last century, understanding clusters and clustering effects was at the top of policy agendas. However, cluster policy interventions are still often implemented without a sound understanding of the cluster approach and its potential. Key questions are:

- What parts of the value or supply chain can be covered by the targeted cluster? What is missing or shall intentionally be excluded?
- What are limits and potentials of the cluster development?
- What shall be reached by cluster development?

DOS



- Develop a common understanding of the cluster approach and how clusters can contribute to regional objectives.
- Engage the public and private sector already at that stage to assure a sound and common understanding.
- Understand key success factors.

DON'TS



- Do not follow the cluster approach because you believe it might solve structural problems in regions.
- Avoid a 'copy and paste' of concepts from other regions.
- Do not support single cluster development without properly embedding it in regional economic or (national) cluster policy.

POLICIES & INSTRUMENTS

- Use case studies to understand how cluster development worked in the past and which success factors were relevant.
- Use practical guides that define the role and characteristic of clusters.
- Establish **public-private dialogue** formats where the relevant public and potential cluster actors at local, regional and national level can exchange views at a regular basis.
- Dialogues, meetings and conferences are useful to capture challenges and needs of cluster actors and develop policy support measures accordingly.



Dos & don'ts in cluster policy (2/5)



DESCRIPTION

Cluster Identification:

Identifying clusters with high growth potential is not that trivial. Cluster and value chain mapping tools help to identify the number and type of existing cluster actors and possible gaps in terms of actors and functions. In order to get an idea of the dynamics of the cluster, relationships and interactions between actors and the competitiveness of the individual actors, it is important to conduct qualitative interviews. Together, these will allow development projects and policy makers to identify clusters with potential for growth and development.

DOS



- Elaborate indicators and thresholds defining whether or not there is a critical mass and sufficient competitive advantage for cluster development.
- Set up a neutral PPP board (group of experts) for selecting clusters to be supported.
- Embed cluster identification in a regional discovery process.

DON'TS



- Do not define policy 'wishful thinking' clusters in 'hype sectors'.
- Clusters shall not be identified by a 'closed shop' approach.
- Number of clusters in a region shall be limited. Quality matters!

POLICIES & INSTRUMENTS

- **Cluster mapping** approaches, like US Cluster Mapping, European Cluster Collaboration Platform, Indian Cluster Mapping and other publicly available tools can be used to learn how cluster identification can work.
- **Quantitative data** that provide sector-specific information about businesses are an important input, but must reflect the regional component.
- Chambers or sectoral associations often have valuable data or information needed for cluster identification.
- **PPP Dialogues** can be useful to bring in different competences and market intelligences.



Dos & don'ts in cluster policy (3/5)



DESCRIPTION

Cluster Development:

Cluster development is a long-term journey involving public and private sector actors. Different implementation modalities can be chosen, like cluster initiatives, Special Economic Zones (SEZ), Technopoles or Industrial Parks. All these modalities have different pros and cons.

Practice has shown that support of cluster development works best when it is adapted to the typical cluster life cycles. Immature clusters need other forms of support than well-matured clusters under transformation.

DOS



- Communication is beneficiary to avoid competition with other entities (e. g. associations, chambers etc.).
- Assure long-term commitment from public and private sector.
- Define a clear long term vision for the cluster initiatives with the aim of implementing independent cluster organisations.

DON'TS



- Do not start cluster development for 2 to 3 years, it takes longer before impact will be created.
- Do not start with any cluster development if it is not embedded in a long-term policy support scheme.

POLICIES & INSTRUMENTS

- There are various instruments for cluster development, ranging from cluster development, ranging from cluster **competitions** (select the best cluster approaches) up to **top-down decision making**.
- Linking cluster development with other regional economic development strategies or policies helps to leverage clustering effects.
- Cluster benchmarking or cluster baseline analyses help to measure progress even before it becomes economically visible.
- Cluster development can contain monetary components for cluster organisations or cluster actors, but also non-monetary components, like training of management authorities in charge with cluster development or cluster labelling to increase international visibility.



Dos & don'ts in cluster policy (4/5)



DESCRIPTION

Cluster Excellence:

Cluster excellence becomes relevant when cluster development has reached a certain degree of maturity. Cluster excellence is mainly understood as professional cluster management, since history has shown that professional cluster management can make a difference. Cluster management excellence was invented in Europe, but is nowadays internationally accepted. Guidelines and an internationally recognized standard for cluster excellence is provided by the European Secretariat for Cluster Analysis (ESCA) in close cooperation with the European Commission. Besides the management component, cluster excellence also reflects on the quality of cluster actors, mainly firms. Strong firms are needed to assure cluster excellence.

DOS



- Sufficient human and financial capacity is a basic for cluster excellence.
- Employ a well matured management team with mixed competences and sectoral experiences.
- Follow the guidelines given by ESCA to understand what cluster excellence means in day-to-day practice.
- Benchmark with peers to initiate mutual learnings.

DON'TS



- Do not consider cluster excellence as marketing label in the first place, but as opportunity for constant professionalization.
- Do not hire unexperienced staff for the cluster management.
- Do not focus too much on technical competences, do not underestimate the importance of social and management skills.
- Do not understaff your cluster management team.

POLICIES & INSTRUMENTS

- **Training / Coaching:** A continuous cluster management training approach helps the cluster management team to develop.
- **The European Cluster Excellence Gold/Silver/Bronze Label:** The label not only provides an orientation as to how well the cluster management is set up, it also helps to point out weak points. These can be addressed by targeted measures.
- **Data collection and management:** Conduct surveys or use monitoring tools to observe progress and success based on data.



Dos & don'ts in cluster policy (5/5)



DESCRIPTION	DOS	POLICIES, TOOLS & INSTRUMENTS
<p>Clusters as tools for regional development: Mature clusters offer more than just networking, bundling firms or initiate cooperation. They can be used as an important instrument of regional development, particularly concerning region-specific transformation processes such as digital transformation, climate change or new industry sectors. Excellent clusters have a deep knowledge about the regional cluster-related capacities. They have been cooperating with the companies and academia, in some cases for many years. Thus, they have gained deep knowledge about their challenges and problems of the sector and related markets. Therefore, regional economic policies which make use of this kind of knowledge from the clusters can hugely benefit from it when identifying relevant transformation processes and deriving individual and effective support measures.</p>	<p>DON'TS</p> <ul style="list-style-type: none">▪ Do not misuse clusters by day-to-day policy interference.▪ Do not count on clusters with a weak cluster management or missing critical mass.▪ Avoid redundancies and respect peculiarities between individual clusters and integrated regional development strategies.	<ul style="list-style-type: none">▪ Analysing the existing cluster: Try to use the knowledge of professional cluster management to find more insights about the specific needs and challenges of the companies in your region.▪ Entrepreneurial discovery workshops: Try to elaborate new innovative cross-sectorial fields for transformation.▪ PPP Dialogue: Bring clusters and policy level together to explore needs of the sectors and capabilities of regional policies.▪ Elaboration of an integrative regional development strategy: It could be useful to collect the cluster-related topics and measures for regional transformation in one regional innovation strategy.



Importance of the cluster approach within GIZ

- Cluster development supported by GIZ has a long tradition. It is an important element of many private sector development (PSD) initiatives.
- The objectives of the cluster support initiatives implemented by GIZ on behalf of the German government or multilateral donors range from productivity and quality improvements or competitiveness increase of MSMEs, to better market access until sustainability and contribution, to social and environmental goals. In the recent past, cluster development is also considered as a tool for job creation and better working conditions.
- The trend of GIZ to address sustainability and environmental issues through clusters all over the world goes well in line with current trends in Europe and the US, where the cluster approach is more and more used to address global and social challenges.
- In more developed regions, GIZ uses matured clusters as vehicles to implement dedicated measures for industrial growth as the cluster approach is beneficial to mobilize a higher number of beneficiaries or use the multiplier effect.

Examples where clusters successfully served as a tool for development cooperation issues:

GIVE – Green ICT DeVElopmenT

The GIVE initiative was intended to build a strong strategic cluster partnership aiming at several clusters in Western Balkans.

Key implementer: ICT Cluster Bulgaria.

Hey Ti, Aj Ti

The project targeted elementary pupils to get to know the whole procedures of software development.

Key implementer: ICT Cluster of Central Serbia.

NARR – Innovative Clusters

Cluster capacity building was supported within NARR to provide innovative services to companies of the ICT Cluster of Central Serbia.

Key implementer: ICT Cluster Serbia.



© ICT Cluster Central Serbia



EXAMPLE

WICA-Wood Industry Cluster of Albania

- **Short description:** Wood Industry Cluster of Albania - (WICA) is a non-profit NGO, whose primary goal is to improve companies' competitiveness, thus registering world trends and changes in the global market, as well as adjusting the participants' own production to such trends and changes.
- **Objective of GIZ engagement:** In Albania, the need to promote and implement a model of industrial activity from smaller units to bigger ones, such as the cluster approach, has been identified – the wood processing industry serves as a model to ensure increased competitiveness in the domestic, regional and broader markets.
- **GIZ contribution:** In close collaboration with all Albanian partners, WICA has been registered officially in April 2019. GIZ's contribution has been in technical expertise in cluster development including all related partners. Additionally, legal support has been provided for official registration according to Albanian law. Regional experiences and expertise of Western Balkan countries have been shared. Promotion activity has been a fundamental part of GIZ support throughout.
- **Other contributing partners:** Ministry of Energy and Infrastructure, Ministry of Economy and Finance and Albanian Investment Development Agency; Faculty of Forest Engineering, Union Chambers of Commerce of Albania as well as business companies in wood processing sector.
- **Why it is a success:** The project has provided for a proper environment to boost the development of the wood cluster and promote the Albanian economy. A close collaboration between all actors of government, academia and business has been at the core of WICA establishment. At a macro level, a reform of national policies has begun in order to provide for an appropriate cluster development ecosystem. On a micro level, new momentum has been induced to the wood processing industry in Albania.



© WICA – Exhibition in Tirana in 2019

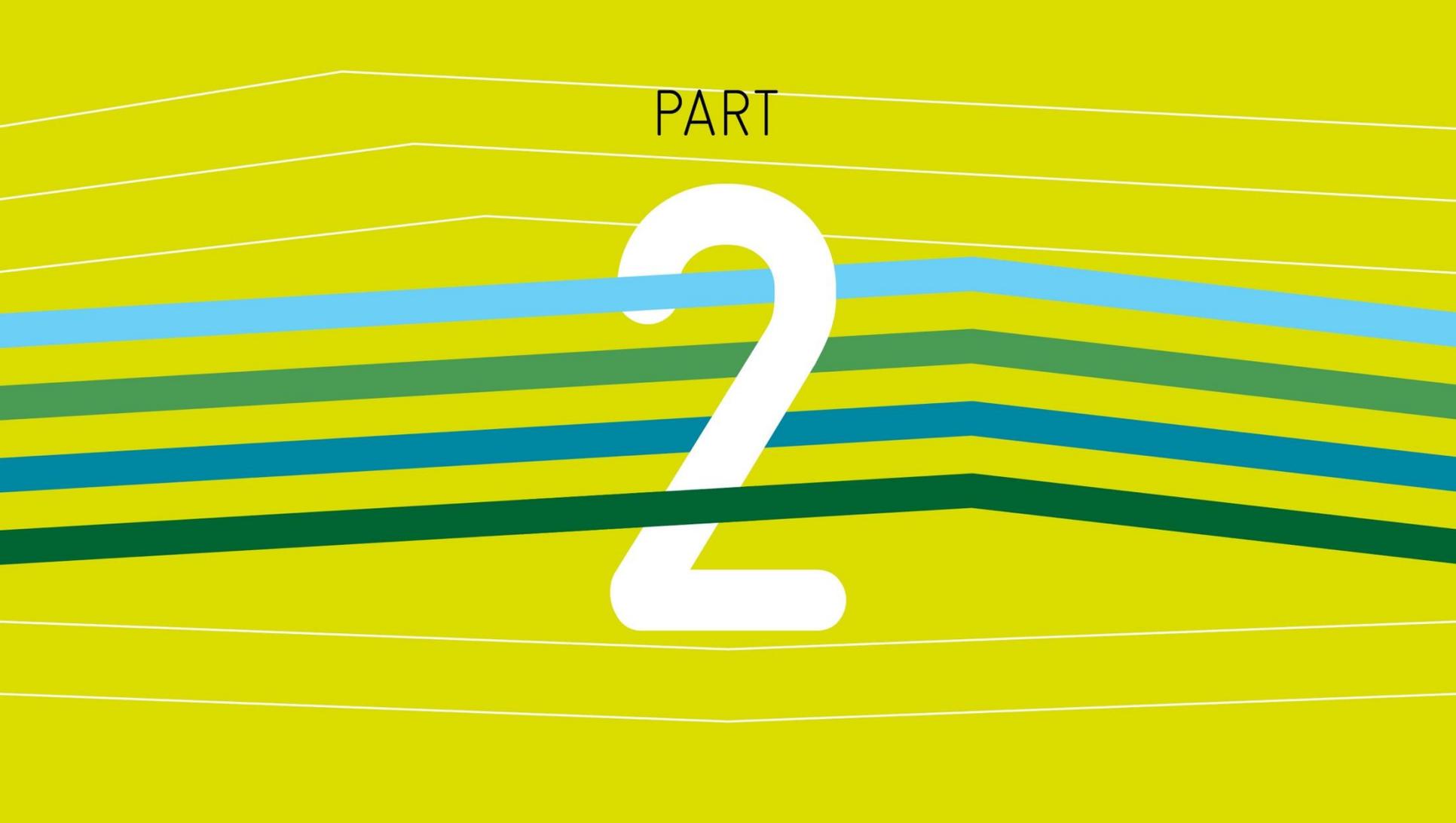


FURTHER READINGS

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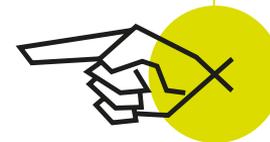
PART

2





OVERVIEW OF PART 2



Maturity Stages in Cluster Development

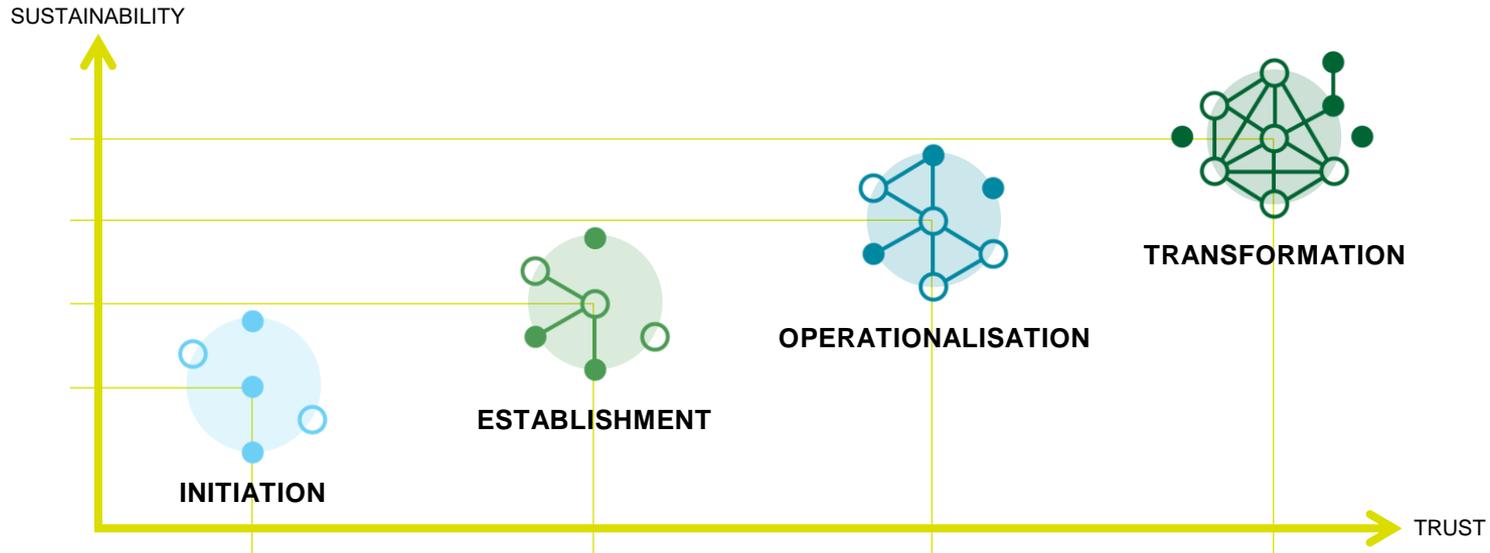
Tailor-made support and tools for cluster development along its life cycle

- **Introduction**
- **INITIATION PHASE**
- **ESTABLISHMENT PHASE**
- **OPERATIONALISATION PHASE**
- **TRANSFORMATION PHASE**



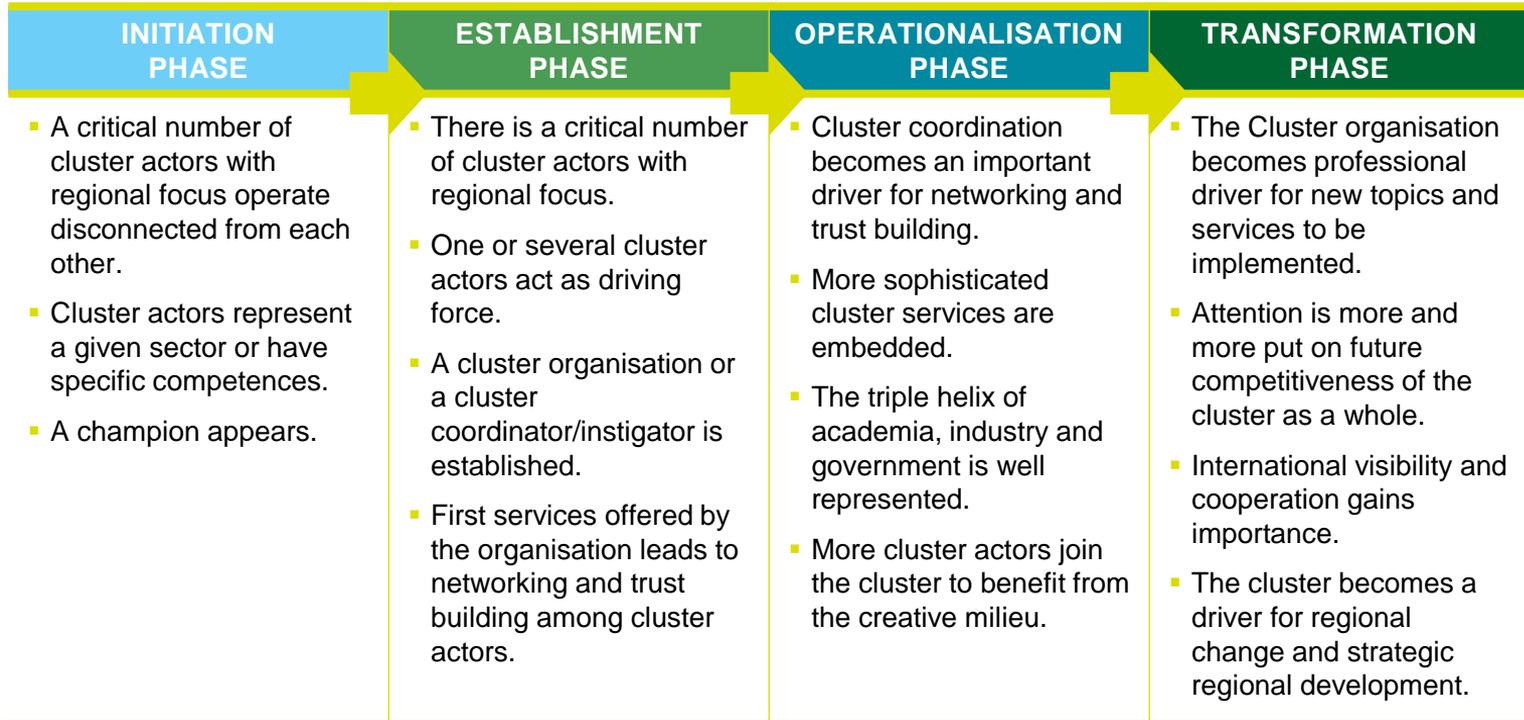
Four stages of cluster development

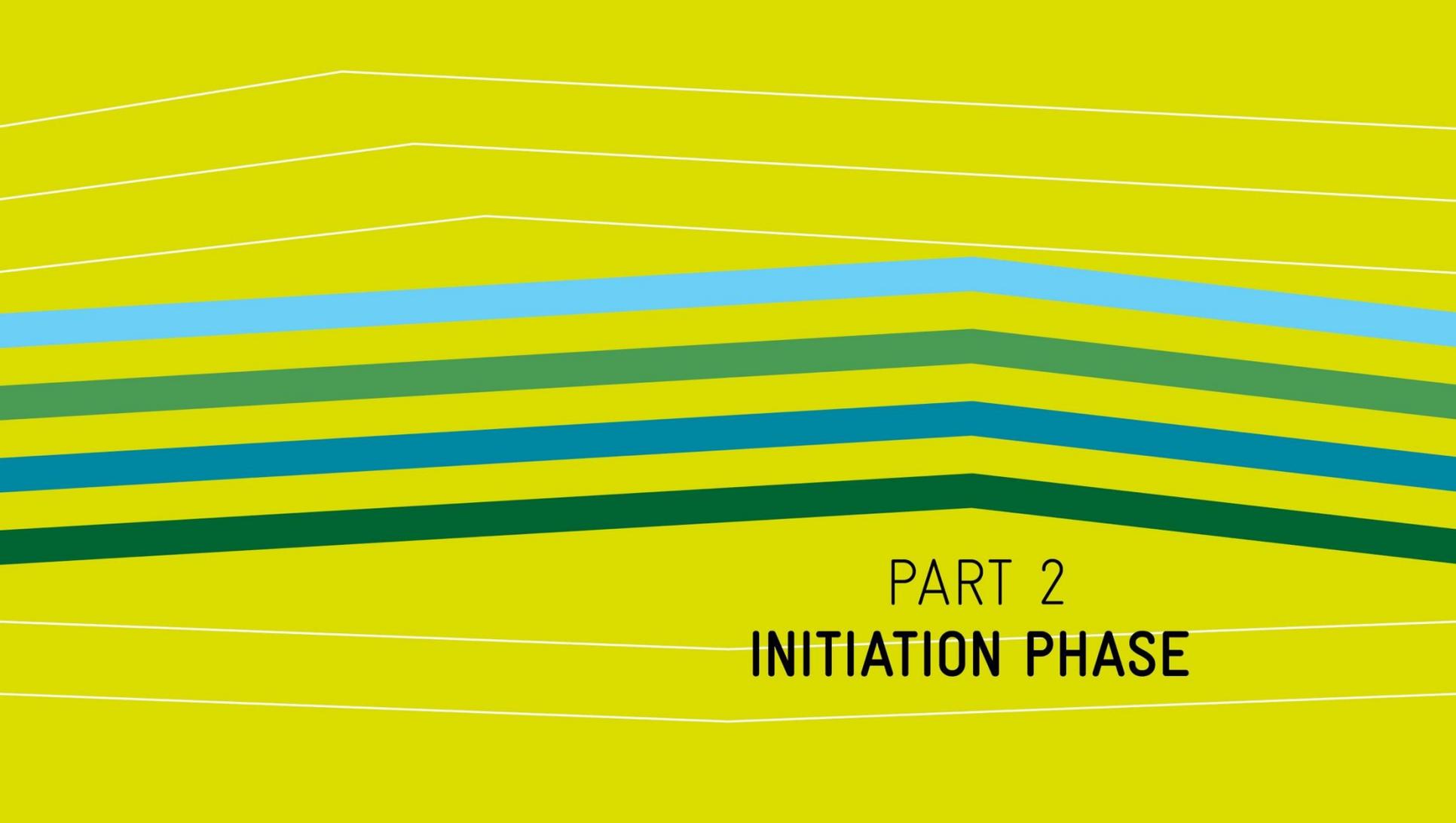
In the following chapter is structured around four maturity stages a cluster portray. Each stage requests individual support and tools to be applied.





Four stages of cluster development



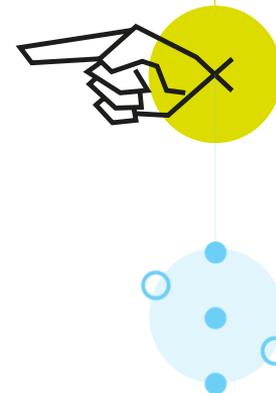
The background features a series of horizontal, wavy lines in various shades of yellow, green, and blue, creating a layered, textured effect. The lines are slightly irregular and overlap, giving the impression of a stylized landscape or a modern graphic design.

PART 2
INITIATION PHASE



OVERVIEW OF PART 2: INITIATION PHASE

- **Introduction**
- **Step to take when initiating clusters**
 - › **STEP 1: What potentials do we have?**
 - › **STEP 2: Who needs to be involved?**
 - › **STEP 3: Which value added do we want to create?**
 - › **STEP 4: How to develop a strategy?**
- **Lessons learned**
- **Further readings**





Introduction: Potential champions – Who makes the first move?

Cluster development pathways often vary depending on who drives an initiative. A first step can occur in the form of a top-down or a bottom-up approach, or in a hybrid form when policy makers and business representatives identify common ideas for the initiation of a cluster endeavor.

Initiatives for cluster development can be

- **Business-driven** when businesses, mainly SMEs, identify areas for cooperation,
- **Driven by individual entrepreneurs / visionaries** who foresee or know the benefits of targeted networking,
- Policy-driven when local or regional economic assets and development potentials are to be promoted,
- **Donor-driven** when clusters function as vehicle for development cooperation,
- **Driven by intermediary organisations** such as economic development agencies, chambers of commerce (e. g. Lebanese Chamber of Commerce and Industry in the Ivory Coast (LCCI-CI)) or business associations when common needs among the actors have been identified and are now to be transferred into an organized collaboration effort,
- **Research-driven** when universities or research entities seek for a better connection to each other and to the local or region economy.

The type of champion can have a considerable influence on the organisational structure and on the strategic orientation of a cluster initiative.

In any case, it is crucial to focus on actual potentials for cooperation and to take actor's needs into consideration when developing strategic goals and organisational structures.



Key questions and factors when starting

Cluster development usually follows a step by step approach. Good preparation is key, but clusters and networks cannot simply be planned on the drawing board and too much technical planning can actually restrict the network's ability to act. The best concept for the initiation is probably to plan solidly while remaining open to the steady flow of new challenges.

10 KEY QUESTIONS when starting

- (1) What do we want to achieve through the cluster approach?
- (2) Can we use other means to reach our goal?
- (3) What partners and key actors do we need?
- (4) Do partners have sufficient economic, organisational and innovative capacity?
- (5) What benefits (strengths) are the partners bringing into?
- (6) What benefits shall the cluster approach offer its actors?
- (7) What existing successful or solid strategic alliances can the cluster approach build on?
- (8) Is the “chemistry” between the partners right?
- (9) What trust-building measures are required?
- (10) Are the goals and functions of the future clustering activities clear to all relevant stakeholders?

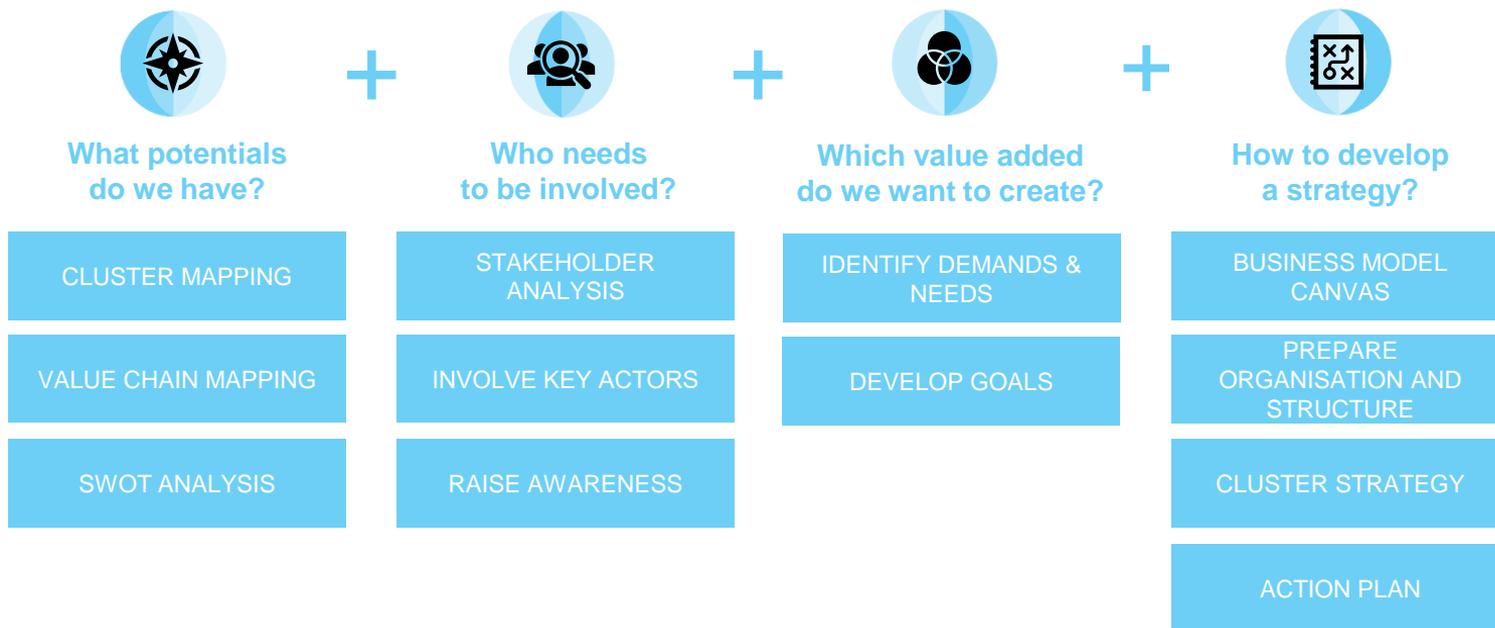
KEY ACTIONS Cluster development requires thorough preparation and planning before implementation can be considered. It will be necessary to carry out the following key actions during the initiation phase. The sequence is not cut in stone and may vary.





Steps to take when initiating clusters

As already indicated, some essential factors have to be taken into consideration for successfully initiating the cluster development. It is crucial, to address each of the **four key questions** with appropriate **tools**, to carry out a **sound analysis** and get the “right” **cluster actors** on board.





It is important to note that the steps and procedures to develop goals and strategic fields of action **can vary depending on the starting position, pre-existing knowledge, preconditions for cluster development and depending on the type of instigator**. Thus, the way how analysis and actors' involvement are integrated – or,

reversely, conducted separately in some parts, – differs from case to case. Moreover, not all steps are equally relevant for different cases. For instance, instigators from the business sector would rather tend to skip a cluster mapping, if they are already familiar with their economic environment.

Step 1: What potentials do we have?



What potentials do we have?

CLUSTER MAPPING

VALUE CHAIN MAPPING

SWOT ANALYSIS



Who needs to be involved?

STAKEHOLDER ANALYSIS

INVOLVE KEY ACTORS

RAISE AWARENESS



Which value added do we want to create?

IDENTIFY DEMANDS & NEEDS

DEVELOP GOALS



How to develop a strategy?

BUSINESS MODEL CANVAS

PREPARE ORGANISATION AND STRUCTURE

CLUSTER STRATEGY

ACTION PLAN



Cluster mapping

Create a first information basis through hard data.

Cluster mapping is the measurement of the presence, size, and performance of clusters across locations, applying common definitions of cluster categories derived from evidence about patterns of location-specific linkages and spill-overs across locations⁶⁰. It provides a first static picture of spatially concentrated cluster structures without taking qualitative aspects into account.

A review of secondary data, e.g. published statistics, highlights concentrations of economic activity within a region. It also identifies clusters that are growing faster than other sectors within the region and shows comparative advantages over other regions – nationally and/or internationally. Approaches for this analysis will vary according to the depth of published statistics that are available⁶¹.

EXAMPLES:

- **Europe**
 - › ECCP: <https://www.clustercollaboration.eu/cluster-mapping>
 - › https://ec.europa.eu/growth/industry/policy/cluster/observatory_en
- **USA**
 - › <http://www.clustermapping.us/>
- **Russia**
 - › <http://map.cluster.hse.ru/>

Limitations of data-based cluster analysis:

- Mismatch of traditional sectors in statistics and cluster-relevant areas
- Cross-sectoral development and industrial change is often not adequately covered in official statistical data illustrating a status quo in the recent past
- Official statistics do not assess the qualities clusters, i.e. interlinkages and dynamics within a given cluster
- No assessment of specific local or regional conditions and cultural peculiarities
- No information about real needs of local and regional actors in terms of cooperation

Hence, cluster mapping shall be used as one of several analytical tools. It provides a rational fundament for further efforts with the involvement of potential cluster actors.



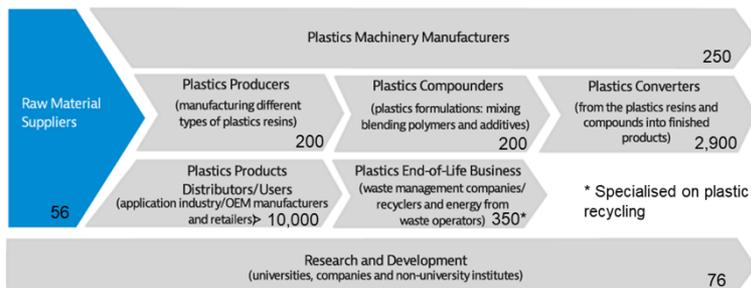
Value chain mapping

Creating evidence to what extent the local value chain is covered

A value chain mapping is an important tool to understand to what extent nodes of a given value or supply chain are covered by local actors. Or, even for existing cluster initiatives, value chain mapping helps to identify white spot or missing links.

Value chain mapping helps to identify where actors are missing that have to be attracted for the benefit of the entire cluster development. The case below illustrates, how differently a given value chains can be covered across two different clusters. The plastics cluster in Southern Germany covers the entire plastic manufacturing value chain, whereas a similar cluster around Abidjan does not feature all actors and firms within the plastic supply chain (e. g. raw material provider or machinery manufacturer).

GERMANY



CÔTE D'IVOIRE





SWOT - analysis

A systematic analysis of strengths, weaknesses, opportunities and threats (**SWOT**) helps to establish a realistic picture and to derive fields of action and priorities for the cluster.

The analysis of strengths and weaknesses is part of the **internal analysis** and relates to the cluster and its members. The classic approach to the internal analysis is the **value chain approach**, which distinguishes between primary activities (goods inward logistics, production, goods outward logistics, marketing and distribution, customer service) and secondary activities (administration, management, human resources, R&D, procurement).

There are various approaches and tools for the **external analysis** covering opportunities and threats, e.g. the **“five forces”** approach to evaluating the central determinants of competition (industry competitors, suppliers, new entrants, buyers and substitutes). Specifically international market developments and innovations need to be taken into account here, as the cluster has to be able to act and stay abreast of changes internationally.

There are more analytic tools that have been scientifically developed; some of them are highly complex. Tools available include the **input-output analysis**, the **GEM analysis** or **Porter's Diamond Model**. Again, a purely statistical analysis will never be sufficient, as the primary issue here is a complex system of actors and social contacts which can only be captured systemically, i.e. through meetings, surveys and various forms of joint reflection and review.

Intentions & goals of the actors

Identified areas for collaboration or priorities for clusters need to be defined in more detail. If, for example, the analysis has shown that a distribution alliance would be interesting for the business, it is necessary to define what exactly is understood by that. While this does not require detailed planning, the picture of the strategic alliance should become clearer.

- What benefits can a business generate for itself from a strategic alliance?
- What benefits can it offer its partners? What competences is a business prepared to bring into the strategic alliance?
- How well is the business prepared to open itself up to its partner?
- What business details does it intend to keep to itself?





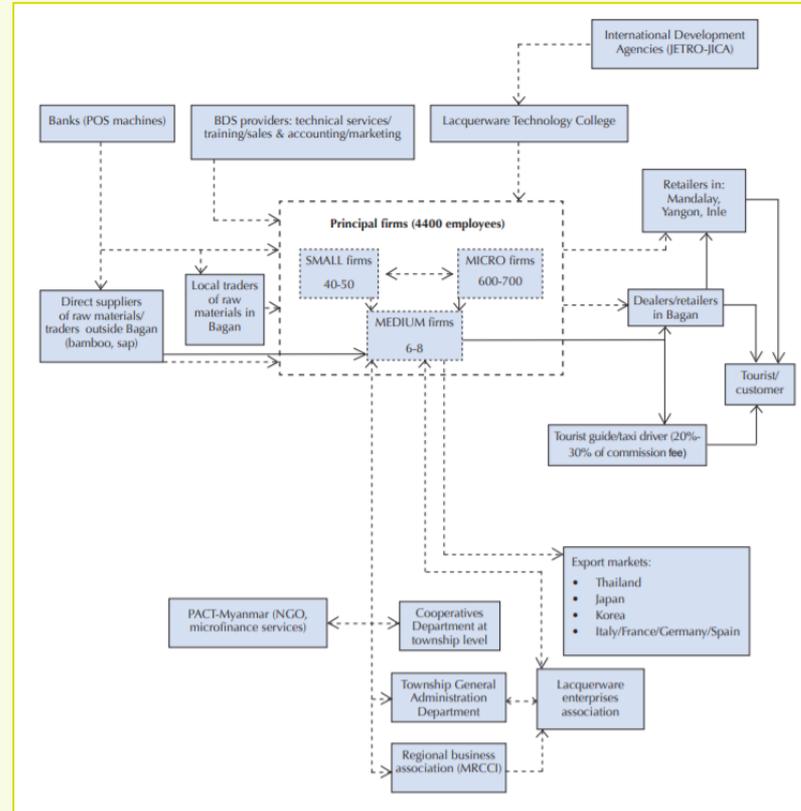
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">▪ Strong cluster in terms of critical mass and competitiveness of cluster firms; Good mixture of global suppliers and innovative start-ups▪ Leading domestic R&D institutions located in the cluster; good pattern of collaboration with industry▪ Good collaboration among the cluster firms established▪ ABC is one of the most matured cluster initiatives in Tunisia with good international visibility▪ Established governance structure, many members joined ABC long time before▪ Good investment climate and business conditions for automotive sector, incl. significant number of international investors	<ul style="list-style-type: none">▪ Cluster firms strongly depend on demand of Tier 1 suppliers and OEMs as well as on global trends. Only a few service other markets than Automotive▪ Number of automotive firms in ABC is undercritical; ABC does not sufficiently represent the automotive sector▪ ABC coordination is inactive; many firms don't feel to be part of ABC▪ Previous strong cluster community disappeared; many members of ABC are dissatisfied▪ Competition between ABC and DEF hampers the further development of networking community▪ Entire turnaround of ABC, incl. no coordination and strategy needed
<ul style="list-style-type: none">▪ Tunisian suppliers focus on cable and mechatronic parts manufacturing, which will not be much affected to upcoming transformation pattern in the Automotive sector. This provides a stable investment climate.▪ The ability to innovate and good technological competence of the companies should be sufficient to also diverge into other markets (medical technology, energy or electrical engineering).▪ Comparably high degree of digitalization further provides a good base and flexibility to adapt to changing market needs▪ The COVID-19 crisis could be used to reduce the strong dependence of cluster firms on the automotive industry	<ul style="list-style-type: none">▪ COVID-19 pandemic significantly hits Tunisian Automotive supply sectors. Financial issues of the Tier1 and OEMs as well as lower global market demand might push smaller firms out of international supply chains▪ Uncertainty as to how the markets will develop after COVID-19 will hamper future willingness of OEMs to invest in Tunisia▪ ABC will become increasingly insignificant or even vanish, if the cluster coordinator does not succeed in reactivating the former network structures▪ Lack of network structures and missing experience to act together in times of crisis will hit the Tunisian automotive sector harder than those in other countries
OPPORTUNITIES	THREATS



EXAMPLE Use cases of cluster analysis (1/4)

Cluster Mapping: The Lacquerware Cluster in Bagan (Myanmar)

The Lacquerware Cluster Mapping nicely illustrates how well the respective value chain is covered and how the different actor groups are already linked together.





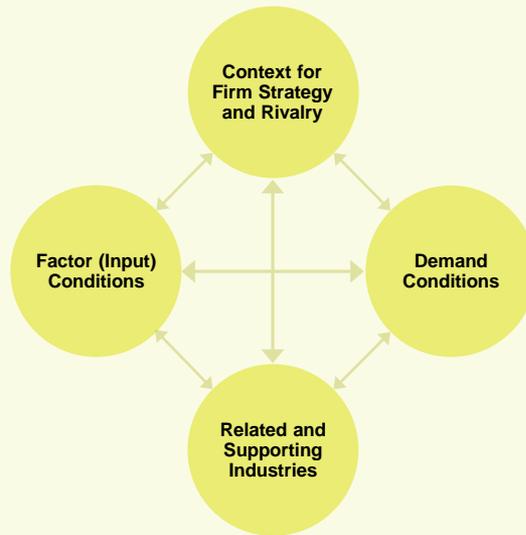
EXAMPLE

Use cases of cluster analysis (2/4)

Porter's Diamond: ICT cluster around Lagos (Nigeria)

In the current case, the diamond framework was used to analyze the quality of the ICT business environment in Lagos. The four determinants of business environment are demand conditions, factor conditions, related industries and context for firm strategy and rivalry.

- + [incentives] Lagos as an ICT hub in Africa
- ± [rules] national efforts to improve ICT-related info
- Limited local competition
- Weak state capability
- Weak regulatory standards



- [physical infra] unstable energy supply
- [human resources] limited human capital dev, low quality of education, lack of ICT training
- [technological infra] poor IT infrastructure distribution

- + [public sector] gov't pushing for better e-governance
- + [private sector] emerging middle class; growing local demand for digital products/services

- Limited local suppliers
- Limited related industries, such as robust landline services of ICT-related hardware factories
- Lack of clusters





EXAMPLE

Use cases of cluster analysis (3/4)

Value chain analysis:

Software industry value chain in Georgia*

The main aim of the value chain mapping conducted within the cluster development project, coordinated by GIZ Georgia, was to understand where Georgia stands today in terms of its ICT sector in general and software development industry in particular and what are possible ways for Georgia to move up in global value chains.

While analysing the value chain of the software industry, it has been very important to first understand what its main components are. The main inputs of the software industry value chain have been human resources, platform-specific software development environment (integrated development environment, including compilers, debuggers, etc.), generic hardware or cloud services for hosting the software. The existence of marketing, distribution and after-sales support companies needed to be carefully addressed during the value chain mapping.

The value chain analysis identified the following **key areas** which would be the most crucial to focus on in connection with the support of the ICT cluster development:

- Stimulation of emergence of new technology intensive companies
- Supporting digitalisation of existing industries
- Enhancing public procurement of innovative IT solutions
- Development of human capital

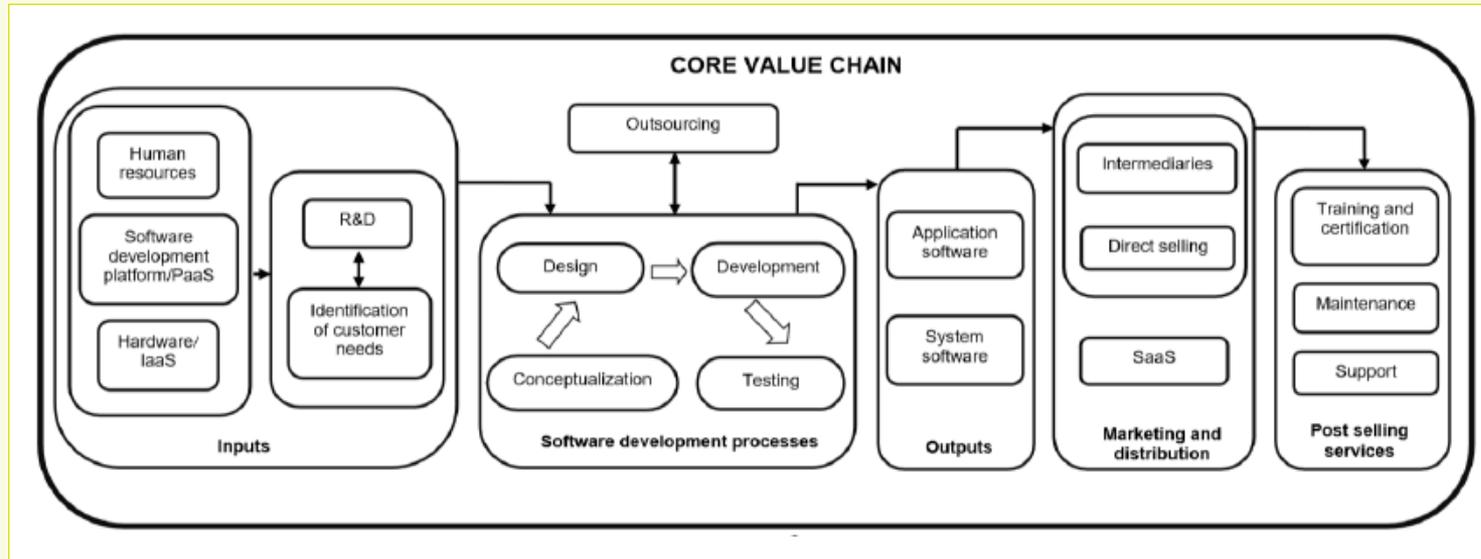




EXAMPLE

Use cases of cluster analysis (4/4)

Visualization of Georgia's ICT core value chain*





It is important to note that the steps and procedures to develop goals and strategic fields of action **can vary depending on the starting position, pre-existing knowledge, preconditions for cluster development and depending on the type of instigator**. Thus, the way how analysis and actors' involvement are integrated – or,

reversely, conducted separately in some parts, – differs from case to case. Moreover, not all steps are equally relevant for different cases. For instance, instigators from the business sector would rather tend to skip a cluster mapping, if they are already familiar with their economic environment.

Step 2: Who needs to be involved?





Identification and involvement of key actors

Choosing the right partners is key for the cluster initiation.

Sometimes cluster development starts with specific partners already in mind, or the partners may get together first and then developed the idea of engaging cluster development. However, the search for potential partners is of utmost importance, but sometimes a quite difficult task. At that stage it is important to find the right balance, between identifying key actors and drivers for cluster development on one side, but remain open for all interested parties to avoid the impression the cluster approach is a closed shop.



The instigator matters.

He or she is the story behind successful cluster development. Depending on the instigator, different ways of approaching and gathering key actors are possible. Already existing business network structures or business communities can be tapped.

An important initial element at the beginning is **attracting promoters and multipliers** from private and public sector, and incorporating them directly into the initiation process.

Do not underestimate objectors!

Very often, there are parties that are critical or even against certain activities regarding cluster development. E. g. sector associations are often against cluster development. They consider it as an unnecessary and competing process since they see networking and initiation of cooperation among local actors as their domain. And they might be jealous that cluster initiators gain higher attention than they gained.





Identification and involvement of key actors

The Stakeholder analysis as a tool to identify key actors

The stakeholder analysis is a promising tool to identify key stakeholder, the dynamics between them, the conflict sensitivity and mitigation capabilities. It contains

- the identification of the stakeholder groups,
- the assessment of their point of view (positive, neutral or even critical),
- their potential influence during the process, and
- measures to be undertaken to keep and foster their support and engagement.

Anteja ECG. 2017. Stakeholder analysis in the frame of the EU INTERREG S3-4AlpClusters project

NAME	ASSESSMENT	INFLUENCE	DESCRIPTION	MEASURE
Baden-Württemberg International	NEUTRAL	HIGH	Programme owner of cluster internationalisation support scheme	Inform them and invite them to all measures related to international cluster collaboration
Ministry for Economy Baden-Württemberg	POSITIVE	HIGH	Programme owner of many support schemes for cluster development and responsible for S3 implementation	Taken as observer in the project
BioPro	NEUTRAL	MEDIUM	Regional sectorial agencies; dealing with clusters in their sectors	Invite them to Entrepreneurial discovering workshops and cluster events
Regional Business Development Agencies (RDA)	POSITIVE	HIGH	Strong role in regional development; Well connected to clusters	Invite the strongest RDA them to Entrepreneurial discovering workshops
SMEs	NEUTRAL	HIGH	Main target group; have to become engaged in new innovation models	Keep them informed through close contact to cluster-initiatives





How to raise awareness and motivation

Initiating a first event / inauguration

After having identified key actors, a dialogue between the relevant actors has to be initiated. This requires awareness raising for all cluster actors (businesses, relevant organisations, administration and politics) regarding the importance of clusters for competitiveness and job creation. The goal of the first joint event is to create a **shared awareness and identity** for the future cluster development.



How to prepare this event

The aim of such an event is often twofold: on the one hand you want to raise awareness of the upcoming cluster development efforts and to promote this undertaking. On the other hand, such an event is the perfect platform to present results and findings gained during the analytical phase.

In case there is an instigator or other key driver, such an event can be used to present them and the rationale behind their commitment to push the cluster idea forward.

Event for initiation and awareness raising

An agenda for the first dialogue event may include the following items:

- (1) Presentation of cluster potential (analysis of questionnaires and secondary data)
- (2) Explanation of benefits which cooperation offers; experience of existing clusters can be cited here
- (3) Reports of businesses on their experience with existing forms of cooperation
- (4) Analysis of existing and possible forms of cooperation
- (5) Joint assessment of needs for support (cf. '[Which value added do we want to create](#)')
- (6) Evaluation of existing or possible synergy effects established through cooperation

PARTICIPANTS:

Representatives of the relevant business sector, consulting, academic and research institutions, business associations and organisations, regional development agencies and ministries.



It is important to note that the steps and procedures to develop goals and strategic fields of action **can vary depending on the starting position, pre-existing knowledge, preconditions for cluster development and depending on the type of instigator**. Thus, the way how analysis and actors' involvement are integrated – or,

reversely, conducted separately in some parts, – differs from case to case. Moreover, not all steps are equally relevant for different cases. For instance, instigators from the business sector would rather tend to skip a cluster mapping, if they are already familiar with their economic environment.

Step 3: Which value added do we want to create?



What potentials do we have?

CLUSTER MAPPING

VALUE CHAIN MAPPING

SWOT ANALYSIS



Who needs to be involved?

STAKEHOLDER ANALYSIS

INVOLVE KEY ACTORS

RAISE AWARENESS



Which value added do we want to create?

IDENTIFY DEMANDS & NEEDS

DEVELOP GOALS



How to develop a strategy?

BUSINESS MODEL CANVAS

PREPARE ORGANISATION AND STRUCTURE

CLUSTER STRATEGY

ACTION PLAN



Understanding the interests of cluster actors

Cluster actors have different motivation the get engaged

- Cluster actors, even those that join at the beginning have different prevailing interests
- It is important to predict their interests accordingly
- **Key drivers and actors** are the key for successful initiation
- But there might also be so called “free riders” and reactive actors who should not be left out during the initiation of a cluster. They can assure critical mass and make positive “noise” during the initiation process.
At the same time they should be treated with care and have limited influence.



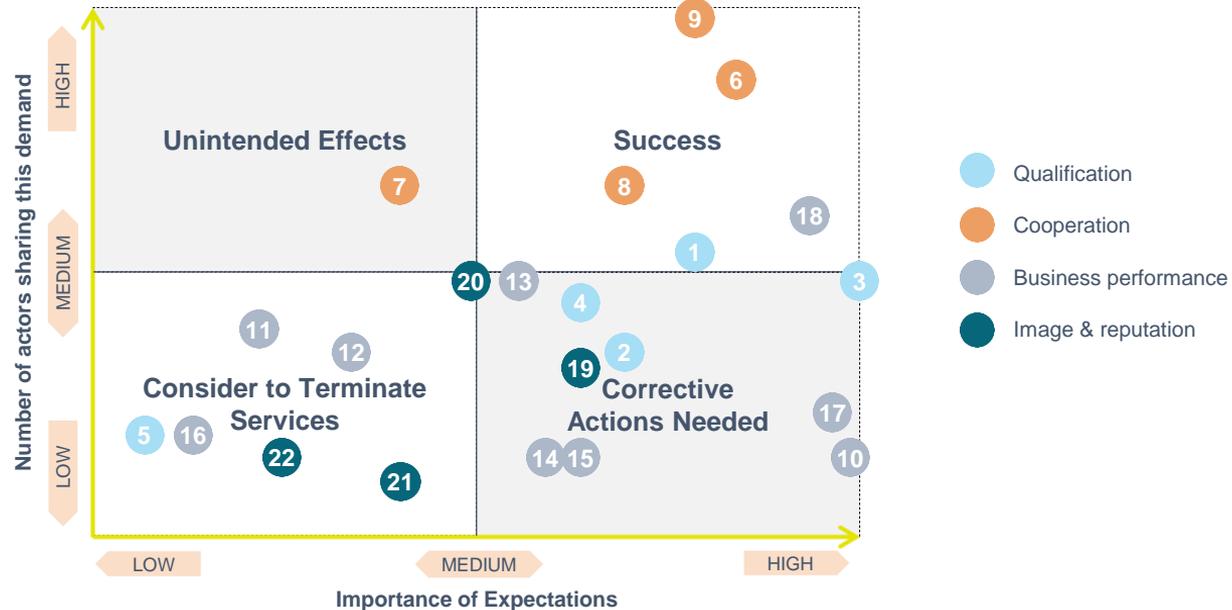


Evaluating and prioritizing needs and demands

Understanding the demands of key actors

Understanding the demands of key actors is vital to ensure that they remain committed during the cluster development process.

However, not each demand is of same importance and not all key actors share similar demands. A ranking can help to identify those demands that matter and that are shared by a sufficient number of key actors.





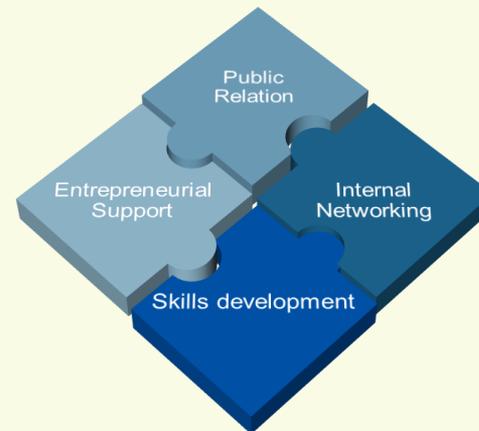
EXAMPLE

From demands to key objectives of a cluster (1/2)

ICT Cluster Dakar, Senegal

Around 10 firms, supported by GIZ, decided to actively drive the cluster development. Instigators and key actors were available right from the very beginning, including a potential cluster organisation (**SenStartUp**). Based on a third-party moderated process, the prevailing demands of the key actors were identified and ranked. Interestingly, although the key actors operated in different ICT-sub sectors, the demand was very similar overall. This allowed to deduce four future key objectives where the **ICT Cluster Dakar** will focus on. This transparent process helped all actors involved to understand how the future cluster objectives have been found.

Key cluster objectives





EXAMPLE

From demands to key objectives of a cluster (2/2)

Prevailing demands

Categories	less important	Important	Very important	Score low importance 1,0 - 3,0 very high importance
Public relations and external networking / Relations publiques et mise en réseau externe				
Representation & presentation of the members to the public / Représentation et présentation des membres au public		2	5	2,7
Organisation of Events / Organisation d'événements	1	1	5	2,6
Networking with other actors outside SenStartup / Mise en réseau avec d'autres acteurs en dehors de SenStartup	0	2	5	2,7
Networking among the members / Mise en réseau des membres				
Initiation of meetings & networking within Senstartup / Initiation de rencontres et de réseaux au sein de Senstartup	1	0	6	2,7
Initiation of thematic working groups / Mise en place de groupes de travail thématiques	0	3	4	2,6
Start-up support and business development / Aide à la création et au développement d'affaires				
General start-up advice / Conseil général en matière de création d'entreprise	0	3	4	2,6
Coaching & consulting for business plans / Coaching et conseil pour le business plan	0	3	4	2,6
Acquisition of start-up funding, venture capital & investors / Acquisition de financement de startup, de capital-risque et d'investisseurs	0	1	6	2,9
Initiation of concrete business contacts / Initiation de contacts d'affaires	0	2	5	2,7
Innovation & Cooperation				
Support in the acquisition of funding / Soutien dans l'acquisition de financements générales	0	3	4	2,6
Qualification et Skilled Workforce / Qualification et personnel qualifié				
Development and offer of training measures / Développement et offre de mesures de formation	0	3	4	2,6





It is important to note that the steps and procedures to develop goals and strategic fields of action **can vary depending on the starting position, pre-existing knowledge, preconditions for cluster development and depending on the type of instigator**. Thus, the way how analysis and actors' involvement are integrated – or,

reversely, conducted separately in some parts, – differs from case to case. Moreover, not all steps are equally relevant for different cases. For instance, instigators from the business sector would rather tend to skip a cluster mapping, if they are already familiar with their economic environment.

Step 4: How to develop a strategy?





The Cluster Business Canvas Model*



NAME		CLUSTER ORGANISATION			DATE
Member Segments <ul style="list-style-type: none">What different types of cluster actors do we have?How would we categorise our cluster actors into different groups by size, needs, market readiness etc.?	Key Partners <ul style="list-style-type: none">Who are our key partners needed and which key activities do they perform?Which key resources do we acquire from partners?	Key Activities <ul style="list-style-type: none">What key activities do our value propositions require?What activities and services do we want offer to our cluster actors?	Member Pain Points <ul style="list-style-type: none">What are the biggest problems and pains our members have?What are jobs the members need done?	Value Propositions <ul style="list-style-type: none">What is the benefit we offer to our members?What are positive outcomes the members want to see?	Key Resources <ul style="list-style-type: none">What key resources do our value propositions require?How can our cluster provide these resources?
Member Relationships <ul style="list-style-type: none">What type of relationship do our cluster actors expect us to establish and maintain with them as well as amongst them?How are the cluster actors integrated in our cluster activities?	Cost Structure <ul style="list-style-type: none">What are the most important costs inherent in our cluster organisation?Which key resources and key activities are the most expensive?	Revenue Streams <ul style="list-style-type: none">For what services are our cluster actors willing to pay?How can our cluster actors or others contribute to our cluster organisation?Are there other financing options, e.g. public funding?	Key Challenges <ul style="list-style-type: none">What are the key challenges of our cluster organisation in the next 3 years?What are the key challenges of our cluster actors in the next 3 years?		





Goal-setting process for the cluster strategy

Based on the results of the various analyses, a **shared vision, joint goals** and lastly a **common strategy** can be defined. The **goal-setting process** creates the needed foundation to collaborate trustfully. The set of goals represents the intersection of often widely differing interests of potential cluster actors. Clear goals are essential for a common understanding of the forthcoming tasks in cluster development, and for planning and implementing the necessary measures. This method – often referred to as **Management by objectives (MBO)** – proved its value not only in individual businesses but also in clusters.



In setting goals, the following points should be considered:

- Working on setting common goals should start as early as possible.
- Working on developing a strategy and other cluster activities can only start once there are clear goals.
- To ensure specialisation and profile formation for the cluster, the goals should not be too broad.
- As clusters evolve constantly, the thematic focus should also not be too narrow and leave space for further development and transformation.
- Goals should be formulated as precisely as possible, to allow for derivation of concrete measures and activities.
- Goals should be attainable and measurable. Develop indicators!
- The goal setting process should be a moderated process involving all cluster members. Create identification with goals!
- The goal setting process is a strategic management responsibility.



Goal-setting process for the cluster strategy

Setting individual goals depends crucially on what kind of goals, desires and expectations members associate with the cluster. Several clusters – for example, the German competence networks – are more concerned with strengthening innovation capacity, while others focus on lobbying or certain market activities (exporting).

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 defined in the association articles or terms of reference

Typical goals in numerous clusters are:

- Promoting innovation
- Joint marketing
- Export promotion, developing new markets, **building international alliances**
- Joint procurement and/or sourcing
- Providing and using services to businesses (cluster services)
- Training and Continuing Professional Education (CPE); skills development
- Utilising synergies and economies of scale
- Lobbying

Monitoring is vital (see section "**Monitoring & Evaluation**") to review goals for current relevance at regular intervals and, if necessary, revise and adjust the goals.

It might be necessary to reconsider and reformulate existing goals



Developing a cluster strategy

Once the joint goals of the cluster have been defined, the next stage focuses on deriving a strategy based on these goals. Formulating such strategies is a crucial task, particularly in the initiation phase of a cluster, as it paves the way for achieving the defined goals and the measures. Again, strategic development should **actively involve all (potential) cluster actors** to make sure that the final outcome is a joint product that is commonly accepted.

Purpose of a sound and consensus-based strategy

Without a clear strategy there is the danger that the cluster might get caught up in action for its own sake, that joint activities might not be coordinated and goals not be achieved.

By contrast, a strategy establishes a common direction for joint work and allows for a goal-oriented approach to cooperation. The strategy makes it possible to moderate and plan the process of shaping the future for cluster members.

If the strategic alliances particularly feature SMEs, which are often under enormous competitive pressure, a too visionary approach is not advisable for the development of a cluster strategy. Instead, questions of strategic management should focus on how to improve the competitiveness of cluster members and a concrete action plan (operational strategic orientation). In the interests of sustainable competitiveness, a strategy is also a tool to define a cluster as a flexible organisation able to learn and to adapt to changing market conditions and innovations.

This brings up questions on the strategy's content and structure: how does one put a strategy together? What aspects should it cover? And, how much detail is needed?

Components of a cluster strategy

Insights from previous analysis and work, such as a cluster mapping, the analysis of potentials and the defined goals need to be well integrated in the strategy.

Furthermore, the following sections should be covered:

- Definition of the cluster's range of outputs and services
- Organisational structure
- Implementation strategy (steps)
- Monitoring & evaluation (M&E)
- Action plan

Once the cluster strategy has been formulated, it has to be operationalised into **well defined work items**. A useful tool in strategy implementation is an action plan which operationalises the goals and measures expressed in the strategy. An **action plan** is obtained by deriving explicit activities from the goals in the strategy and assigning them to specific individuals responsible for implementation. In addition, a specific timetable is set for the individual tasks and activities, together with the results to be achieved – so-called “deliverables”. Milestones are set for achieving particularly important results of implementation, which help to closely monitor processes and success.



EXAMPLE

Cluster Strategies (1/2)

Strategic framework of the Plastic Cluster Ivory Coast

The cluster mapping and sector analysis showcased a diverse number of actions that combine opportunities to increase the competitiveness of the Ivorian plastics cluster, while at the same time reducing the environmental impact of the sector as it grows.

- The cluster actors also expressed an interest in creating inroads into increased use of bioplastics, acknowledging these as an important new frontier of the plastics economy in the short and medium term.
- Together, the potentials of increased competitiveness and the use of bioplastics aggregate to create a new and dynamic cluster for Cote d'Ivoire's plastics economy, grouped under the following key strategic objectives:
 - (1) Diversification towards higher value-added and sustainable plastic products
 - (2) Modern manufacturing technologies to facilitate new plastics-based solutions
 - (3) Improving the economics for plastic recycling.
- These strategic objectives need to be underpinned by a cluster policy that encourages investment and innovation, while also ensuring that Côte d'Ivoire's plastics economy becomes truly circular and environmentally sustainable*.



EXAMPLE

Cluster Strategies* (2/2)

Vision: The Côte d'Ivoire plastics sector is a regional market leader in high value-added and sustainable products generated from a well-functioning circular ecosystem

Strategic Objective 1

Diversification towards higher value-added and sustainable products



Competitiveness Initiative 1:
Initiating new and sustainable product applications for high growth areas

Objectives:

- Diversification into new products for high growth markets
- Strengthening domestic supply chains by linking mainstream plastics manufacturers to high growth markets and end-users
- Substituting mainstream plastics with recycled or bioplastic inputs for new product niches

Support interventions

- Defining the business opportunities: market analysis; benchmarking costs
- Investment match-making
- Supporting market access

Competitiveness Initiative 5:
Policy reforms for a sustainable plastics economy

Strategic Objective 2

Moving to advanced manufacturing processes and technologies



Competitiveness Initiative 2:
Towards advanced plastics manufacturing

Objectives:

- Improving competitiveness of plastics manufacturers by advancing process efficiency, flexibility and quality
- Ability to capture new, high-growth market opportunities based on advanced manufacturing processes

Support interventions

- Assessing technology fit
- Process re-engineering support
- Skills support

Objectives

- Establish public-private dialogue on regulatory issues
- Promote policy predictability
- Address externalities

Strategic Objective 3

Building a circular plastics economy



Competitiveness Initiative 3:
Improving capacities for plastics recycling

Objectives:

- Increasing industrial capacities for recycling
- Using more recycled plastics content
- Reducing the price of recycled plastic inputs

Support interventions

- Supporting supply stability
- Assessing technology fit

Competitiveness Initiative 4:
Developing an Extended Producer Responsibility (EPR) platform

Objectives

- Enable a plastic waste collection system
- Connect waste management, recycling and manufacturing segments
- Implement demonstration projects in key municipal areas

Support interventions

- Advocacy
- Running awareness campaigns
- Mobilizing public support
- Market linkage

Support measures

- Public-private consultation
- Technical advisory support



LESSONS LEARNED

common reasons why cluster initiation efforts can fail

(1) Policy-driven cluster initiation

Policy involvement in cluster initiation is important and can be of critical help. However, some cluster development cases involving “political hot topics” can present certain policy level challenges. For example, attempts to initiate “e-mobility” clusters in Northern Germany were not successful. The initiation phase was never successfully completed due to the lack of a critical mass of cluster actors.

(2) Missing financial model

Financial aspects play an important role during all phases of development. Many cluster initiatives have been suspended due to a lack of investors. While the initiation phases normally reveal multiple demands and ideas from the respective cluster actors, the capacity of a cluster organisation itself is insufficient to satisfy all needs. This can trigger disappointment of cluster actors and consequently a certain inactivity of a cluster.

(3) Missing involvement of cluster actors in strategy development

In Latin America, there was a cluster initiation project that mobilized many potential cluster actors. All preparatory actions went well.

However, the strategy was written by external consultants without involving relevant cluster actors. Whereas the designated cluster actors believed the new cluster initiative would support them in export promotion, the consultants’ strategy focused on networking and skills development. Since this was not what the designated cluster actors expected, the momentum came to a halt, including the cluster development initiative itself.

(4) Strategy too ambitious

While strategy development is important, planned achievements must realistic. There are some cases in which the development strategy is too complicated to be implemented under existing framework conditions. When “quick wins” are also missing, cluster actors may lose interest in cooperation within a relatively short period of time and will lack commitment.

(5) Important stakeholders not involved

There was another case in the maritime sector in Asia, where the cluster initiation missed to conduct a sound stakeholder analysis. The regional industrial shipping association was not involved. Consequently, it considered the cluster to be initiated as a competitor and the association lobbied successfully that this cluster initiative was never to be implemented.



LESSONS LEARNED

common reasons why cluster initiation efforts can fail

To briefly sum up key factors:



DOS 	DON'TS 
<ul style="list-style-type: none">▪ Start and proceed incrementally and don't expect too much too early.▪ Identify and involve a group of relevant key actors from private and public sectors right at the beginning.▪ Remain transparent and open for any further interested parties.▪ Conceptualize a first rough idea of a management and financial model to be able to meet the actors' needs.	<ul style="list-style-type: none">▪ Do not initiate a mere policy-driven cluster without the commitment of the private sector.▪ Avoid depending too much on the interests of one (large) company.▪ Do not start without a sound analysis.▪ Avoid a “closed shop character” of the core group and its activities.





EXAMPLE Lessons learned (1/2)

Textile Clusters/Industrial Park Development in Ethiopia



SUCSESSES	CHALLENGES	LESSONS LEARNED
<ul style="list-style-type: none"> The Ethiopian government managed to attract numerous international investors into the country through a large set of incentives and investment promotion. The incentives included tax holidays, duty free imports, and special export services. To increase sustainability in the manufacturing sector and particularly in industrial parks, infrastructure investments have been partly directed towards the establishment of functional wastewater systems and renewable energy. 	<ul style="list-style-type: none"> Workforce: Industrial culture in Ethiopia is underdeveloped, which is why the workforce requires additional services, trainings and awareness raising. Spillover effects: Until now, the parks in Ethiopia remain mostly isolated in their work and have little economic connection to the surrounding economy. Value creation: The textile value chain is not well developed in Ethiopia. Hence the export value chain is externalized and leaves very little value added in the country. Covid-19 in 2020: The pandemic is a challenge for production in the clusters and also for the brands. Orders are decreasing and therefore the whole sector in Ethiopia is endangered. 	<ul style="list-style-type: none"> One needs to engage a mix of strong, local public and private partners that can create the right political framework. This includes creating incentives for investors and establishing the necessary infrastructure (e.g. logistics, electricity, and similar amenities). In order to realize the full potential of industrial parks or clusters, the private sector needs to be enabled to take advantage of new opportunities. On one hand, the right political framework is needed in order for local companies to deliver products and services to clusters. But also, investments and incentives are needed along the supply chain in order to achieve higher value.

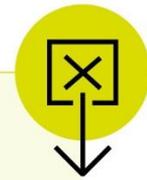


EXAMPLE

Lessons learned (2/2)**CGER Network: A cluster of rural enterprises in Senegal**

SUCSESSES	CHALLENGES	LESSONS LEARNED
<ul style="list-style-type: none"> In 2004, the Centres de Gestion et d'Economie Rurale (CGER) was created with the objective of improving the technical and financial management of smallholder farmers and agri-businesses. Nowadays, it is a resource centre dedicated to the coordination and training of members, to increase access to finance and to provide studies on the intersection of technical and economic developments for its 120 private company members. Although financially supported since its creation, the CGER network has continued to increase its financial autonomy through the invoicing of these services, thereby reaching around 40 % of financial autonomy 	<ul style="list-style-type: none"> Today, there is increased interest on the part of the CGER to fill a huge gap in the market of networking and management consulting dedicated to rural businesses. Importantly, the degree of involvement of the professionals and the members is key to its social credibility and overall sustainability. Despite the fact that financial sustainability has increased in the recent past, the main challenge is to further increase its financial autonomy and independence from other institutions. Further challenges are: <ul style="list-style-type: none"> › Improving the quality and productivity of current services and enhancing the level of expertise of staff members. › Supporting the development of a formalized offer of consulting services to agricultural and rural enterprises. › Management consultancy to professional organisations, firms and farmers. › Networking and matchmaking services. 	<ul style="list-style-type: none"> The CGER network, while not being a cluster per se, takes on all these characteristics: <ol style="list-style-type: none"> (1) its geographical scope is defined to four departments of the Senegal river valley; (2) it is targeted at a specific sector – rural and agri-businesses; (3) it has a dedicated management unit; and (4) its aim is to improve growth potentials, productivity and innovation capacity of member organisations. Thus, the cluster-like approach has helped nevertheless. There has been long term support since it's inauguration by Société d'Aménagement et d'Exploitation du Delta (SAED) and the Government of Senegal which helped CGER to continuously develop. Professional network and cluster management was key to the provision of services that were requested by members.

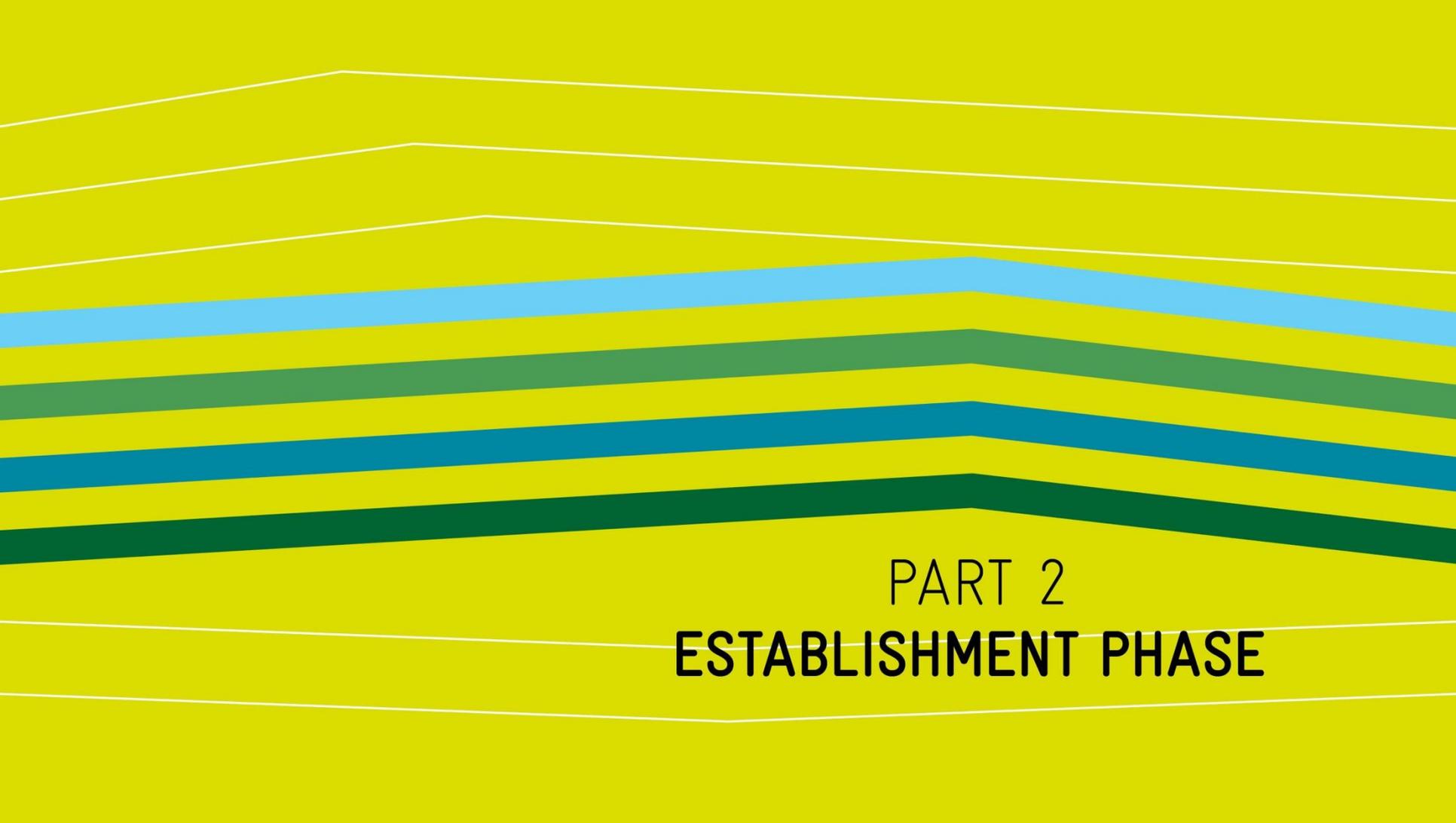




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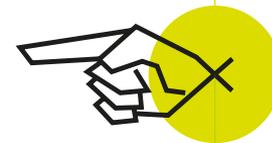




PART 2
ESTABLISHMENT PHASE



OVERVIEW OF PART 2: ESTABLISHMENT PHASE



- **Introduction**
- **Step by step process for establishing cluster structures**
 - › **STEP 1: How to operationalise the strategy?**
 - › **STEP 2: How to form the organisation?**
 - › **STEP 3: Which services and activities to implement?**
 - › **STEP 4: How to monitor progress?**
- **Further readings**





From initiating to establishing cluster structures

Clusters are mostly heterogeneous systems consisting of diverse actors, interests and needs. Information and communication flows, cooperation activities and cluster services need to be well structured and well organised. Viewed in this manner, the organisational structure and service portfolio of a cluster is of central importance. Its constitution as a formal organisation with rules for cooperation provides the cluster with its binding nature while assuring transparency and accountability for its participants.

10 KEY QUESTIONS questions when establishing a cluster

- (1) How does one get started with the implementation of the strategy?
- (2) How important is the organisational structure for the cluster?
- (3) What requirements does the organisational structure have to meet?
- (4) Which legal form is most suitable for our cluster?
- (5) How does one organise governance and a cluster management structure?
- (6) How does one organise organisational processes?
- (7) Which services does one want to offer in order to address cluster goals and actors' needs?
- (8) How does one communicate cluster goals, benefits and offers?
- (9) What is the role of cluster policy at this development stage?
- (10) How does one set up a sound but lean and easy-to-handle monitoring and evaluation system?

KEY ACTIONS After having developed a strategy, it has to be implemented. The following key actions are crucial to create a dedicated structure for targeted cluster activities to follow. The sequence is not fixed and may vary from case to case.





Step by step process for establishing cluster structures

As depicted, the establishment of a cluster requires an action plan, a consistent organisational structure, a strategically oriented service portfolio and a proper monitoring and evaluation system. These form the foundation the actual cluster work.

The following four key questions provide guidance and contain relevant methodologies and approaches for the implementation.





Cluster development strategies should not be static. They should enable a dynamic development of a cluster and the long-term competitiveness of its actors. The **strategic**

evolution of the clusters is a basic prerequisite for the clusters' (and its actors') ability to adapt flexibly to changes in both internal and external conditions (markets).

Step 1: How to operationalise the strategy?



How to operationalise the strategy?

ACTION PLAN

FINANCIAL PLAN



How to form the organisation?

LEGAL FORM

GOVERNANCE

STAFFING

AGREEMENTS WITH KEY ACTORS



Which services and activities to implement?

FIELDS OF ACTION

DEVELOP SERVICES

MARKETING & PR



How to monitor the progress?

MONITORING SYSTEM





Implementing an action plan

Once the cluster strategy is formulated, it must be **turned into well defined work items**. A useful implementation tool is the **action plan** which serves to operationalise goals and measures expressed in the strategy. An action plan is obtained by deriving concrete activities from the goals articulated in the strategy and assigning them to specific individuals responsible for implementation. In addition, a specific timetable is set for individual tasks and activities together with the results or “deliverables” to be achieved. Milestones are set for monitoring particularly important steps of implementation.

The following points in particular should be considered:

- Implementation should be done in small but very operational steps which do not overly strain the parties involved.
- The first activities should be those that promise quick wins and thus promote a shared sense of success among the cluster actors.
- It is necessary to clearly define responsibilities.
- Key cluster actors should be involved in implementing the strategy and everyone should make a contribution where needed.
- Deadlines should be kept as rigidly as possible.
- It is helpful to define interim goals and corresponding milestones along the way to achieving the overall goals for the cluster. This combines operational concreteness with maximum possible flexibility for future developments.

- The action plan should be reviewed periodically to assure timely and complete implementation.
- In the case of very large and complex cluster structures, it may also be helpful to set up a steering group to help with decisions for long-term goal setting and strategy development.

Structure of action plan (extract):

NO.	TASK	PRIORITY	DEADLINE	RESPONSIBLE	SUPPORT	REMARKS	STATUS
2. ORGANISATION & STRUCTURE							
2.1	DEVELOP STATUTE FOR THE CLUSTER: • OBJECTIVES • MEMBERSHIP • STRUCTURE & ORGANISATION					EXAMPLES/BENCHMARKS: ANALYSE STATUTES OF OTHER CLUSTERS	
2.2	ELECT CLUSTER BOARD: 4 MEMBERS (?) (COMPANY REPRESENTATIVES)					ACCORDING TO THE RULES SET OUT IN THE STATUTE	
2.3	ELECT CHAIRMAN OF THE CLUSTER (COMPANY REPRESENTATIVE)					ACCORDING TO THE RULES SET OUT IN THE STATUTE	
2.4	CLARIFY LEGAL ASPECTS REGARDING THE ESTABLISHMENT OF THE CLUSTER					OPTIONS: • ASSOCIATION • LTD • PLC • COOPERATION AGREEMENT • FOUNDATION • HYBRID ORGANISATION	
2.5	DEVELOP JOB DESCRIPTION FOR CLUSTER MANAGER						
2.6	IDENTIFY AND EMPLOY CLUSTER MANAGER						





Financial planning is key for sustainability

Sufficient financing of cluster development is important. Solid financing is a fundamental prerequisite for a cluster's ability to perform successfully in the long term. Considerations of financial resources and planning are crucial and should start in the initial phase when using a Business Canvas Model. Practices reveal that changing the financial model later will be difficult.

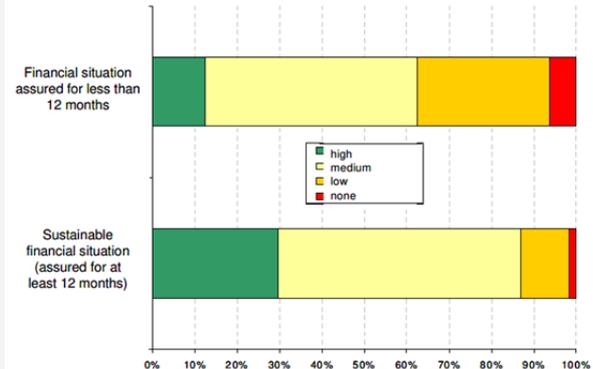
Planning and implementing the financial concept should be done in a number of stages:

Sustainable financing has a clear impact on cluster development and growth. The figure below is based on a survey of 90 clusters in Germany.

It reflects future growth in terms of size. Two groups are compared: those with a sustainable financial situation (bottom) and those for which financing is not assured (top).



1. Identifying the cost structure	2. Drawing up financial planning	3. Installing a functional accounting system
<p>Determining the expected costs for the cluster development activities is the starting point for subsequent costing and planning. This essentially involves answering the question relating to the cost structure. Typical cost categories for a cluster are personnel, rent, operating supplies, equipment and others. Additional costs which often arise in the formation and start-up phase of a cluster must also be taken into account.</p>	<p>The goal of financial planning is to ensure liquidity at all times. A financial plan is drawn up by forecasting the income and expenditure for the planning period (e.g. 12 months) and calculating the difference. A financial plan is used to determine the cluster's financial and capital costs along with projected income flows. Gaining clarity about the sources of financing for the cluster development is also very important. Membership fee structures must be sufficiently well calculated in order to cover these costs.</p>	<p>This involves systematic recording, processing, analysis, evaluation and presentation of figures for all economic aspects of the cluster development. Operating accounts are comprised of financial accounts, cost accounts and planning projections.</p>





Relevant financing sources

To achieve joint goals and common competitive advantages for the cluster actors, cluster development needs **solid and sustainable financing**. As a result, securing suitable sources of finance is a matter of crucial importance for cluster management. We can distinguish between three main sources of financing: **baseline funding**, **private financing sources** and **project-related financing**.

Starting in the initiation phase, it is necessary to consider what kind of financing mix is the most suitable to assure sustainable cluster development and to meet the objectives and demands identified in the analytical phase. **Governmental promotion programmes** might be an option, but they are not always the perfect solution. Cluster development which is only financed by private sources presents its own set of challenges. Such networks tend to turn into commercially-driven interest groups and compete with other private businesses for financing. In the end, the **mixture matters**. If cluster development is considered as a tool to develop competitiveness of the region, public interest will continue to promote public co-investments.



A typical financing structure of a cluster development draws on the following sources:

BASELINE SUPPORT	PRIVATE SOURCES	PROJECTS
Mainly public co-financing by national, regional and local governmental institutions.	<ul style="list-style-type: none">▪ Membership Fees▪ Fee-based Services▪ Sponsoring	There is a trend that governmental institutions appoint cluster organisations to perform dedicated tasks or projects. Related efforts needed to conduct such tasks or projects are reimbursed.





Financing patterns around the world (I)

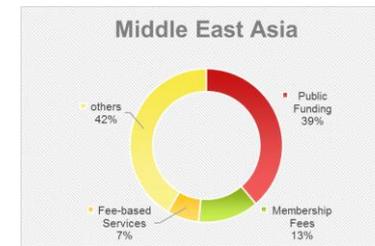
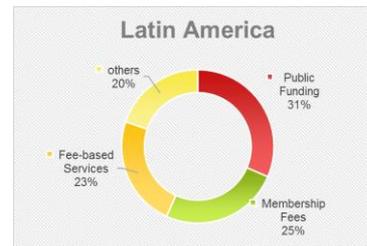
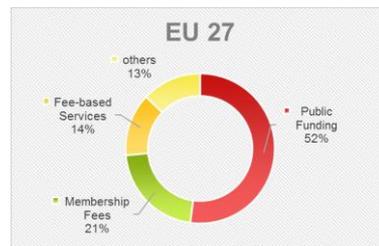
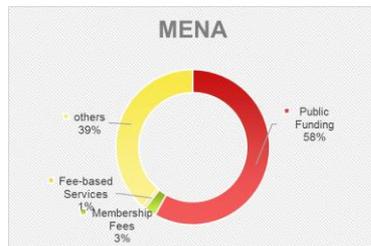
The financial sources and their composition vary significantly from region to region. The **European Secretariat for Cluster Analyses (ESCA)** continuously benchmarks and measures indicators relevant for cluster development. The figures below indicate typical financing patterns for clusters around the world.

Cluster development in the **MENA** region started in 2010 and was strongly subsidized by third-party donors. Even 10 years later, there are still high public funding streams involved (58%). Private financing through membership and/or service fees only plays a minor role. These figures are well in line with first findings from the Cluster Observatory Africa (financed by SI Jobs, GIZ).

Cluster development in the **EU** has been high on the policy agenda for many years. Thus, the public financing share is comparably high. Private funding streams play an important role, too: Membership fees make one quarter of the overall financing mix.

As far as **Latin America** is concerned, there is a well-balanced mixture of public and private financing for cluster development. Private financing is relatively important. The patterns look similar to those of Europe. This is not a big surprise, since the Latin American cluster approach is similar to the European ones.

Public support of cluster development in **Middle East Asia** is higher than in Latin America. While private financing is rather low, other sources account for a large proportion of the financing portfolio.



TIME PERIOD: 2017 – 2020, NUMBER OF CLUSTERS OBSERVED IN TOTAL: 420





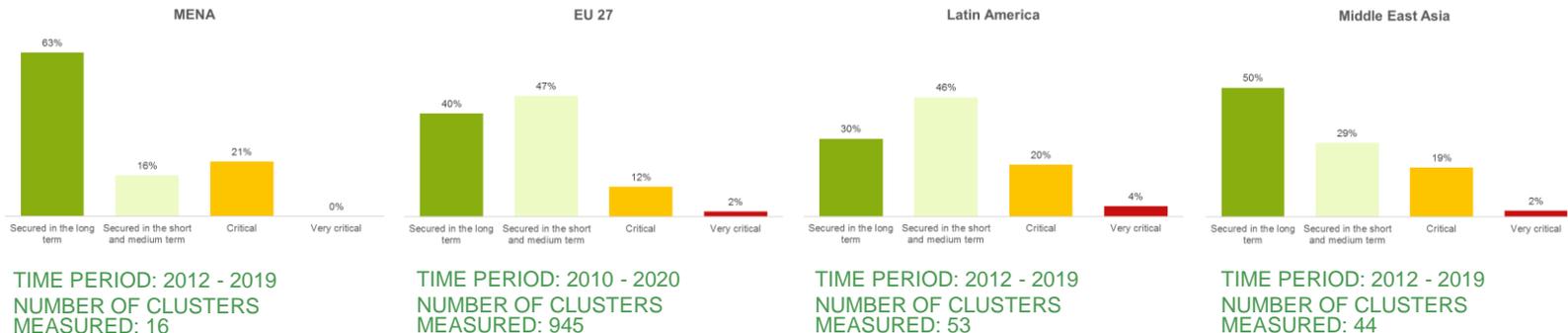
Financing patterns around the world (II)

Different financing structures also result in different degrees of financial security of cluster organisations. This has significant influence on cluster development since the development of a strategy and the establishment of need-based services and projects strongly depend on financial sustainability. The figures below show some interesting regional patterns which are especially relevant for the time before COVID-19 pandemic.

Looking at the **MENA** region, there is a clear correlation between the level of public funding on the one hand and long-term funding security on the other hand. This is due to the fact that cluster development is a relatively young phenomenon in which the focus is mainly on capacity-building.

Similarly, the cluster landscape in **Middle East Asia** is characterized by a high proportion of clusters (50 %) being secured in the long term as well as in the short and medium term (29 %). While private financing is of higher relevance than in the MENA region, it is still comparably low.

By contrast, cluster policy in the **EU** has been established for a longer period of time. Initial public funding has been reduced and instead established clusters have been required to stand on their own by building private financing structures*.

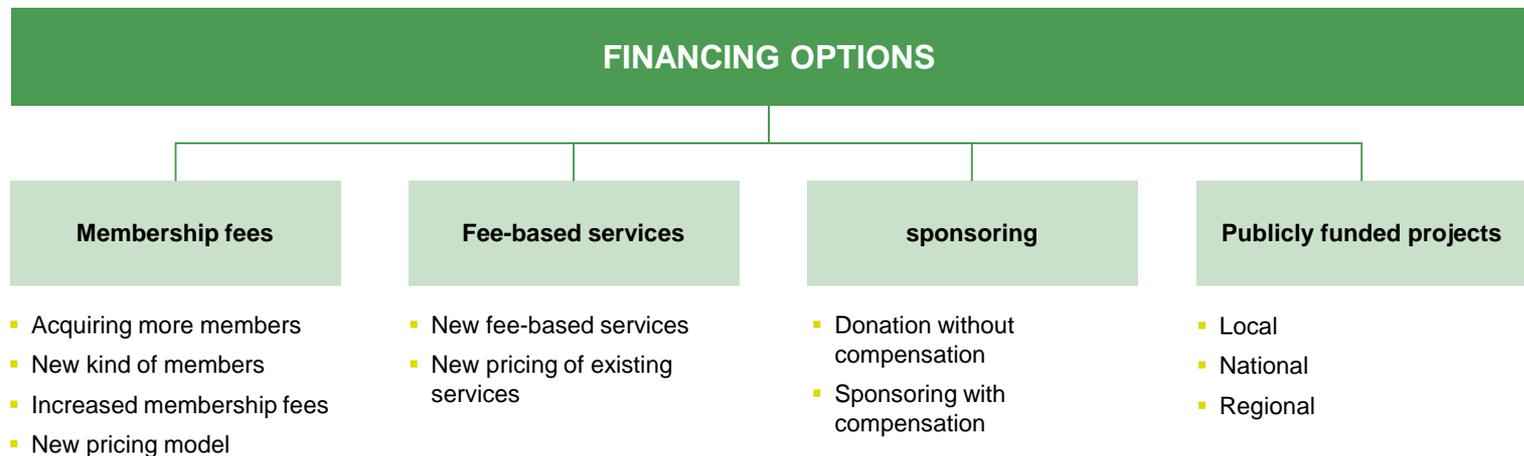




Determinants ensuring sustainable financing

There are some more financing options for cluster development.

The following overview shows different levers to be taken into consideration when building or updating the financing portfolio.



The case of **Business Upper Austria**, shown on the following slide, serves as a best practice example for a sustainable financing model.





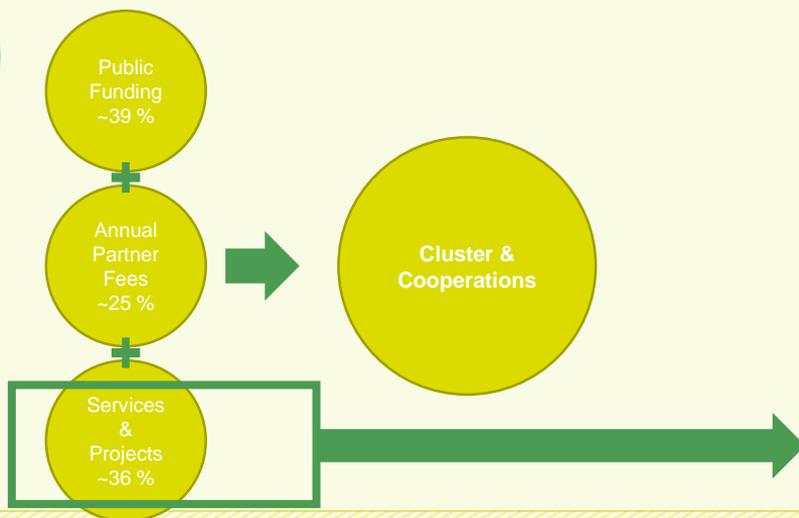
EXAMPLE

Ensuring sustainable financing* (1/3)

Business Upper Austria, a regional economic development agency from Austria, has gathered a set of regional cluster initiatives since the 1990s in its department **Cluster & Cooperation**.

A well-balanced mixture of public and private financing was at the core right from the very beginning and one of the main reasons for successful cluster development, besides professional cluster management.

Insight in financing mix of Cluster & Cooperation



Benefits for cluster and network partners



Information platform as springboard for increased success

Databases, counseling interviews, quarterly journals, company directories...

Information and Communication



Knowledge transfer and management in the network

Regular specialised events; 2.722 events with 945.000 participants

Qualification



Initiating and supporting cooperation projects

640 cooperation projects (regional funding) with 34,4 m funding- & 145,3 m project volume, 59 national projects, 123 exp.exchanges in 2017

Cooperation



Positioning the partners both home and abroad

Technology presentations, branch image, trade fairs

Marketing & PR



Supporting companies as they enter new markets

Cooperations with European regions, 66 EU-projects, project vol. ≈46,5m, funding vol. ≈31,4m, 3 R2X, 2-5 SIDs (14 OEMs, 3 Tier1)

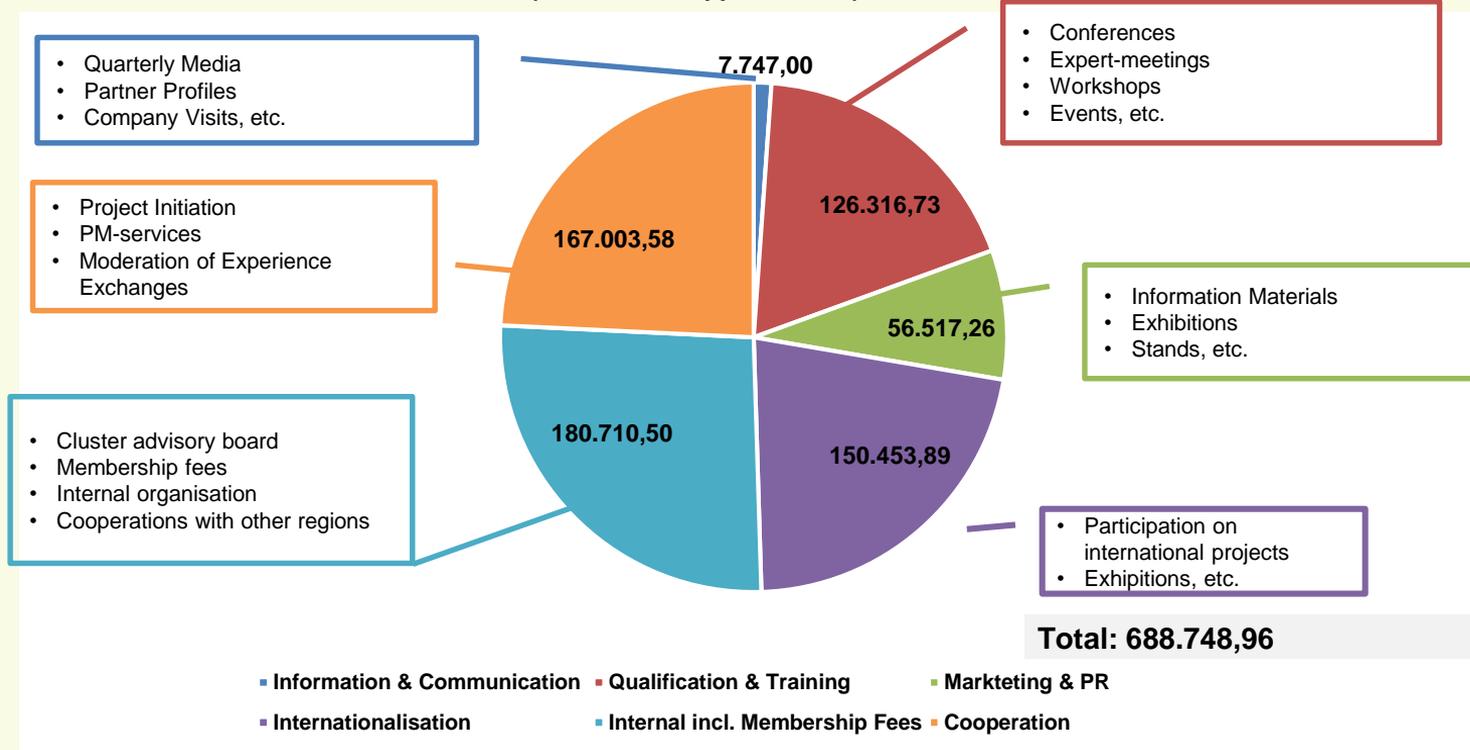
Internationalisation



EXAMPLE

Ensuring sustainable financing* (2/3)

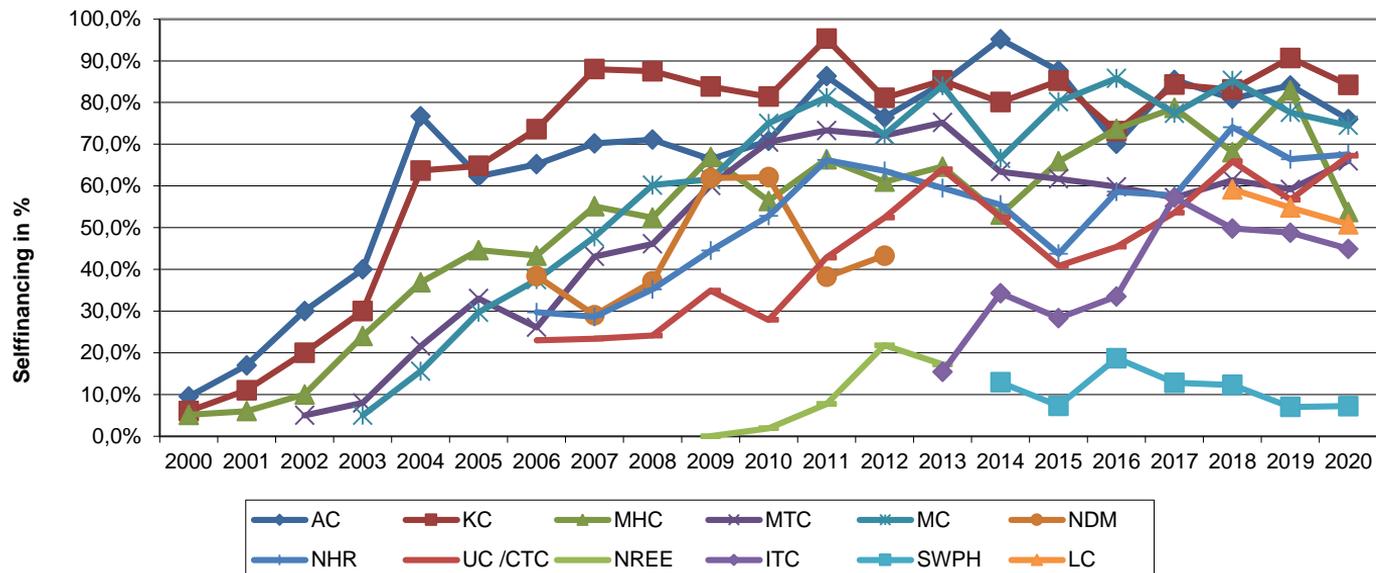
Revenues of the Mechatronics Cluster 2017 (Clusterland Upper Austria)





EXAMPLE Ensuring sustainable financing* (3/3)

As common pattern, all cluster initiatives started with a low share of private revenues. It took, like in other cases, around five years to significantly increase private incomes. The case **Cluster & Cooperations (Business Upper Austria)** also reveals that even the excellent cluster initiatives, the plastic cluster (KC) or Automotive (AC) need public-cofinancing of 20 – 30 %.





Cluster development strategies should not be static. They should enable a dynamic development of a cluster and the long-term competitiveness of its actors. The **strategic**

evolution of the clusters is a basic prerequisite for the clusters' (and its actors') ability to adapt flexibly to changes in both internal and external conditions (markets).

Step 2: How to form the organisation?



How to operationalise the strategy?

ACTION PLAN

FINANCIAL PLAN



How to form the organisation?

LEGAL FORM

GOVERNANCE

STAFFING

AGREEMENTS WITH KEY ACTORS



Which services and activities to implement?

FIELDS OF ACTION

DEVELOP SERVICES

MARKETING & PR



How to monitor the progress?

MONITORING SYSTEM





Why is the organisational structure so important?

Cluster organisations often have the mandate to operationalise cluster development in a specific region once a critical mass of actors is engaged. From this point, it is often called a “**cluster initiative**” to illustrate that there is a common effort on the part of the cluster actors and the cluster organisation to develop a cluster.

Partly, management units of industrial parks or Special Economic Zones also have the task to initiate networking, cooperation, trust building or related cluster development. Regardless of what kind of cluster development entity is selected, the organisational structures and governance structure matter significantly.

Organisational structures also define the cluster’s functions and benefits for its cluster actors. They help cluster actors to identify themselves more strongly with their cluster. This promotes the emergence of a certain “**corporate identity**”. The organisational structure also plays a key role for efficient structures and communication among cluster actors.

Central elements of a cluster’s organisational structure are:

- **Structure** (Competences and communication pathways: Who is responsible for what in the cluster?)
- **Systems** (Organisation of operations: How are processes and procedures formally organised in the cluster?)
- **Legal entity** (What is the legal status?)

Another key requirement is the **ability to respond to the needs** of cluster actors. In today’s highly competitive and globalized markets, the structure must be capable of fast and appropriate reactions to various demands (rapid response capability). This is particularly the case for clusters with a strong market orientation. The cluster organisation must also be integrative and open enough to integrate a large number of different competence partners and actors. At the same time, it must remain exclusive and selective enough to ensure stable cooperative structures and a high quality of the member firms (keyword: brand formation). Accordingly, the organisational structure is subject to conflicting pressures. This means that the **multifunctionality** of clusters can only be delivered by forms of organisation that are created specifically for this purpose. Adequate human resources are essential here for the functionality of the cluster.

The choice of legal and organisational form depends on the goals of the cluster and specifically on the answers to the following three questions:

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



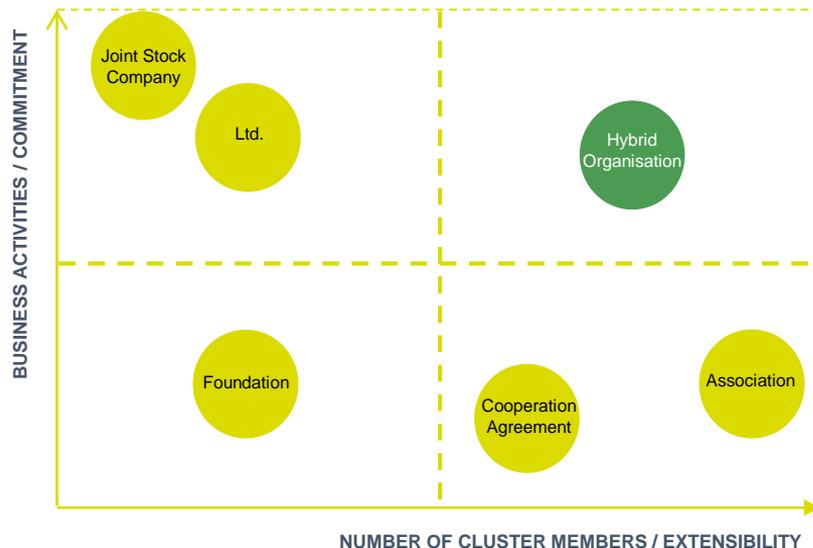


Determining the legal form

Generally speaking, clusters whose primary goal is the joint implementation of commercial activities need a different legal and organisational form compared to clusters focusing on research and development. The rule is “**structure follows strategy**” or put differently “**form follows function**”.

Some possible legal forms for clusters are:

- Cooperation agreement
- Association (non-profit or for-profit)
- Private limited company (Ltd)
- Foundation
- Corporation
- Joint stock company
- Hybrid forms (mix of association and private limited company)





Comparing most common legal forms of cluster initiatives

	COOPERATION AGREEMENT	ASSOCIATION	FOUNDATION	LTD	CORPORATION
PRECONDITION	<ul style="list-style-type: none"> No specific pre-conditions 	<ul style="list-style-type: none"> The granting of legal status to the association by the registry of associations presupposes an idealistic objective of the association 	<ul style="list-style-type: none"> Assets that are permanently appropriated and made independent and whose income serves at least one defined purpose* 	<ul style="list-style-type: none"> Certain amount of founding capital needed 	<ul style="list-style-type: none"> Certain amount of founding capital needed
ADVANTAGES	<ul style="list-style-type: none"> Low efforts and commitment needed No capital investment needed Can easily be cancelled No official registration needed Allows many partners to sign up 	<ul style="list-style-type: none"> Low formation efforts No minimum capital required Large number of members can be involved 	<ul style="list-style-type: none"> Often complements associations Independence in the use of the foundation's assets Sustainable securing of financing through the foundation's assets 	<ul style="list-style-type: none"> Promotes commercial activities High level of commitment needed Difficult to leave Signatory becomes company owners 	<ul style="list-style-type: none"> Promotes commercial activities High level of commitment needed Difficult to leave Signatory becomes shareholders
DISADVANTAGES	<ul style="list-style-type: none"> Relatively low commitment Not a legal entity 	<ul style="list-style-type: none"> Commercial activity only as a secondary purpose Relatively low commitment 	<ul style="list-style-type: none"> Approval from the responsible state authority required Registration in the foundation registry 	<ul style="list-style-type: none"> Relatively high formation effort Shared capital required Statutory accounting and disclosure requirements 	<ul style="list-style-type: none"> Shared capital required Tax obligations Statutory accounting and disclosure requirements No direct influence from shareholders (i.e. cluster actors)





Cluster governance structures

The important thing about a cluster's structure is to determine competence and communication pathways, i.e. , who is responsible for what, and how information and messages flow between the various departments and members. Basically, this explains the difference between a “cluster” as naturally given phenomenon of agglomerated actors and the structured effort intended to develop a cluster further (cluster initiative). For the latter one, a dedicated governance structure is needed.

Classic structures with the following elements have proven their value in practice to date:

- **Steering committee / Advisory board**

Steering committees or advisory boards represent the highest level of cluster governance and are intended to guide and monitor the cluster development.

They provide guidance for the cluster management to assure that the aims and objectives are met. They also serve to represent and promote the cluster initiative vis-à-vis external parties.

- **Managing office (cluster manager)**

Staff working in a cluster organisation and in charge of the operationalisation of the cluster strategy is called cluster management. It consists of one or more persons working closely with the steering committee and cluster actors. They implement so called “services”, and dedicated activities designed to promote trust building, networking, innovation, skills development and more.

- **Committed cluster actors**

During the initiation phase of the cluster, many stakeholders and actors are typically involved. However, this does not automatically mean that they are all committed in contributing to the joint effort of developing a cluster further. Once there is a common agreement to jointly spend efforts for designated cluster development, there is a need for stakeholders to commit themselves to contribute to cluster development. From that point on, they can be called cluster actors or cluster members. The latter one is used in those cases in which a cluster effort (cluster initiative) has a dedicated legal form (e. g. association).

Indicators for good cluster governance are:

- existence of a legal form is an important indicator for good cluster governance, since it demonstrates a certain level of commitment;
- clear definition of tasks and responsibilities of the cluster manager / management team and of interfaces / communication with steering committee members;
- existence of a governing body such as a steering committee or advisory board to conduct decision-making and support the cluster management in implementing the action plan, as well as to survey and review the progress of the cluster development;
- regular meetings and participatory approaches to involve cluster actors / members in decision-making processes and strategy orientation.





EXAMPLE

Cluster governance structures (1/2)

WICA-Wood Industry Cluster of Albania*

WICA is established as a non-profit organisation in the form of an association and is registered as such in the Tirana Judicial District Court in accordance with Albanian legislation. In pursuit of its interests, WICA's activities include the development and promotion of partnerships as well as joint presentations in foreign markets to increase investment, productivity and export promotion. It also organizes trainings on new technologies and development of managerial and production skills. It stays abreast of the latest world trends and experiences in the wood industry through the creation of international networks as well as adoption and implementation of EU standards. WICA pursues connections and cooperation with other technology-based clusters.



The organisational structure of WICA consists of the following bodies:

A. The general assembly of the members of the association

The general assembly of the members of the association is the highest decision-making body of the association. It consists of all members approved by decision of the executive board.

B. The executive board of the association

The general assembly elects the members of the executive board for a term of up to four years with a renewable mandate. The executive board consists of seven individuals who can be elected only from the ranks of members of the association, or in case the members are legal entities, among the natural persons proposed by them. The executive board elects from among its members the chairman of the board by a simple majority.

C. Chairman of the Executive Board

The chairman of the executive board acts as the legal representative and administers the association in accordance to the statute.



EXAMPLE

Cluster governance structures (2/2)

Solar Cluster in Morocco*

The Solar Cluster, launched in April 2014, is an innovative and ambitious association which brings together national players in the renewable energy sector. The cluster has nearly 100 members, mostly MSMEs, and Start-ups but also some large groups and research centers. In order to strengthen the competitiveness of Moroccan companies, the first challenge lies in the ability to transform Moroccan entrepreneurs into genuine producers of technology while relying on national expertise in terms of research and development.

The solar cluster team is composed of four people: a general manager, a business development manager, a green entrepreneurship manager and a support manager. The solar cluster contributes to the creation of a competitive industrial sector in the renewable energy market by offering services that meet the needs of companies in the sector.

The improvement of the organisational structure and the business model:

A. **The Optimisation of the Organisational Structure**

The organisational structure of the solar cluster was analysed and reviewed in order to optimise the operation of the cluster and to automate certain administrative and technical tasks. In particular, the purpose was to make the relationship with member companies more fluid. Indeed, the lack of staff within the solar cluster (one director and two salaried staff) did not allow it to maintain a strong relationship with all the start-ups and companies of the cluster. The organisational analysis of the cluster allowed for the structure to be divided into three main services (access to finance, technology watch and transfer, and collaborative projects) It also served to define job descriptions to strengthen the team and to recruit managers for each service. The purchase of administrative management software enabled the automation of some administrative tasks such as the management of members' quotas. It also helped to balance the participation of members in various events and training. The acquisition of this software allows the organisation to free up time for the cluster's administrative manager who also takes care of some communication tasks.

B. **The new Business Model**

New fee-based services are proposed to generate revenue for the cluster which aims to be self-financed by 2025.



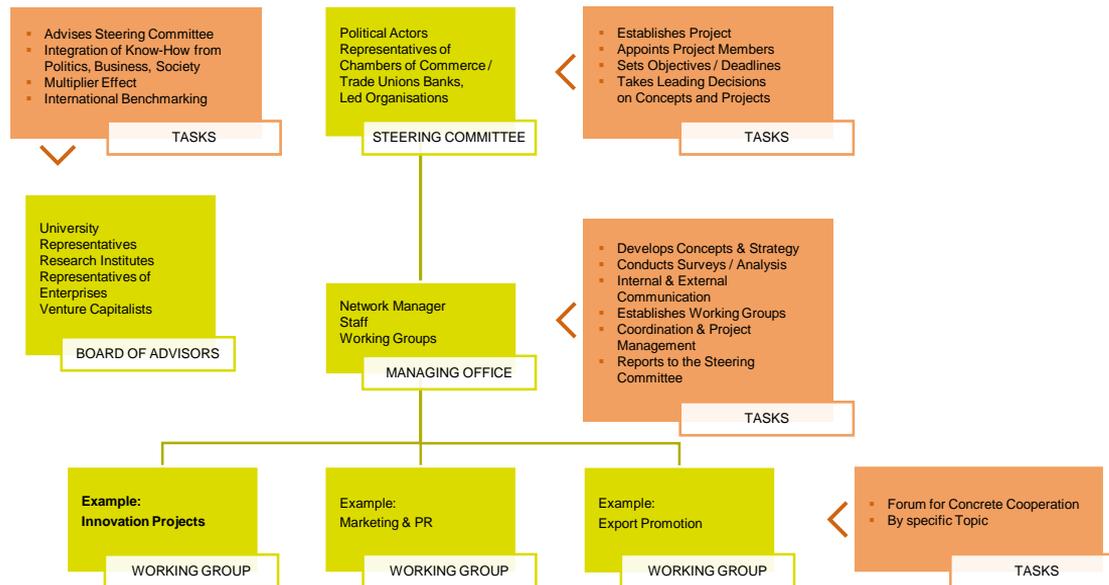


Cluster governance structures & staffing

Visualizing cluster governance and management structures

The structure and organisational procedures of the cluster should be described, along with the structure of its personnel and management principles.

An **organisation chart** helps to provide a good overview of all relevant bodies, their main tasks and roles as well as interrelations.





Cluster governance structures & staffing

Putting together the cluster management team

What skills and experiences does the personnel involved in the cluster management have? Or should have?

First of all, it is important to note that focus should primarily be given to a well-balanced cluster team with complementary skills. Not every team member necessarily has to have the same sector-specific technical knowledge. Also, methodological and soft skills matter. In the end, it is not only about professional competence, but also about work experience and confident appearance as well as personal drive and conviction.

In order to better assess individual hard and soft skills, a basic **guideline with relevant qualifications** can be helpful for staffing and subsequent task assignment. The assessment can be applied to each person in the cluster management team. Scores can be weighted according to the % of Full Time Equivalents (FTE) each person contributes to the cluster management. Back-office personnel like secretaries, project controllers, and others shall only be included in the assessment if relevant for cluster management activities.

This is to be decided by the cluster manager. Relevant criteria are listed below:

- Tertiary level education
- Work experience in the private sector
- Leadership and management skills
- Social skills including intercultural skills
- Communication skills
- Project management skills
- Proficiency in English
- Relevant sector and/or technical knowledge of > 3 years
- Cluster and policy-related training
- Proficiency in at least one foreign language *may be of use*





EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example for staffing – experiences from Albania

Dos and Don'ts regarding staffing. Experiences from Albanian Wood Industry Cluster of Albania (WICA)*

(supported by Open Regional Fund for Foreign Trade Promotion)

What did WICA do?

Creating a cluster management team remains essential for the proper functioning of the cluster activity. Providing clear job descriptions for the cluster team was an immediate priority for the functioning of Wood Industry Cluster of Albania - (WICA). As a first step, the task force agreed that responsibilities will be delegated to the cluster team. Consequently, job descriptions with required duties and qualifications were defined for a cluster manager as well as for cluster experts.

What were the lessons learned?

A lesson learned during the process which is worth underlining is as follows: While drafting employment requirements is essential, the criteria should also specify the necessary standards regarding education, work experience and professional expertise of the cluster manager and the cluster team as a whole. Moreover, the impartiality and integrity of the cluster manager is essential. That person plays a critical role in the well-functioning of the cluster and in the provision of fair and equal benefits to all cluster members. In the case of Albania, common synergies between GIZ projects have created the opportunity for WICA to benefit from the wide range of professional experts returning to Albania with a high level of professional German expertise.

Improving the management of industrial areas in Egypt**

OBJECTIVE:

Improve management of **Industrial Areas (IAs) in Egypt** with a focus on six IAs in Upper Egypt.

RESULTS:

- Developed capacities of 75 industrial areas' management employees in management functions such as customer care services, real estate services, marketing services and maintenance services.
- Provided strategic recommendations to improve industrial areas' management including updating the management organisation structure and a roadmap for the management of the industrial areas.
- Supported the hiring and seconding of employees from different organisations to fill gaps in the management organisation structure.

NEXT STEPS

- Develop a process map and Standard Operating Procedures (SOPs) for the management function in the updated organisation structure.
- Provide on the job training for employees on the developed SOPs and the new processes within the updated organisation structure.





Cluster governance structures

Allow for varying intensities of partnerships among different actors

Clusters allow for – and support – different modes of partnerships and participation. These different modes can also differ and evolve over time:

- Potentially, there one can observe “**trial partnerships**” in the initial phase of a cluster, in which partners may only need to issue a declaration of intent to cooperate. This merely commits them to disclosing specific business information.
- It’s only after a certain period that partners engage in obligations specified in the agreement. These may include membership fees, procedures for disclosing information and know-how, possible liabilities and others. In exchange, associated partners receive exclusive services and information from the cluster.

Although clusters require formal rules and agreements among partners, common engagement is not solely tied to these. Informal and living processes are always more important for connecting partners and integrating them into the cluster.

Setting up Membership / Cooperation Agreements

The cooperation agreement specifically regulates the membership fee, the term of the contract, questions of liability and the cluster’s services. The agreement essentially covers the most important aspects of collaboration between a cluster and the company. With

the signatures of both parties, a company becomes an official cooperation partner of the cluster.

An official agreement ensures legal security for both parties regarding the activities performed within a cluster. In addition, the contract can provide clear insight into a company’s expectations concerning cluster services.

Possible structure of a membership / cooperation agreement:

<p>I. Preamble</p> <p>II. Cooperation</p> <p>A. Cooperation</p> <p>B. Cluster Services</p> <p>III. Cooperation Fee</p> <p>A. Fee amount</p> <p>B. Due date</p> <p>C. Default in payment</p> <p>IV. Information on Company</p> <p>A. Information obligation</p> <p>B. Control rights</p> <p>C. Disclosure statement</p> <p>V. Contract term</p> <p>A. Indefinite</p> <p>B. Regular contract termination</p> <p>C. Extraordinary contract termination</p> <p>D. Legal relationships on termination of contract</p> <p>VI. Cluster Trademark</p> <p>A. Right of use and commercialisation</p> <p>B. Use of trademark</p> <p>C. Use of trademark after termination of contract</p> <p>VII. Liability</p> <p>A. Liability for success, guarantee, damages</p> <p>B. Disclaimer of Liability</p>	<p>VIII. Data safety and protection</p> <p>A. Data processing</p> <p>B. Consent</p> <p>C. Protection of access data</p> <p>D. Use of data</p> <p>IX. Applicable law, contract language</p> <p>X. Mediation Clause</p> <p>A. Mediation obligation</p> <p>B. Mediator</p> <p>C. Arbitration proceedings</p> <p>XI. Arbitration Proceedings</p> <p>A. Arbitration tribunal jurisdiction</p> <p>B. Referral to arbitration tribunal</p> <p>C. Appointment of arbitrator</p> <p>D. Appointment of the chairman of arbitration tribunal</p> <p>E. Joint arbitrator</p> <p>F. Appointment of replacement arbitrator</p> <p>G. Venue</p> <p>H. Proceedings</p> <p>I. Applicable law</p> <p>J. Place of jurisdiction</p> <p>XII. Court of Jurisdiction XIII. Other Provisions</p> <p>A. Amendments</p> <p>B. Severability clause</p>
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Cluster development strategies should not be static. They should enable a dynamic development of a cluster and the long-term competitiveness of its actors. The **strategic**

evolution of the clusters is a basic prerequisite for the clusters' (and its actors') ability to adapt flexibly to changes in both internal and external conditions (markets).

Step 3: Which services and activities to implement?



How to operationalise the strategy?

ACTION PLAN

FINANCIAL PLAN



How to form the organisation?

LEGAL FORM

GOVERNANCE

STAFFING

AGREEMENTS WITH KEY ACTORS



Which services and activities to implement?

FIELDS OF ACTION

DEVELOP SERVICES

MARKETING & PR



How to monitor the progress?

MONITORING SYSTEM





Cluster Games – Understanding the nature of cooperation in clusters

Services offered for cluster development

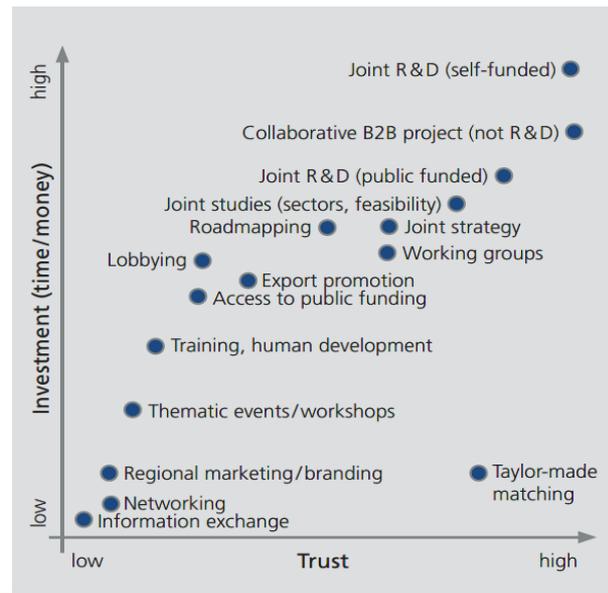
A key lesson for many cluster management units world-wide is that the **type of services to be offered can not be disconnected from the trust and openness of the cluster members**. There was a belief that, in most cases, services offered by cluster management units depend on their competence, the strategy of the cluster and/or of the interest of the cluster actors. However, recent evidence has shown that cluster services must be actively absorbed by cluster actors. If services are offered that require strong trust and mutual openness among targeted cluster actors, all related actions will fail if they are not ready or willing to behave properly. For instance, shared product development is the most risky undertaking among cluster actors. While it is risky, it can create great profits. However, all actors must open their minds and contribute with proprietary knowledge. There is a high risk that an actor illegitimately takes this knowledge and uses it for their own purposes.

Thus, starting with cluster services that can be adsorbed by cluster actors (even with low mutual trust) can add value for all actors. Networking, information exchange, thematic events and workshops are those services that can be implemented right at the beginning.

Sharing ideas, common road mapping or joint product development comes later when a minimum threshold of trust and openness within the cluster initiative exists. Free riders will benefit but not contribute and must be excluded. Also, exclusivity for a dedicated purpose matters here.

Cluster services and activities will therefore depend on the composition of the cluster initiative and the general cooperation attitude of the cluster actors.

Cluster services and level of trust required by cluster actors to adsorb:





Identifying need-based fields of action

Why are cluster services so important?

Cluster services are of critical importance for the success and sustainability of a cluster. A cluster can only attract and retain members in the long term if a cluster organisation develops and offers relevant services which address the **needs** and bottlenecks of cluster actors. In this respect, cluster management requires particularly intensive and creative customer orientation. A cluster's most important customers are the businesses. The earlier members benefit of such services, the greater is the appeal for further actors to officially join the cluster.

Another important aspect of cluster services is that they **generate income and funding for the cluster organisation**. Pricing of services should include adequate margins as cluster budget may not always be covered by membership fees alone.

Developing specific services: What are relevant fields of action and needs of cluster actors?

Before services are developed with the involvement of the cluster actors, it makes sense to first deduce relevant fields of action according to the identified needs and strategic goals formulated in the initiation phase.

One option is to **map the relevant fields of action** and allocate them to each goal. This can be done within the cluster management team while involving key partners. Assistance from a management consultant from a cluster support organisation can also be useful in identifying specific cluster services to be offered.

Mapping example to allocate relevant fields of action:

Objectives	Fields of Action				
Innovation creation / new products and services	Creation of knowledge	Creation of demands	Creation of (project) ideas	Turning ideas into common actions	Commercialisation of innovation
Internationalisation	Trend- and technology scouting	Delegation missions / participation in trade fairs	Market analyses ; search profiles	Tailor-made international B2B matching	
Business development (national)	Initiating B2B among cluster actors	B2B between cluster actors and externals, within the sector	Cross-Clustering	Tailor-made matching „Supplier meets OEM“	
Workforce development	Training of staff within companies	Acquisition of workforces	Vocational training schemes development (incl. adaptation)	Development of new curricula / upgrading	
Visibility / regional branding	Advertising of capability of the cluster / network	Advertising / marketing of the region	Competence mapping of cluster actors	Regional branding / USP	
Networking	Networking	Events „Meet and Greet“	Company visits	International networking	

Sustainability ↑

Complexity →

Prepared by ClusterAgentur Baden-Württemberg





Developing cluster services

Building the cluster service portfolio

Based on relevant fields of action, advantages of specific services can be identified. It is important to carry out this discovery process together with cluster actors to determine which services are already available in the market and which should be developed and offered by cluster management. Based on this insight, cluster management might integrate existing products and services into the cluster's range of products and services and negotiate special conditions with external service providers for cluster members (demand bundling). The cluster managers should strive to consolidate the various services in an integrated **cluster service portfolio** for which the cluster management office acts as a sort of **“one-stop shop”**.

Given corresponding demand and strategic importance, separate **working groups** can be formed for the individual services such as export promotion. These can then come up with a special service package and coordinate provision of services.

In the end, it is recommended for cluster managers to list all identified services to be offered and **assess them according to the expected profitability**. As already indicated in the financing subchapter, long-term cluster activities often depend on a sound financial basis. In addition to services that are covered by membership fees, fee-based services can be a crucial lever to ensure organisational sustainability.



Pre-assessing the profitability of different cluster services (exemplary extract):

SERVICE	Planned frequency / Number of beneficiaries	Expected effort for cluster management			Expected relevance for actors		
		high	medium	low	😊	😐	😞
1 Information events	occasionally / many		x		x		
2 Joint procurement	occasionally / many	x			x	x	
3 Cluster marketing (websites, brochures,...)	frequently / many			x		x	
4 Joint R&D	occasionally / few	x					x
5 HR services (headhunting)	rarely / few	x				x	
6 Common trade fair appearance	rarely / Few	x	x		x		
7 Tender training	occasionally / many			x	x		

Prepared by ClusterAgentur Baden-Württemberg

The assessed services can be allocated in a portfolio to better prioritize (see [following page](#)).





Developing cluster services

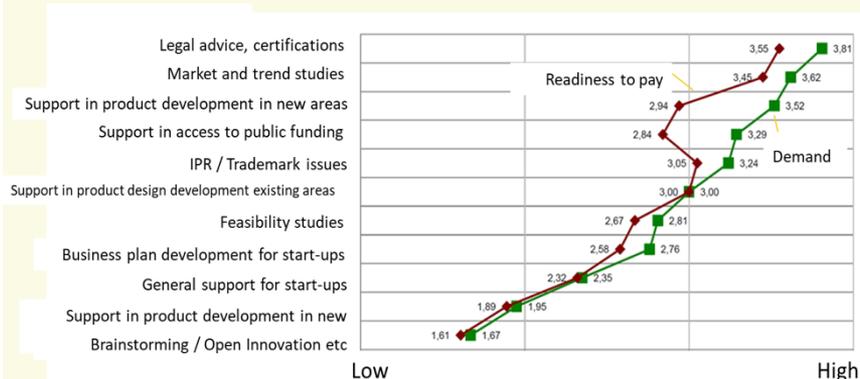
Allocating the pre-assessed services in a portfolio



The allocation can be carried out **within the cluster management team**. For the final determination of the cluster portfolio to be offered, cluster services can be allocated and double-checked by cluster actors. The resulting comparison of the cluster managers' and cluster members' views on relevant services enables a final validation of high priority cluster services and other supplementary services**.

EXAMPLE

The Silicon Saxony Case: Willingness of cluster actors to pay for certain cluster services



The willingness of cluster actors to pay additional fees for certain services significantly depends on the content of the service as such as well as the professionalism with which it is implemented.

The figure above indicates that cluster actors are more willing to pay for highly specialised services. For brainstorming or networking, the readiness is very low. Such services can be already included in the membership fee**.



EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example for developing cluster services – experiences from Morocco (1/4)

With support of the TAM III project of GIZ Morocco, the CE3M, Menara and Solar clusters have designed innovative services that meet the specific needs of their members. One can mention the **Technology Watch Services** for the Solar Cluster which will allow to disseminate strategic information to members regarding new technologies in the renewable energy sector.

Other innovative services have been designed as part of the support of the solar cluster, such as the solar caravan concept which is a collaborative project involving several members of the cluster and which will inform industry, farmers and public administration on the potential savings through the implementation of photovoltaic or solar thermal solutions and convince them to take on control over their energy bills.

All of these services will be paid for and generate **additional revenue** for the clusters, through membership fees or sponsoring of external partners. These revenues will be used to finance other activities for the benefit of member companies, such as trainings and study trips.



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EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example for developing cluster services – experiences from Morocco (2/4)

Creation of a Innovation and Technological Development Centre – Cluster Menara

VISION:

Set up an **Innovation and Technological Development Centre (CIAC) for the agri-food and cosmetics sectors** for Cluster Menara and its 80 companies/startup members for the Marrakech-Safi and neighboring regions of Morocco.

OBJECTIVE:

- **Creation of a non-profit innovation center delivering high-quality technical and non-technical services** relevant to businesses in the region of the agri-food and cosmetics sectors, and at moderate prices compared to other national and international service providers.
- Deliver **paid and subsidized innovation services** which **contribute to the financial and operational sustainability** of the center and the coordination unit of the Menara Cluster.
- Support the development of existing and new products and services in the Menara Cluster and other external companies in these sectors in order to **support the creation and qualification of new jobs in member companies and / or companies in the associated value chains.**

DESIRED OUTCOMES:

Initiated and coordinated by the **GIZ TAM III** in 2019, the financing and management of the CIAC project will be made by GIZ PPE from end 2020 onwards. A transition phase is underway between both projects to ensure a smooth handover.

- **Promoting Transfer of Technology and access to technology to SMEs** so that they can offer more innovative and competitive products internationally **respecting international standards.**
- **Creating links with the research and academic community:** CIAC results out of a joint effort among GIZ, Cluster Menara and the Cadi Ayyad University, Marrakech. The CIAC will be housed inside the Cite d'Innovation building of the University.
- **Maintaining existing jobs** as well as promoting the **creation of new jobs** inside the SMEs as a direct result of access to the CIAC to create new competitive products for national and international markets.





EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example for developing cluster services – experiences from Morocco (3/4)

New MedTech division – Cluster CE3M

VISION:

Help CE3M and its 80+ company/startup members play an important role in combatting the COVID19 crisis by creating a new MEDTECH division to help recruit new members and encourage them to create home-grown products and services to affront the crisis.

OBJECTIVE:

- **Enter a new sector (Medical Technology)** which is currently under-developed and under-represented in Morocco. It is **currently strategic for the country** and the Ministry of Industry and critical for the successful management of the COVID19 crisis.
- **Attract new members** and encourage the **development of collaborative projects** between members (SMEs, universities, research institutions etc).
- Create a **portfolio of value-added and paid services** to offer these members and help improve their competitiveness nationally and internationally.

DESIRED OUTCOMES:

The original program supported by GIZ TAM in Morocco was setup to strengthen the capacities of the Cluster to help them offer value-added services to their members and to help them be more competitive. The COVID19 crisis obliged the cluster to enter this sector by participating in the design and development of the first home-grown respirators (ventilators) manufactured in Morocco in record-time.

As a result, the existing support offered by GIZ TAM program was modified to take into account the COVID crisis and support was offered for the creation and professionalization of this new division in terms of capacity building of the cluster staff as well as networking the cluster with similar initiatives and programs in Europe.*



Artificial Intelligent Respirator, designed and manufactured in Morocco (source: Médias24)





EXPERIENCES AND GOOD PRACTICE EXAMPLE

Good practice example for developing cluster services – experiences from Morocco (4/4)

Mentorship Program – Cluster CE3M and Cluster Menara

VISION:

Facilitate the access of industry experts, entrepreneurs and sector specialists from Morocco to cluster members to help coaching companies and start-ups as well as to engage them in networking activities and thus enabling access to new markets and/or finance. This allows the cluster to adopt best-practices and to operate **more like an incubator**.

OBJECTIVE:

- **Create a network of mentors** that can be accessed by the members of the clusters.
- **Train cluster staff and mentors** on the processes and procedures of mentoring.
- Offer a mentoring program as a **paid-service** to the cluster members in the future.

DESIRED OUTCOMES:

The original program supported by GIZ TAM in Morocco was setup to strengthen the capacities of the Cluster to offer value-added services to their members and to help them be more competitive. Mentor programs are a tried and tested model especially in use in start-up accelerators and incubators. The participating startups are put in contact with a pool of expert mentors to help them periodically during the incubation period.

- Encourage the interaction between the new entrepreneurs and the more experienced ones and share best-practices based on real-life experiences and lessons learned.
- Facilitate the opening of doors to the new entrepreneurs by helping them to network with the mentor's contacts be it in the area of new business, new markets or access to finance.
- Accompany the entrepreneur and the startup during the critical phase of scale-up and growth.





Marketing the services

Cluster Services must be professionally presented and marketed

The first priority in marketing services is to clearly structure them and to feature them as appealing and sense-making as possible to cluster members. The following instruments have proven particularly effective as marketing instruments:

- Presenting the services on the cluster web site
- E-mail marketing
- Information on the services at cluster meetings and workshops.

Structuring the marketing activities

Going one step further, cluster management entities can also elaborate guidelines to professionally structure marketing activities of the cluster management as well as those of the cluster members. The guidelines cover the following components:

(1) **Market monitoring / acquisition**

One of the most important tasks of the cluster management is regular and systematic market monitoring and interpretation of the results. While cluster management is in the lead for this, all other cluster members should actively participate in this activity, too.

(2) **2. Offer preparation**

Quality assurance is a central process of developing and offering cluster services and ensures that offers are developed according to the qualitative and formal requirements of the customer (or the respective agency inviting the tenders).

(3) **Public relations**

An external communication of the cluster which is appropriate and oriented equally at the competences of the cluster and the expectations of the cluster members is a central precondition for the attainment of the cluster goals and objectives. Topics include the cluster, its activities and experiences as well as its organisational structure.

Public relations include all forms of communication with the cluster's environment. Some examples are presentation materials for the cluster (including digital media), forms of correspondence (e.g. e-mails) or conference lectures.

(4) **Presentation Material**

Suitable presentation material is an important requirement for establishing and maintaining customer relations (e.g. brochures, project profiles, cluster website, cluster presentation, etc.).

(5) **Other public relation tasks**

Every cluster member is responsible for contributing actively to the cluster's PR work in their respective areas of specialty. This includes press releases and lectures as well as participation in working groups and committees.

(6) **Corporate Identity**

The goal of cluster members must be to strengthen the good reputation of the cluster through consistent high quality external communication. (uniform logo, business cards, e-mail signature, etc.).

(7) **Measurement and management**

Results of marketing and acquisition activities are continuously documented in a database. Appropriate measures can be worked out after a review with the steering committee or board or with cluster members.





Marketing the services

Branding as a key lever to maintain long term visibility

Marketing strategies can be designed to actively promote cluster services. When it comes to branding, a cluster develops a brand comprising the values and attributes of the cluster. These, in turn, create an image among stakeholders. Some of the relevant questions to be addressed in cluster branding include: What does your cluster stand for? What is the USP? How is the cluster perceived? And what is the cluster striving to achieve in the future?

Consequently, branding is a strategic process that not only includes the view of the cluster organisation and its members but also the perspective of additional stakeholders. These include policy makers, donors, partner clusters from neighboring economic regions and the public at large. The regional context of the cluster location must be taken into consideration – including policy framework, economic structure and cultural aspects. It is especially relevant to create a consistent branding. It should be well in line with the brands of the cluster members and the branding strategy of the entire region in which the cluster is located. This way, all relevant stakeholders can commit themselves to the brand and, in the end, the brand will gain consistency. However, one has to keep in mind that it can be a challenge to find a sound compromise between all different branding strategies of the region, the companies and the cluster itself.

Making use of the brand

Once a cluster brand is designed and visualized in the form of a logo, brochures and/or video and shared among the members and stakeholders, marketing activities can be implemented to promote and consolidate the brand. For each target group, the objectives of the communication activities need to be agreed upon in order to guide the choice of tools and media as well as the timing of the marketing activities.

Goals associated with branding and related marketing activities are:

- To strengthen commitment of currently involved cluster actors
- To further anchor and establish the cluster strategy
- To attract new cluster actors
- To increase visibility beyond regional borders
- To increase attractiveness for human resources, partners and investors
- To foster cross-cluster and cross-border collaboration*





EXAMPLE

Developing a cluster brand

The Prosecco cluster in Veneto, Italy

The Italian cluster of Prosecco (sparkling wine) in Conegliano Valdobbiadene, Veneto region, is a self-contained economic system.

Thanks to the wine production (which is the core business of the cluster), many related activities have evolved and led to a veritable value chain. Examples of involved cluster actors are:

- Companies that design and manufacture winemaking machinery
- Firms producing technology for vineyards and wineries around the world
- Laboratories providing analyses
- Companies supplying winemaking products and services
- Scientific institutions training young professionals each year
- Local institutions which strengthen and promote the identity of the area
- Main players in the hospitality and accommodation sector, including restaurants, wine shops and others

This territorial system, made up of heterogeneous actors, was recognized in 2003 as the **First Sparkling Wine District of Italy**. This is a designation that has opened up possibilities for developing economic and scientific research projects as well as promotional programmes.

The core focus of the cluster brand strategy is the territory. It is recognized as the catalyst of the business and as a viable tool to increase the awareness of the Prosecco cluster brand itself.

The brand value is also focused on the quality of the product due to the long tradition and the certified labelling. Also, the intent is to associate the sparkling wine region with the suggestion of luxury, pleasure and well-being.

Additionally, there is a regional association with the heritage of noble castles and the colourful and charming landscape where the Prosecco has been produced for centuries.

Since the brand is so strictly connected to the territory, the marketing actions are therefore directed to preserve and promote the area itself. (It is now tentatively considered for the World Heritage List).

In 2003, “the Prosecco wine road” was established. Winding through the entire area, visiting guests can drive along the routes to discover the historic and artistic sights as well as the most prestigious cellars.

Key messages from this example

- For some clusters – especially those anchored to the values of their territory – it is reasonable to relate to their location in order to reinforce their brand. This is a win-win situation because the local public authorities can count on a positive impact in terms of tourist presence due to increased regional attractiveness.
- A cluster brand that is based on the territory implies a strong commitment of all the actors, private and public, and a strong self-awareness on the part of the community.





Cluster development strategies should not be static. They should enable a dynamic development of a cluster and the long-term competitiveness of its actors. The **strategic**

evolution of the clusters is a basic prerequisite for the clusters' (and its actors') ability to adapt flexibly to changes in both internal and external conditions (markets).

Step 4: How to monitor progress?



How to operationalise the strategy?

ACTION PLAN

FINANCIAL PLAN



How to form the organisation?

LEGAL FORM

GOVERNANCE

STAFFING

AGREEMENTS WITH KEY ACTORS



Which services and activities to implement?

FIELDS OF ACTION

DEVELOP SERVICES

MARKETING & PR



How to monitor progress?

MONITORING SYSTEM





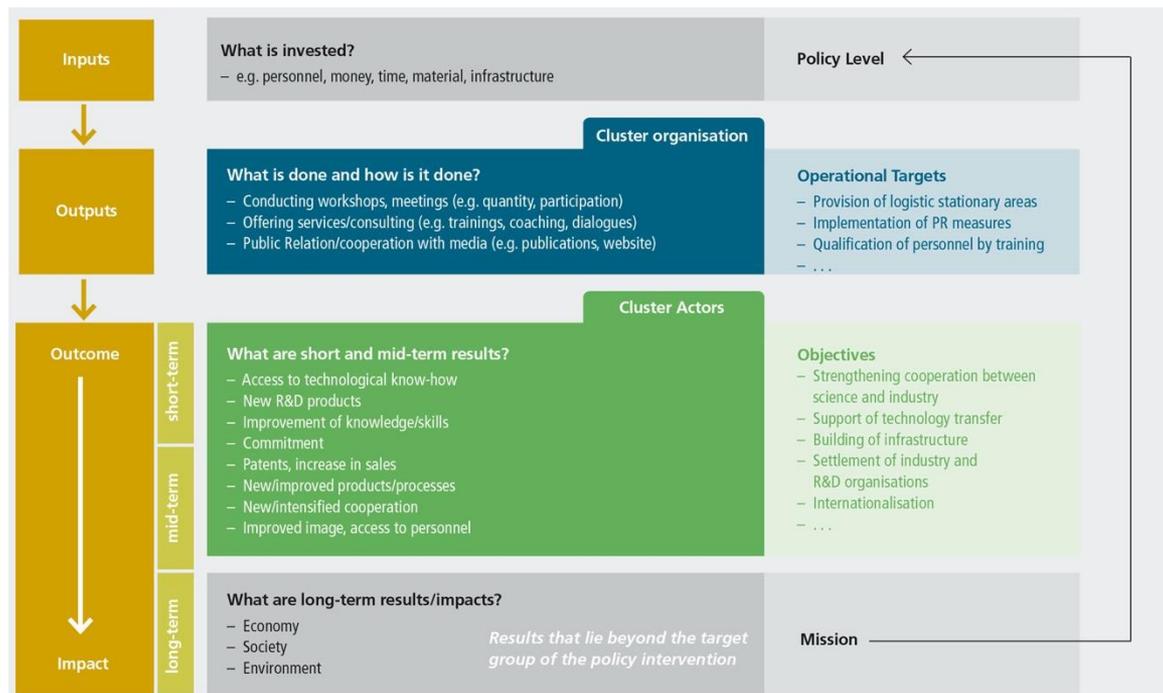
Setting up a monitoring system

Focus areas for monitoring and evaluating of cluster activities

Monitoring and evaluation of cluster development is important. However, methods, key performance indicators and data collection protocols differ across countries and economic fields. A single set of agreed upon evaluation and impact assessment methods and key performance indicators currently does not exist. The needs and scope of the analyses also vary. This makes it difficult to compare monitoring and evaluation approaches across regions and nations.



The following figure provides an overview of four different categories of strongly interconnected indicators which can be applied to monitoring and evaluation activities. These categories are **input**, **output**, **outcome** and **impact**.





Setting up a monitoring system

The **input** category measures cluster development efforts that have been invested in over a certain period of time. The other three categories must be adapted to the input.

Output can be understood as what has been done. It includes counting actions such as number of events. The output can be directly influenced by the cluster management.

Outcome indicators focus more on short and medium-term results. For example, cluster actors are more familiar with digitalization issues as an outcome of related training measures.

Impact indicators focus on long-term effects, often with dedicated economic values. Cluster actors can increase profitability by implementing digital processes. Since the impact can not be directly influenced by cluster organisations, such indicators have to be well designed. Policy makers are in favour of impact indicators but often overlook the fact that such impacts depend on various factors beyond the capabilities of the cluster organisation.



What NOT to do when implementing a monitoring approach

- Monitoring often starts **too late** or is not done in a continuous way.
- Monitoring indicators to measure outputs, outcomes and impact are **often not aligned with the input**. This often leads a significant mismatch. Policy tends to provide little input, but expects huge outcomes and impact
- Monitoring indicators are often not really meaningful if they only focus on what is easy to measure. Often, too much focus is given on output or impact instead of outcomes. The latter are better able to consider output and impact indicators in the right context.
- There is still a **lack** of solidly established **methodological approaches** and **practicable tools** for monitoring core cluster effects without the interference of any other influencing variables.
- Monitoring and evaluation should be understood as tools for **mutual learning** and continuous improvement -- not as a tools to control.



Setting up a monitoring system

Impact-oriented monitoring

Cluster impact monitoring serves to measure the effects that are achieved by cluster actors as a result of their clustering and networking efforts. It is an approach that has been developed in an effort to overcome conventional shortcomings.

There are two important preconditions that significantly impact the validity of the overall approach. Firstly, it has to be done continuously. Secondly, a minimum of 70 % of the cluster actors must participate in order to assure meaningful results. Thus, communication and commitment matter. If cluster actors do not see the added value of participating, the impact monitoring does not work.

If it works, it can provide very relevant quantitative outcomes and can serve to outperform other approaches like ex-post evaluations.

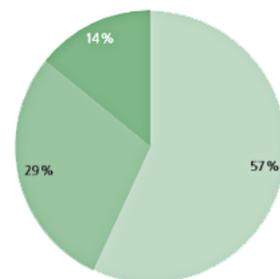
The Real Case: The Automotive Sector in Germany

- › Sector: Automotive
- › Country: Germany
- › Period: 2012 – 2013
- › Methodology: Interview and questionnaires
- › Response rate: 78 %
- **Key findings:**
 - › Monetary benefit varies between zero and € 250.000
 - › The higher the commitment and cooperation among the cluster actors, the more likely it is to generate a higher monetary added value.

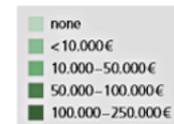
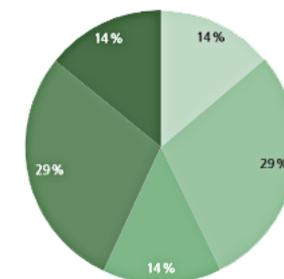
Impact-oriented monitoring covers the following procedures for processing all the relevant information:

- (1) **Identifying impact areas:** Expected results and impacts
- (2) **Deriving and agreeing on impact hypotheses:** Assumptions about the relationship between input and impact
- (3) **Determining areas for observation:** Particularly qualitative indicators and milestones for observing behaviour and processes (changes in whom, how many and by when).
- (4) **Data collection and use, interpretation:** Obtaining data and information, analysis and conclusions*.

Monetary benefit with low commitment



Monetary benefit with high commitment

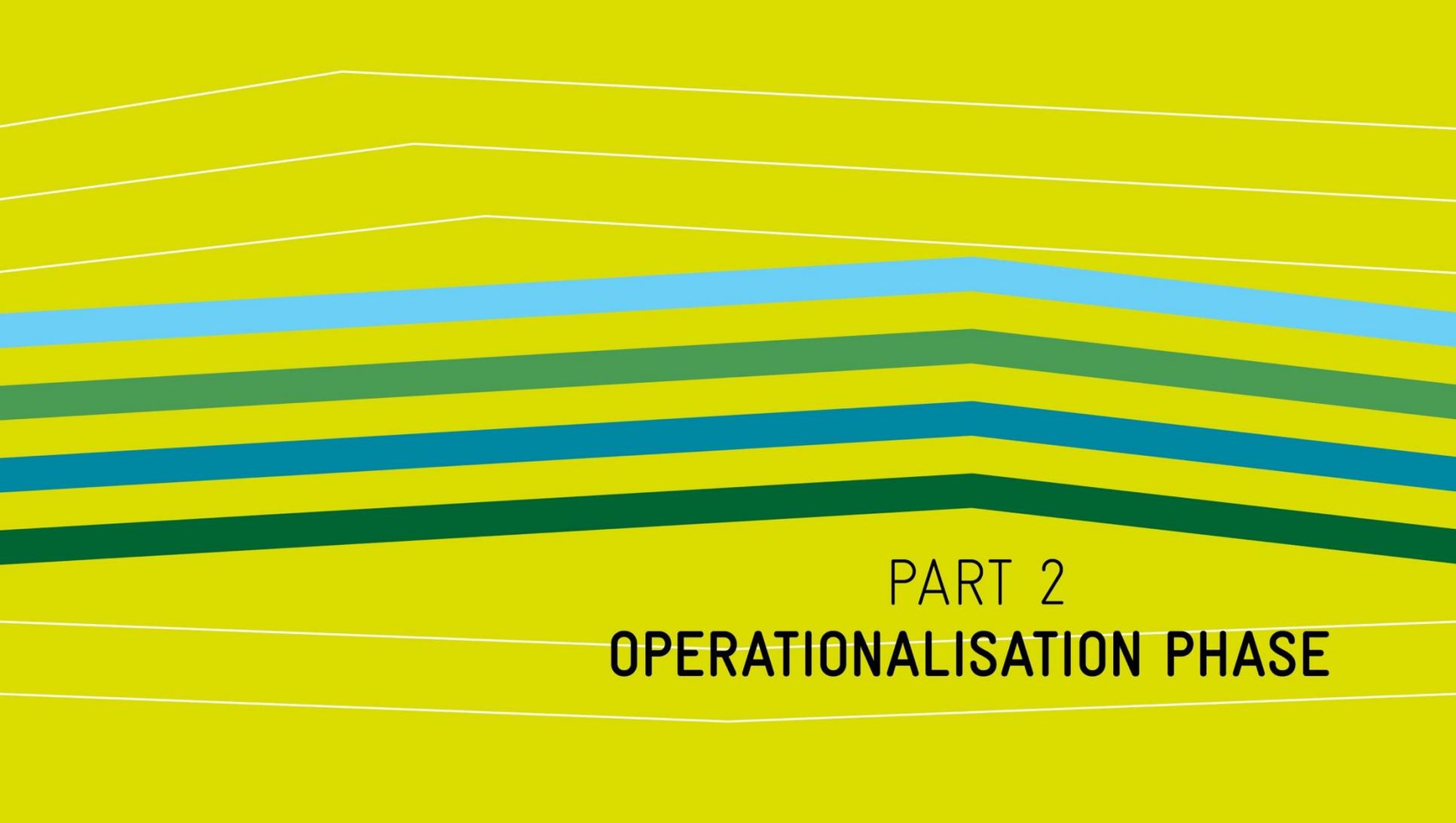




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PART 2
OPERATIONALISATION PHASE



OVERVIEW OF PART 2: OPERATIONALISATION PHASE



- **Introduction**
- **Step by step process for advancing the operationalisation**
 - › **STEP 1: How to operationalise?**
 - › **STEP 2: How to attract and tie cluster actors?**
 - › **STEP 3: How to reach cluster management professionalism?**
- **Further readings**





From establishing structures to advanced operationalisation

During its establishment, the cluster has put things on the right track for targeted cluster development. It is now time to implement professional business services and to carry out and manage projects to support members. This phase serves to keep cluster actors motivated and satisfied as well as to continuously professionalise cluster management. From this point forward, it is crucial to keep all activities under close scrutiny on a regular basis to enable sustainable cluster development and create positive impact.



10 KEY QUESTIONS when operationalising

- (1) How does one organise and manage cluster activities?
- (2) How does one define, model and implement cluster processes?
- (3) Is there a balance between obligations of members to the cluster organisation and the services provided by the cluster to its members?
- (4) Is the cluster sufficiently known and does it appeal to potential new members?
- (5) Are there enough opportunities for open exchange, dialogue and feedback with cluster members?
- (6) Is performance monitoring applied regularly?
- (7) Is the cluster strategy regularly realigned and consequently implemented with the involvement of cluster actors?
- (8) Are services and projects further developed according to strategic reorientation?
- (9) Is skill development of staff members part of the organisational development?
- (10) Has the cluster reached its goals in terms of the desired result, costs and deadlines? Are all relevant stakeholders satisfied with the results?



KEY ACTIONS At this stage, cluster structures and activities are in place and ready for their realisation. Key elements for advanced operationalisation are summarized below and will be explained in more detail on the following slides. The sequence is not fixed and may vary from case to case.

1

Managing cluster processes and projects

2

Fostering and improving the membership portfolio

3

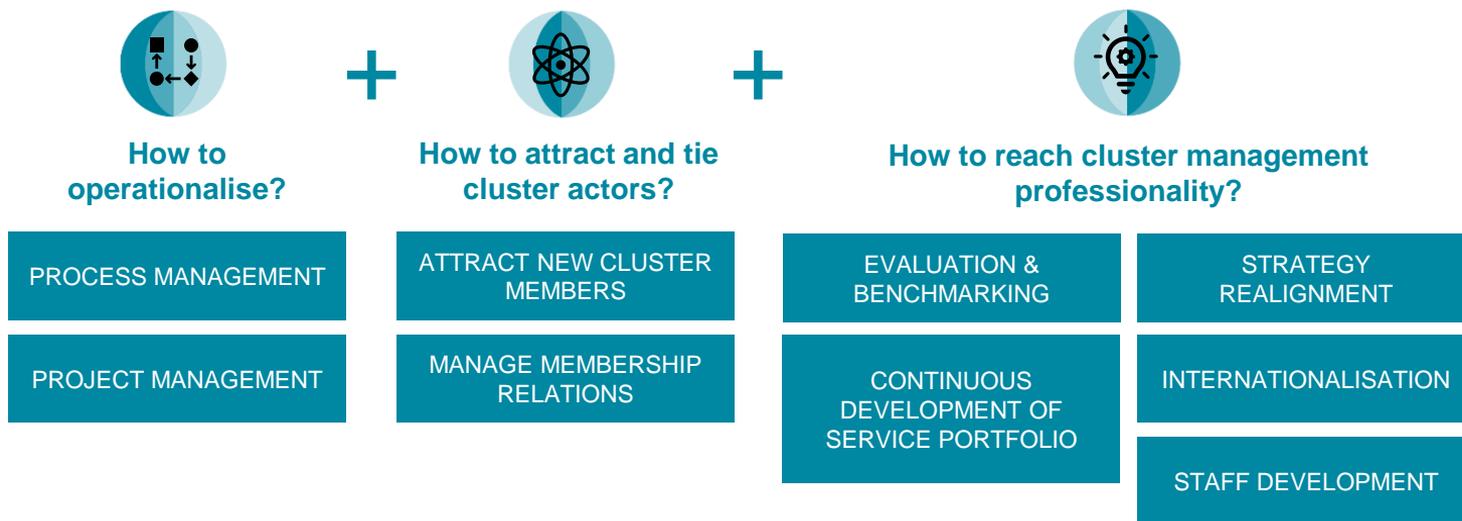
Professionalising cluster management on regularly





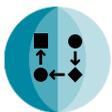
Step by step process for advancing the operationalisation

As already indicated, operationalisation is closely connected to professionalisation. Cluster organisations can be understood as service providers for cluster actors. Monitoring and self-reflection of activities implemented by the cluster management are key steps to identify lessons learned and potentials for improvement.





Step 1: How to operationalise?



How to operationalise?

PROCESS MANAGEMENT

PROJECT MANAGEMENT



How to attract and tie cluster actors?

ATTRACT NEW CLUSTER MEMBERS

MANAGE MEMBERSHIP RELATIONS



How to reach cluster management professionalism?

EVALUATION & BENCHMARKING

CONTINUOUS DEVELOPMENT OF SERVICE PORTFOLIO

STRATEGY REALIGNMENT

INTERNATIONALISATION

STAFF DEVELOPMENT





Managing cluster projects – basics

The management of a cluster demands high quality teamwork in which numerous tasks and functions are handled by different cluster actors. The operational work is characterized by many parallel processes and project-related activities. However, it has to be pointed out that all actions to be implemented shall aim to **support the cluster development** as such or **support a number of cluster actors**. Projects shall not be implemented to preliminarily finance the cluster organisation.

Fundamentals of cluster-related project management

Professional cluster management requires professional project management. Project management enables the cluster to achieve operational goals quickly and in accordance with its resources.

It sets clearly defined, limited and manageable tasks.

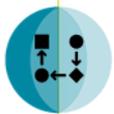
A project is a major, unique and complex undertaking, with several actors involved in its planning, management and implementation. Specifically, a project involves a large number of individual processes which together lead to the project result.

The goal of project management is to implement individual projects on time and in line available resources. With most projects there is a project executing entity which issues the project commission and takes the overall decisions, while the project management (project manager and team) are responsible for concrete project implementation.

Cluster projects can take on different forms and occur on different levels

CLUSTER PROJECT CHARACTER	GOAL & TARGET GROUP	PREVAILING FINANCING SOURCE	EXAMPLE
Internal Cluster Management Projects	Projects are carried out by cluster management staff and target organisational development.	<ul style="list-style-type: none"> Mainly self-financed 	Introduction of Customer Relationship Management Software (CRM).
Cluster Development Projects	Cluster organisations participate in joint projects that aim at further developing the performance of the cluster organisation. Cluster actors are not directly involved.	<ul style="list-style-type: none"> public (co-)funded Donor funded 	Networking and experience exchange projects intended for cluster organisations from various regions or countries.
Projects-as-a-Service (Member Projects)	Cluster organisations promote cluster actors' projects through advisory services, but are not part of the project consortium. Beneficiaries are usually a few members.	<ul style="list-style-type: none"> Commonly various sources 	Project management of a complex project, which involves several members (e. g. Aviation meets Wind Energy).
Joint Projects (Cluster Actors & Management)	The cluster organisation cooperates with cluster actors in a project. Usually the cluster organisation takes the project lead.	<ul style="list-style-type: none"> Self-financed 	Joint strategy development, which includes the participatory involvement of the cluster actors.

It is advisable when implementing a cluster project to split the project into **several phases** and deal with these in steps together with the project participants.



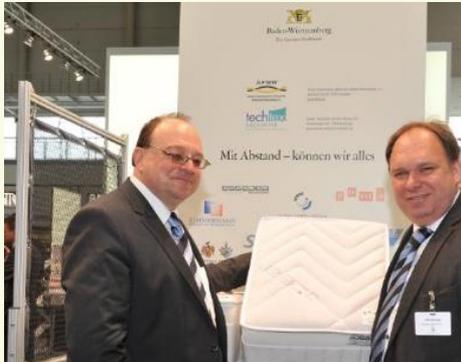


EXAMPLE

Managing cluster projects – a practical case

Setting-up a cross-sectoral cluster working group (The AFBW case)*

Market research, done by the German textile cluster management group of the “Allianz Faserbasierte Werkstoffe Baden-Württemberg (AFBW) e.V.”, figured out that the maritime sector has great potential for new textile applications. However, since the maritime sector is very traditional, it was obvious that conventional market penetration activities would not work. Thus, an AFBW working group, consisting of nine of cluster members, initiated a collaboration with interested companies from the maritime sector. The key to the success of this undertaking was a dedicated effort to create business for cluster actors.



© AFBW



EXAMPLE

Managing cluster projects – the theoretical approach

- Initially, all the data relevant for the project is collected and analysed; **project goals** are defined.
- Setting **clear and realistic goals** (material, deadline, cost) is very important for project management, as it sets the general approach.
- The data analysis is then used to generate an initial joint **project concept**, which acts as a basis for discussion and the project plan.
- Project management and organisation** includes creating a goal-oriented framework for action, coordinating the individual work packages and the participants, structuring project communication, and motivating project participants. During this phase there must naturally be **ongoing project controlling** including progress reports and constant comparison between actual and budget figures.
- Particularly important for project management are **regular team exchanges** for face-to-face sharing of information, communication and progress control.
- Continuous delivery and improvement should be incorporated in agile teams across the value stream (**agile and lean project management**)

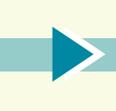
INITIATING



PLANNING

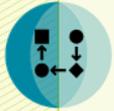


IMPLEMENTING



MONITORING & CLOSING

- An initial meeting of all relevant actors should result in a **project structure** in terms of content and timetable, also defining individual **work packages and individual tasks**.
- In addition, an estimate must be made of the work involved, the costs set and key interim goals (**milestones**).
- To be able to measure whether the interim goals and project goals have been reached, **indicators** should be defined.
- A major point in planning cluster projects is **agreement** between all those involved that they will carry out the tasks they take on in a binding and punctual manner.
- Projects activities need to **be monitored throughout the whole process**.
- When completing a cluster project, the individual project phases should be jointly analysed and evaluated. What worked well, what less well, what were the reasons, and what can be done better in the next project (**lessons learned**)?
- Project documentation** (project progress reports, final report) plays an important role in this.
- An internal **cost analysis** should also be included in the final phase.



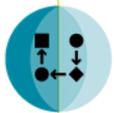


Managing cluster projects vs. processes

Applied to the cluster context, we can define a process as a **chain of functionally linked activities** with the aim of meeting requirements of internal and external customers (e.g. cluster actors). As shown before, projects also consist of different processes (or phases). Some of these processes can also be standardized. Especially if cluster projects are carried out on a regular basis, some of the basic project-related processes can be standardized and applied in several similar projects in order to increase the efficiency. Thus, projects and processes are strongly interdependent. However, one can identify differences between project management and process management as indicated below:

Cluster Processes can take place internally or externally:

- **Internal activities:** Activities are mainly intended for staff of the cluster organisation. This is part of the day-to-day work that is not always seen by the cluster actors (e. g. reporting, administration etc.).
- **External activities:** Activities that are carried out for (and often with) cluster actors. Key beneficiaries are the cluster actors.



	PROJECT MANAGEMENT	PROCESS MANAGEMENT
DURATION	<ul style="list-style-type: none">▪ Usually onetime activity▪ Limited duration with defined start and end date	<ul style="list-style-type: none">▪ Continuous and repeated activity
MAIN GOALS	<ul style="list-style-type: none">▪ Create a new or better product, service or solution for a problem or suboptimal situation▪ Meet defined project goals with regard to time, costs and quality of results	<ul style="list-style-type: none">▪ Standardize cluster management related activities▪ Increase efficiency and effectiveness of cluster activities (related to time, quality and costs)





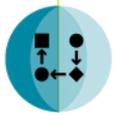
Managing cluster projects vs. processes

We can furthermore distinguish here between the following kinds of processes:

- **Management processes:** These are processes in the area of strategy, planning and management (i.e. processes in the field of strategic cluster management.)
- **Core processes:** These are processes associated with operationalisation within the cluster (i.e. specifically cluster services).
- **Support processes:** These processes involve providing the infrastructure and resources needed for the cluster organisation.

Other types of processes which are particularly important for a cluster are learning and information processes (i.e. knowledge management).

Depending on the level of hierarchy and aggregation, these various kinds of processes can be broken down into **primary processes and sub-processes**.



Introducing a process management system in five steps

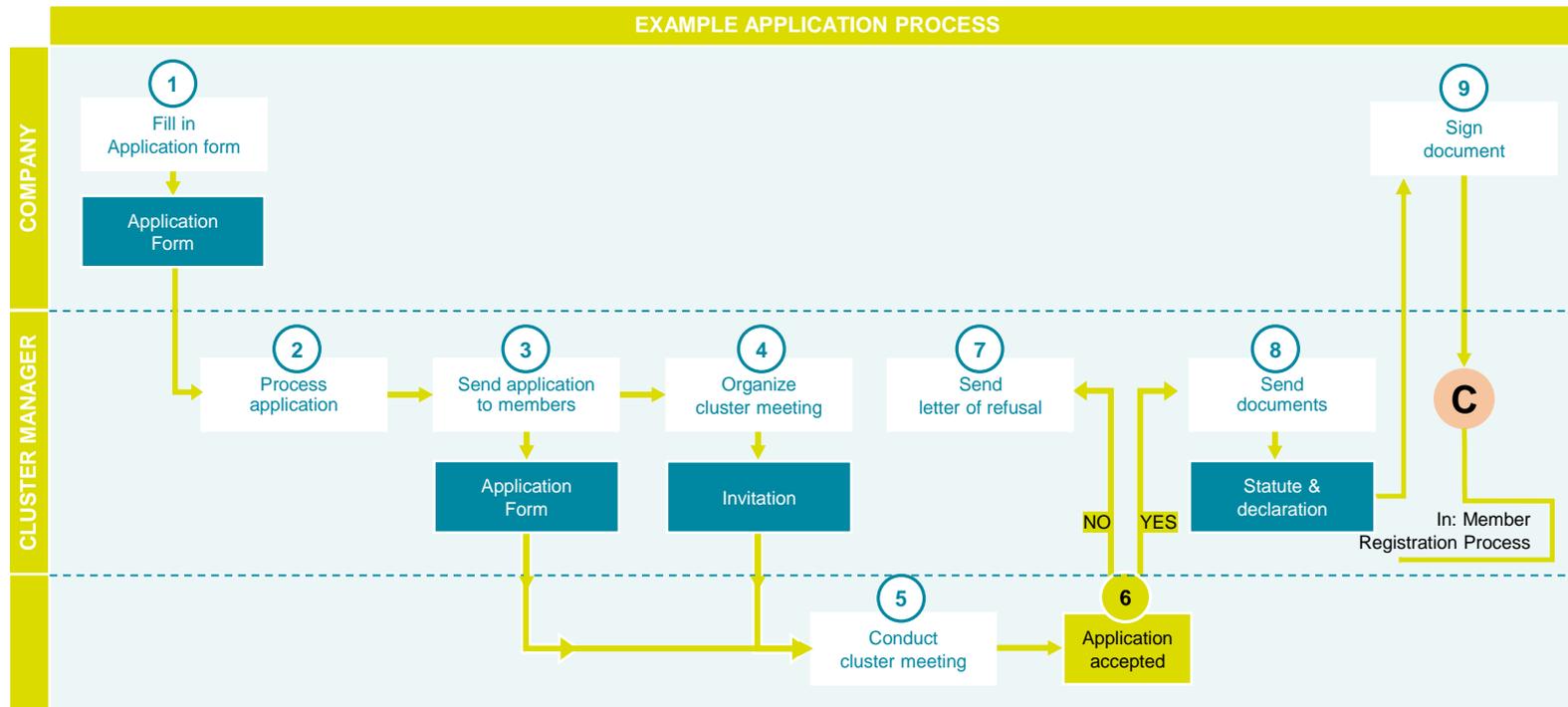
- (1) Develop a **cluster process model** in which the cluster's central management, core and support processes are determined.
- (2) Develop **target processes**. The task is to develop and model the individual process (primary and sub-processes) on the basis of the cluster process model. An example is given on the following slide.
- (3) **Process documentation:** The next step is to describe target processes which have been developed and document them in writing (process description, management manual).
- (4) **Process implementation:** The process must now be introduced to the cluster management and prove its value in practice. The important aspect here is for the processes to be implemented consistently by all participants, following the steps as required.
- (5) **Process optimization:** Once the process is implemented, monitoring and feedback will help to further optimise the process.





Managing cluster processes

Application Process (Exemplary Visualization)





Managing cluster processes

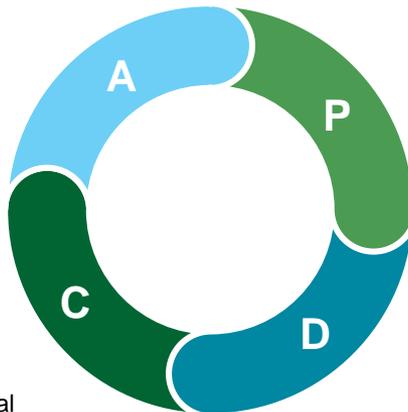
Improving cluster processes permanently: The Deming Cycle (PDCA)

ACT

- **Share** the knowledge gained from the previous steps.
- **Implement** the new standard on a wider scale.
- **Reflect and restart** the cycle if it did not work.

CHECK

- **Measure and monitor** outcomes to test the validity of the measures.
- This allows for identification of potential problems and areas for improvement.

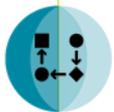


PLAN

- **Identify** a problem.
- **Define** a goal and plan improvements.
- **Plan** necessary measures (action plan).

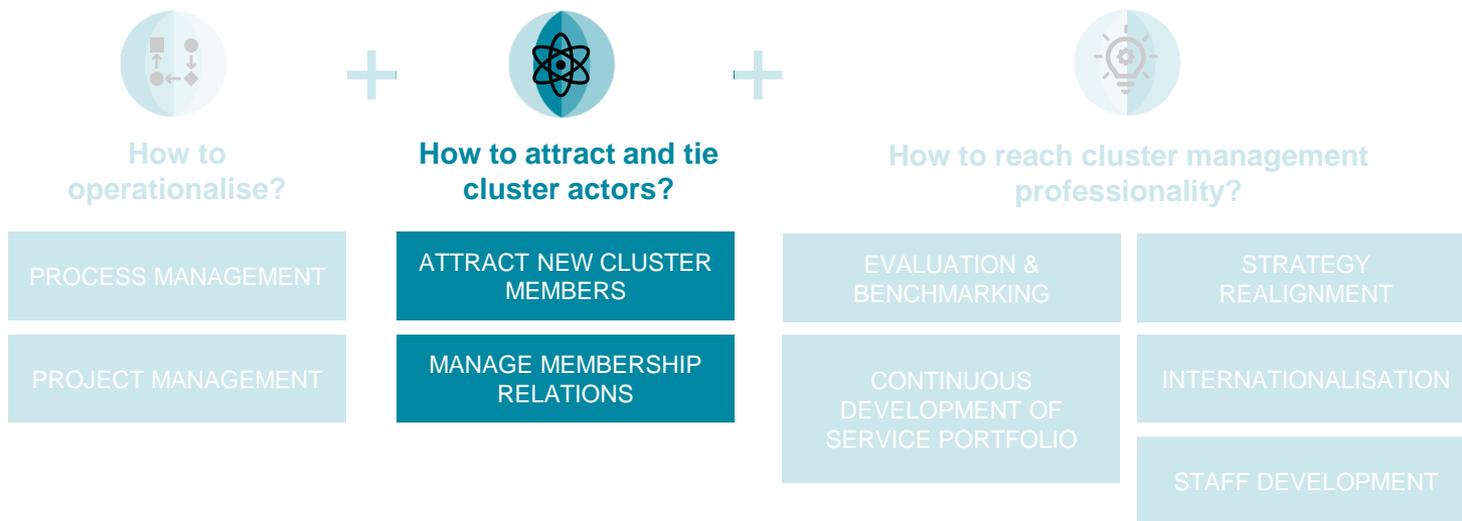
DO

- **Implement** the planned measures on a small scale to prove or disprove their validity.
- If invalid, go back to the first step and restart the cycle.





Step 2: How to attract and tie cluster actors?





Attracting new cluster actors

Before starting any targeted activities to attract new cluster actors, there must be a common understanding about the purpose of doing so. Reasons to attract new actors are:

- **Quantitative reasons:** New cluster actors will help to increase critical mass. Additional membership fees will contribute to the sustainable financing of the cluster organisation.
- **Qualitative reasons:** The quality of the member portfolio will be increased in the event that some nodes of the value chain are not properly covered or if there is an opportunity to attract large “anchor” firms. For example, the LEONIE Group is a high quality partner of Automotive Cluster Tunisia. Leonie employs around 15,000 workers representing one quarter of all suppliers in Tunisia. Companies with specific knowledge which is missing among the existing cluster actors can serve to increase the quality of the cluster efforts.

When attracting new cluster actors, there is often a cluster core consisting of persons with good experience of collaboration and who have established mutual trust. This core might create an appeal for further actors to join cluster. Marketing and acquisition activities of the cluster organisation are crucial levers for member growth. Also, committed cluster actors can act as important promoters alongside the cluster management and can help to increase the attraction.

Targeted acquisition to fill gaps

Periodic assessment of the cluster strategy and goals should be carried out in light of the current member portfolio and related sectoral theme. One may identify competence gaps relevant for sustainable and future-oriented cluster development. This should be given special attention regularly in order to avoid “lock-in” effects.

Although clusters require formal rules and agreements among the partners, informal processes are always more important for binding partners and integrating them into the cluster than mere formal rules.

How to attract actors step by step?

Clusters that are unable to provide marketing services may experience difficulties in acquiring new actors as partnership benefits are not immediately visible. Development of a persuasive advertising process is therefore greatly important. Particularly, SMEs request a stepwise approach showing clearly articulated benefits to convince them to actively engage in the cluster.

There is no specific blueprint for a step-by-step approach. However, it is always important to convincingly market and present the cluster, its topics, activities, and related benefits for members.

A good practice example of systematically approaching potential cluster actors is presented on the following page.





EXAMPLE

Attracting new cluster actors (1/2)

microTEC Südwest in Germany

(1) Identifying potential cluster actors

- Self-conducted desk research
- Receiving requests from interested companies
- Receiving recommendations of existing members
- Creating a “Pipeline of potential cluster members”

(2) Reaching out to potential cluster actors

- Marketing the cluster, its strategic goals, topics and activities – on website, at events (e.g. expert group meetings), and via direct contact
- Using testimonials from satisfied cluster members, e.g.

Mr Stoll, segment manager at Carl Haas GmbH:

"I appreciate the high level of competence of the expert group participants. Among other things, Carl Haas is always able to find new approaches, gain new insights and ultimately generate good solutions through the university contacts in the expert group".

- Presenting the added-value for members (see [next page](#))
- Initial get-together to get to know each other in person, to specify cluster-related issues and benefits, and to clarify open points and questions

(3) Membership Application process

- Filling out the application form by potential member
- Management board decision on membership
- Confirmation of membership

(4) Active involvement

- Actively involving a new member in expert groups and marketing activities (e.g. competence atlas)
- Members benefiting from various services and advantages* (see [next page](#))





EXAMPLE

Attracting new cluster actors (2/2)*

←

Overview of added value

Added value	Member	Non-member
Expert groups		
Regular participation	✓	
1-2 participations as guest		✓
Access to the protected area of the expert groups (Extranet)	✓	
Exchange with market companions, access to technology providers and users	✓	
Contribution of own topics, challenges and requirements	✓	(✓)
Innovation and technology transfer		
Access to information on trends and developments	✓	✓
Integration in technology transfer measures	✓	
Initiation of R&D cooperations and funded projects	✓	
Invitation to exclusive member events like strategy workshops or afterNETwork	✓	
Visibility and communication		
Publication of articles and news in the Newsupdate	✓	
Entry in the Competence Atlas	✓	
Professionals		
Free publication of job offers on the internet and in the Newsupdate	✓	
Representation of interests and cooperation		
Integration in strategy process	✓	
Representation of interests towards politics, associations and the	✓	
Creating contacts of potential partners and customers	✓	✓
Technical workshops and conferences		
Open for participation - preferred participation when space is limited	✓	
Reduced participation conditions for events with costs, such as the microTEC Südwest Cluster Conference, in some cases also for partner events	✓	
Involvement as speaker	✓	(✓)
Services and results from projects		
Use of services and results such as further training e.g. in the field of VR, MR, AR technologies or creative workshops or ScaleIT architecture	✓	(✓)
Integration into services such as transfer talks or publications such as the collection of success stories on cyber-physical systems	✓	(✓)

Become a member now!!

Added value	Member	Non-member
Expert groups		
Regular participation	✓	
1-2 participations as guest		✓
Access to the protected area of the expert groups (Extranet)	✓	
Exchange with market companions, access to technology providers and users	✓	
Contribution of own topics, challenges and requirements	✓	(✓)
Innovation and technology transfer		
Access to information on trends and developments	✓	✓
Integration in technology transfer measures	✓	
Initiation of R&D cooperations and funded projects	✓	
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Integration into services such as transfer talks or publications such as the collection of success stories on cyber-physical systems	✓	(✓)



Binding cluster actors and partners

Successfully maintaining contacts, informing and networking

Communication and PR are fundamental for the success of clusters. As open learning platforms, clusters often have over 100 different actors. They need a rich and clear information basis in order to be internally integrative and externally attractive.

As clusters include businesses, research and academic institutions, public institutions and many more different stakeholders, communication has to take into account the different expectations and habits of the various target groups.

For example:

- **Businesses** generally expect information to be very brief and with a clear benefit.
- **Administrative entities and politicians** usually want information which presents their own contributions in striking and visual form.
- **Promotional agencies** need information which is documentary in nature, showing activities and results.
- **Regional developers and officers** with responsibility for a location look for information providing an overview which shows the quality of the location.
- **Partner clusters** are interested in getting information on core competencies of cluster actors and the clusters' strategic goals in order to build and deepen collaboration.

An **information system** which meets the needs of the target groups. Without a clear communications plan jointly drawn up or supported by core partners, there can be no professional information policy. In implementation, the right **media mix** also plays a decisive role. Here, it is particularly important to start from the target group's expectations and habits and not from those of the people responsible for information in the cluster.





Binding cluster actors and partners

In order to amplify satisfaction and commitment from cluster actors, the cluster management should focus on several core activities: **Direct contacts with members, visiting them, capturing their needs** and **offering high quality services** based on these needs will bring about the most positive effects. Targeted matching is one of the current trends.

Easier said than done! To adequately document, structure and analyse all relationships and interactions with potential and existing cluster actors and stakeholders, **ICT solutions** like Customer Relationship Management (CRM) systems can help support and enhance the efficiency of cluster management and the associated processes and activities.

CRM systems are not a question of money but rather of smart solutions. It is important to focus on what a cluster organisation really needs.

Thus, an integrated management of cluster actor relationships considers all mentioned areas:

PR & Marketing

- PR & marketing
- Regular information (e.g. newsletter)



Personal Contacts

- Direct contact via phone, visits or meetings at events
- Exchange on current issues

Need-based Services

- Providing high quality services
- Regular monitoring, capturing needs and improving services

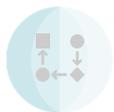
ICT-based Membership Management

- Management of member processes
- Contact management
- Project & event management
- Efficient monitoring and analyses





Step 3: How to reach cluster management professionalism?



How to operationalise?

PROCESS MANAGEMENT

PROJECT MANAGEMENT



How to attract and tie cluster actors?

ATTRACT NEW CLUSTER MEMBERS

MANAGE MEMBERSHIP RELATIONS



How to reach cluster management professionalism?

EVALUATION & BENCHMARKING

CONTINUOUS DEVELOPMENT OF SERVICE PORTFOLIO

STRATEGY REALIGNMENT

INTERNATIONALISATION

STAFF DEVELOPMENT





Evaluation as an important lever for learning and improvement

Evaluation is a regular check involving documentation and reflection, mostly at the end of a certain cluster development period. Thus, evaluation usually makes sense after approximately 4 – 6 years when actual impacts can be identified. Leading questions are if the goals of the cluster development are unchanged, if the chosen approach is the right one to achieve defined goals, and what can be learned from experiences to date. An established impact-oriented monitoring system (cf. [Establishment Phase](#) – [How to monitor progress](#)) forms an important basis for it.

Evaluation can also be a response to an acute issue like a financial crisis or dissatisfaction on the part of cluster actors. We distinguish between external and internal evaluation.

EXTERNAL	INTERNAL
<ul style="list-style-type: none">▪ an evaluator is commissioned from outside the cluster to carry out the evaluation▪ mix of quantitative and qualitative interviews with representatives of the various stakeholders and an analysis of written planning and reporting documentation▪ Often, workshops are held with cluster actors to enhance acceptance of results and motivation for implementing identified findings	<ul style="list-style-type: none">▪ solution-oriented methodology which aims to enhance the competence of those being evaluated to learn from the experience▪ interactive and implementation-oriented learning process▪ diagnosis of the strengths and weaknesses from the point of view of the relevant stakeholders and specific identification of starting points (“levers”) for effective change▪ An important basis is information on the cluster results which have been systematically collected and stored





Evaluation as an important lever for learning and improvement

How to assure a meaningful evaluation process

- Evaluation criteria shall be defined at the beginning of a cluster development period not just at the beginning of the evaluation process. This gives the cluster organisation and related actors a fair chance to take them into account during day-to-day work.
- The preparatory activities shall be done in close cooperation between the cluster (organisation) and the body requesting the evaluation (e. g. policy, donor etc.). The same holds for the indicators, evaluation design and the entire process.
- Cluster actors shall be informed since each evaluation causes some uncertainty.
- The body requesting the evaluation shall clearly communicate what the intended purpose of the evaluation is.
- The evaluators shall be experienced in two ways: Firstly, they should be well experienced in running evaluations. Secondly, they should have practical cluster experience to understand the findings and put them in the right context. Clusters are by nature complex and individual.
- Evaluators are not investigators, they should find areas of improvements and stimulate learning and improvements.
- Recommendations are an output of the evaluation and shall be a result of a common understanding between the evaluators, the evaluated cluster (actors) and the requesting body. Recommendations must be practical, meaningful and precise.
- The evaluated cluster (actors) and requesting body shall, in the end, jointly select those recommendations that appear to be appropriate to develop the cluster further
- The implementation of the evaluation findings shall be properly monitored.



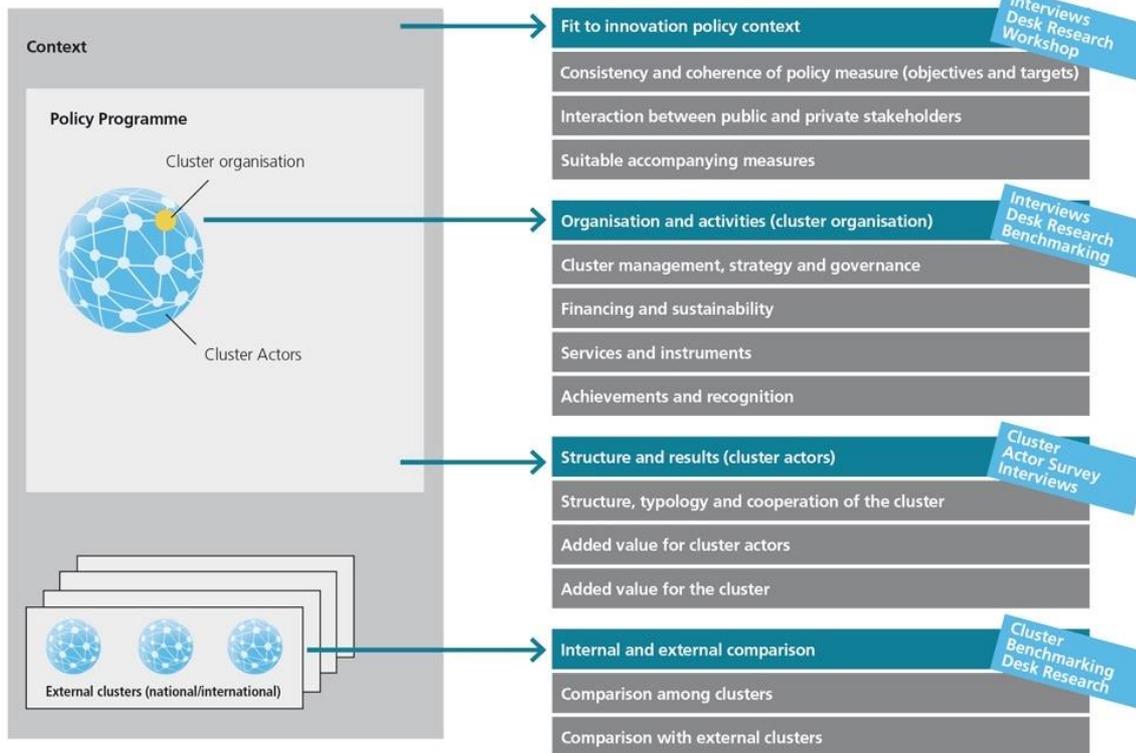


Evaluating clusters / cluster projects

What indicators to look at and how to measure best

Evaluation criteria can target cluster policy, framework conditions, cluster organisation or development of the cluster actors.

All levels are possible, but not a must. It depends on which level the evaluation mainly targets at and which purpose it should fulfill*.





Evaluating clusters / cluster projects

Indicators to be used (and not used) when evaluating clusters from creativity sectors

Based on voting of 13 European cluster experts.



Indicators/criteria	Appropriateness to apply at CCI cluster	
	+	-
Assessment of objectives of the cluster initiatives and cluster management		
Main objectives of the respective cluster initiative		4
Existence of quantitative and qualitative objectives	5	1
Plausibility of main objectives	3	1
Applied measures to achieve objectives	3	
Strategy and implementation plan, monitoring system	12	1
Target/actual-comparison concerning achievement of objectives	1	

Indicators/criteria	Appropriateness to apply at CCI cluster	
	+	-
Assessment of the cluster initiatives and cluster management's performance		
Age of the cluster initiative		11
Number of cluster actors		8
Regional growth potential	2	
Composition of cluster participants	1	
Regional focus of cluster actors		9
Degree of specialization vs. thematic range		4
Driving forces concerning the cluster's thematic priorities	1	
Share of international cluster participants		
Legal form of the cluster initiative		9
Thematic focus of the cluster management		
Personnel resources in cluster management	2	
Clear definition of roles	2	2
Nature of cooperation structures within a cluster initiative		1
Service spectrum and generated additional value by the cluster management	7	





Towards professional cluster management

Benchmarking as a tool for cluster analysis

In contrast to impact-oriented monitoring and conventional evaluations, benchmarking is an efficient and effective way to identify the potential of a cluster and to develop strategic recommendations for its professionalisation within a relatively short timeframe.

Benchmarking involves a **comparative analysis** of structures, processes, products and services. It compares a cluster entity to peers in the same field of activity and/or to best practices from entities in other areas. The objective of benchmarking is to **identify concrete potentials for improvement in certain areas** and to **learn from better performing peers or other entities** in order to improve one's own structures, processes, products and services.



A benchmarking exercise basically consists of three main steps:

- (1) Indicator-based measurement of cluster performance:**
A cluster entity is measured according with various indicators covering the whole spectrum of cluster management and related activities. The measurement can be conducted through a structured interview or survey.
- (2) Analysis of data and comparison with peer clusters:**
Based on the measurement results, data is analysed and compared in relation to peer clusters.
- (3) Derivation of recommendations:**
The benchmarking unveils relative strengths and weaknesses of the cluster entity. Now, specific recommendations for actions for further improvement can be developed.

The benchmarking process should be conducted by impartial experts. This is especially important for the interviews and the development of recommendations for actions in order to avoid whitewashing of the performance.





Towards professional cluster management

The European Cluster Excellence Initiative (ECEI)

The European Cluster Excellence Initiative (ECEI), which was initiated by the European Commission in 2009, developed methodologies and tools to support cluster organisations to improve their management capacities and capabilities and eventually to become stronger clusters*. As a result, standard set of indicators to measure cluster management excellence was developed. This was not just a European approach but rather a case that gained international attention. Countries like Mexico and Russia embedded this approach in their cluster policies. The advantage of the ECEI approach was that it was applicable to any cluster at any stage of maturity.

The European Cluster Policy Group in 2009 further recommended European Member States engaged in cluster development to apply these indicators in order to develop better (not more) clusters**.



In order to further promote cluster management excellence, the EC asked the ECEI consortium to develop and implement an internationally recognized labelling approach. By now, there are three different labels for cluster management excellence in place: **BRONZE**, **SILVER** and **GOLD**. Since then, the system has been established all over the world as an internationally recognized approach.

Nowadays, the **European Secretariat for Cluster Analysis (ESCA)** is the one-stop shop for offering quality labelling for interested cluster organisations.



For more detailed information on ESCA and the cluster benchmarking approach, please refer to '[further reading](#)' of this subchapter where you will find the corresponding link.





Towards professional cluster management

Cluster benchmarking criteria according European Cluster Excellence Initiative ECEI

Through the European cluster excellence programme and other capacity-building activities, the European Commission supports the excellence of cluster organisations and the services that these small and medium-sized enterprise (SME) intermediaries provide to specialised groups of small businesses. The European Commission encourages cluster organisations from non-EU members to apply these criteria[†].

The following criteria can be applied^{**}:

Structure of the Cluster

- Retaining the actors in the cluster initiative / network
- Composition of cluster / network actors
- Total number of cluster / network actors
- Development of the total number of cluster/network actors
- Regional focus of cluster / network actors

Cluster management organisation (strategy and governance)

- Date of foundation or duration of existence of the cluster management organisation
- Staffing of the cluster management organisation
- Qualifications and experience of the staff employed in the cluster management organisation
- Further training of the personnel employed in the cluster management organisation
- Personnel fluctuation in the cluster management organisation
- Involvement of the different actor groups of the cluster initiative / the network in decision-making processes
- Processes and activities for the development of the cluster / network strategy
- Documentation of the cluster / network strategy
- Content controlling and further development of the cluster / network strategy





Towards professional cluster management

Financing

- Financial resources of the cluster management organisation
- Share of private sector financing in total budget
- Financial controlling
- Development of the total number of cluster / network actors

Range of services and activities of the cluster management organisation

- Operational objectives and workplan of the cluster management organisation
- Priority setting of the cluster / network strategy
- Activities and services of the cluster management organisation
- Composition of cluster / network actors
- Total number of cluster / network actors
- Development of the total number of cluster / network actors

Integration and interaction with the cluster actors

- Cooperation and communication between the cluster management organisation and the cluster / network actors
- Cooperation and communication between cluster and network actors
- Working groups within the cluster initiative / network

Result generation, impacts and visibility

- Integration of the cluster management organisation into the regional innovation system
- Internal and external communication of the cluster initiative / network
- Internet presence of the cluster initiative / the network
- Visibility of the cluster initiative / network in the media
- Success stories on cluster activities
- Key performance indicators for the performance review of the cluster management organisation
- Achieved degree of fulfilment of the cluster/network strategy and work plan
- Methods for measuring the satisfaction of cluster / network actors





EXAMPLE

Cluster Baseline Observation – a new analytical approach**Cluster Observatory Africa – a new approach to measure job creation and job quality in African clusters**

MAIN OBJECTIVE	3-LEVEL-APPROACH (see overview below)	RESULTS
<p>Goal of the Cluster Baseline Observation approach, implemented within the <i>Cluster Observatory Africa project (as part of the SI Jobs Initiative on Training and Job Creation of GIZ)</i>, is to monitor job development in selected African clusters. The baseline study is implemented in 2020. A repetition will be done in 2022 with the same clusters and related firms. This allows to measure cluster impact and why certain effects happened.</p>	<p>(1) Analysis of cluster coordinator / organisation: Based on international good practices and selected European Cluster Excellence Criteria, a baseline can be defined for the maturity of the cluster management and related cluster structures.</p> <p>(2) Analysis of cluster actors: Interviews with a reference portfolio (min. 15 cluster firms representing a cross section of the cluster) were conducted to collect firm-level data. These are aggregated to represent the cluster as a whole.</p> <p>(3) Analysis of framework conditions: The approach also considered external framework conditions, like infrastructure, business framework conditions and others.</p> <div data-bbox="529 576 1309 996" style="text-align: center;"> <pre> graph LR FC[Framework conditions] <--> CA[Cluster actors] CA <--> CC[Cluster coordination] subgraph FC_Box [] direction TB FC1[Infrastructure] FC2[Legal and political framework conditions] FC3[Others] end subgraph CA_Box [] direction TB CA1[Economic indicators] CA2[Recent investments] CA3[Innovation and competitiveness] CA4[Networking and cooperation] CA5[Institutional and social linkages] CA6[Jobs and employment] end subgraph CC_Box [] direction TB CC1[Structure of the cluster] CC2[Cluster strategy] CC3[Cluster coordination] CC4[Current impact] end </pre> </div>	<p>The findings were assessed and commonly discussed. The assessment report also included a SWOT presentation considering the three levels. Based on this, interventions were defined to strengthen the selected cluster structures in order to create more and better jobs. In 2022: after re-doing the observation, the impact of cluster development on the quantity and quality of jobs within the clusters will be measured.</p>





Realigning the cluster strategy

As mentioned, monitoring, evaluation and benchmarking provide key learnings for further improvement of the cluster management as well as for the entire cluster development process. To go one step further, successful cluster development also needs strategic renewal from time to time. Constantly changing needs of cluster actors and framework conditions require the cluster and related activities to be put under close scrutiny from time to time in order to adapt accordingly.

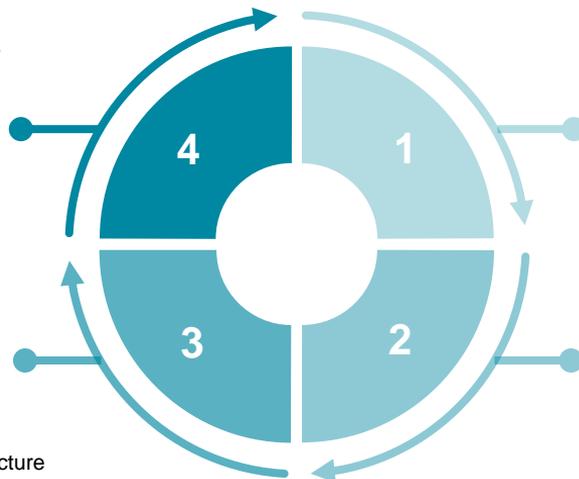
The update of the cluster strategy shall be built on what has already been achieved. Hence, it is crucial to carry out a sound analysis of the status quo including questions like 'What went well?' and 'Where to improve or what to change?'. This is the basis for revising the strategic cluster concept including vision, goals, fields of action and organisational structures. The active involvement of cluster members is key to create acceptance and therefore ensure sustainability.

Implementation & Monitoring

- Gaining common understanding of key findings with cluster actors
- Introducing a new action plan
- Transferring goals into concrete measures
- Updating the (impact) monitoring system
- Announcing / publishing the new strategy

Update of Strategy Concept

- Redefining strategic fields of action
- Developing and prioritizing of strategic and operational goals
- Adaptation of service portfolio
- Adjusting organisational and governance structure



Status quo Analysis

- Starting point for strategic repositioning
- Reviewing the status quo and achieved goals reached (and not achieved)
- Identifying needs and challenges of cluster actors
- SWOT

Vision & Goal Setting

- Process of setting overall goal(s)
- Mission orientation
- Developing a future picture of the cluster

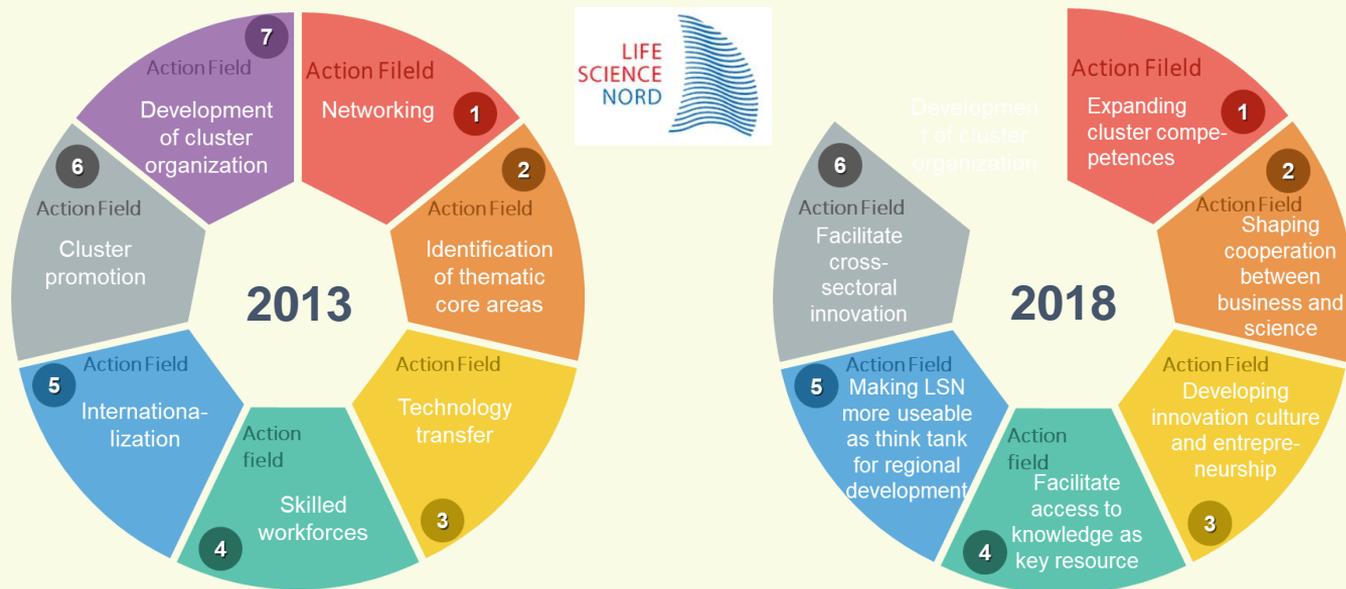




EXAMPLE

Realigning the cluster strategy

The cluster **Life Science Nord in Germany** updated its strategy in 2018. When comparing with the old strategy from 2013, some interesting differences can be found. Main driver for this adaptation were the different demands of cluster actor and the increasing industrial transformation. Digitalization and sustainability are now dedicated action fields rather embedded in each of them.





Step-by-step approach to update the cluster service portfolio

The cluster services should be thoroughly scrutinised on a regular basis to ensure that the needs of cluster actors are well considered and addressed. This can happen within the framework of a cluster strategy update (every 4 to 6 years), but can also be done in shorter

intervals. Identifying service gaps and/or dissatisfaction with existing services must result in the modification of the service portfolio. Here, it makes sense to call in an impartial consultant to ensure an objective assessment.



- Listing existing services
- Services allocated to fields of action (cf. **Establishment phase – identifying need-based fields of action**)

- Mapping of existing services (see **Dashboard tool** [on following slide](#))
- Identifying service gaps based on cluster actors' needs

- Evaluating profitability of existing services through the lens of the cluster manager (cf. **Establishment phase – developing cluster services**)
- Assessing the relevance of services for cluster actors
- Comparing efforts for cluster management to implement and expected recognition of cluster actors

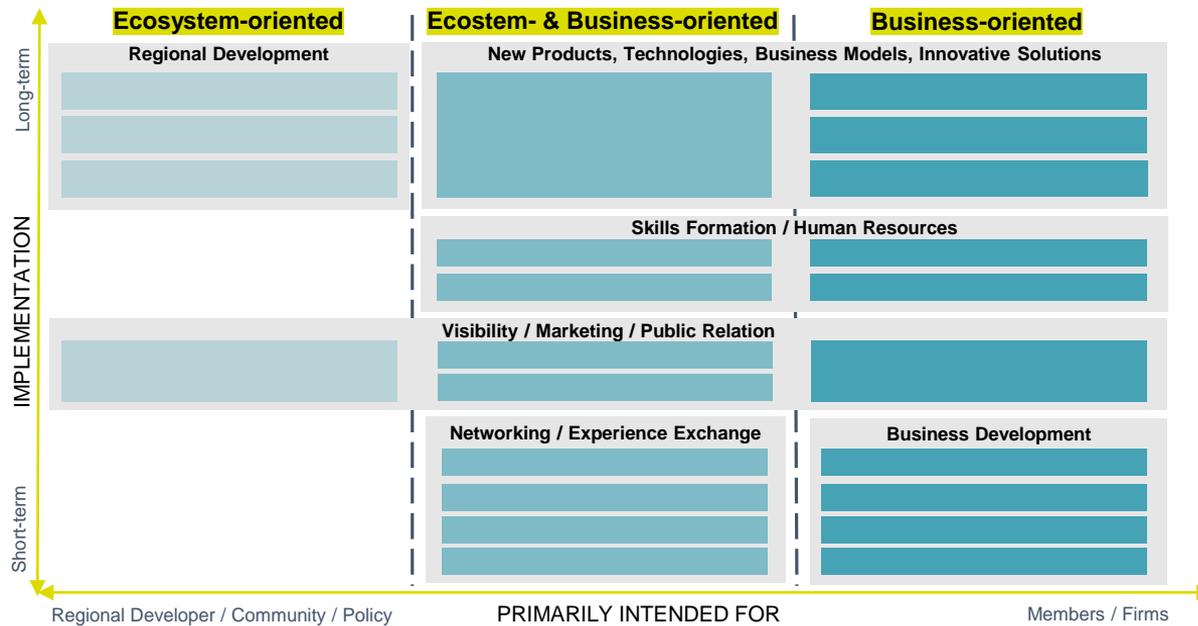
- Participatory workshops with cluster actors
- Prioritizing of actors' expectations
- Capturing actors' satisfaction with services offered
- Comparing self-assessment by cluster manager and member feedback → **Match or mismatch?**

- Adjusting or terminating old services according to results
- Introducing new services if needed
- Filling „White Spots“ according to profitability and members needs



Systematic inventory through mapping existing services

Service dashboard tool as template to map and categorize existing services (exemplary illustration)*





EXAMPLE

Further development and adjustment of service portfolio (1/2)**Comparing efforts for cluster management and expected recognition of members at the Energy Cluster in Southwest Germany***

The Energy Cluster in Southwest Germany reviewed its cluster services in 2018 and allocated them in this profitability portfolio. It turned out that many services caused significant efforts, but were included in the membership fees. The cluster management successfully turned three services (No. 2, 4, 9) into **fee-based**.

After conducting the self-assessment within the cluster management team, it usually makes sense to also seek member feedback. As already mentioned, it is about identifying members' **expectations** regarding the importance of services and their current **satisfaction** with services offered. Both dimensions will be compared in a second member-based portfolio to draw conclusions for the service development.

In the end, both portfolios from self-assessment and member feedback can be compared and enable targeted modifications of the service portfolio according to actual needs.

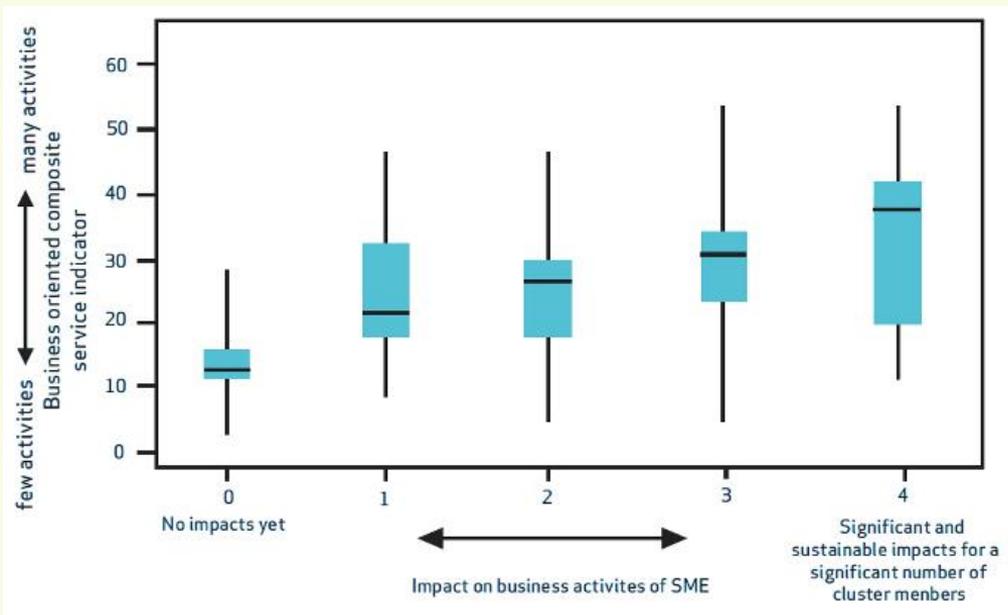




EXAMPLE

Further development and adjustment of service portfolio (2/2)

**Data-based evidence shows:
Professional need-based services result in higher benefits for cluster actors***

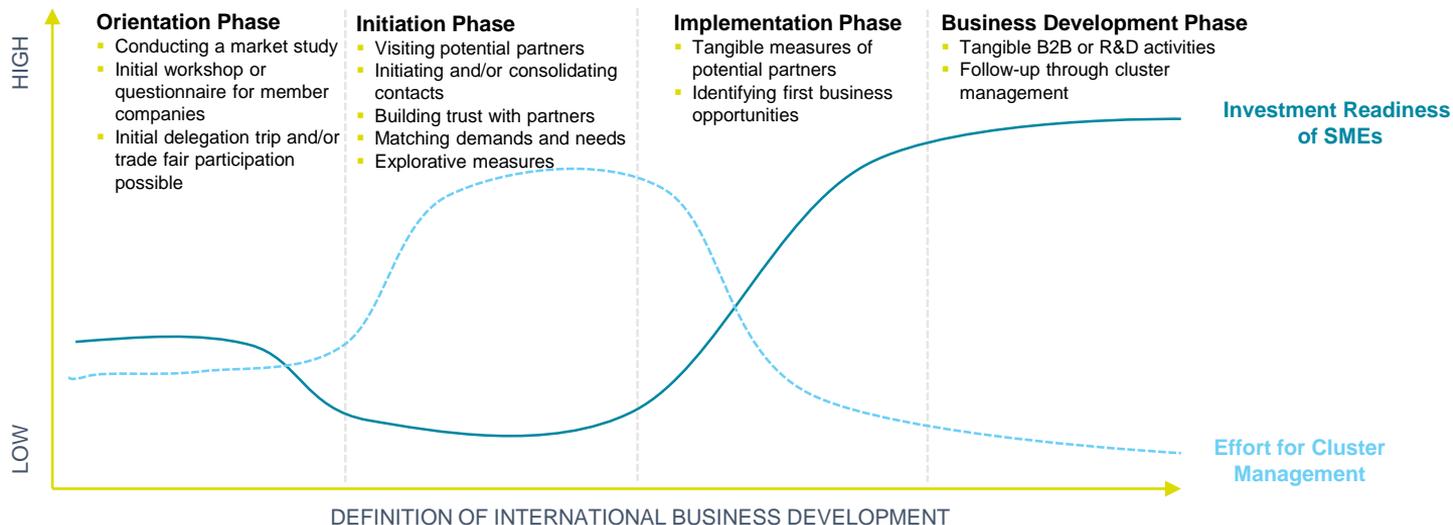




Internationalisation as cluster service

Internationalisation is not only to be seen as tapping into new markets and recognizing new market opportunities. For SMEs in particular, internationalization also means complementing value chains. New product development can be initiated and research partners may be found, which ultimately leads to an increase in value added and an increase in innovation capacities in SMEs.

The following figure shows relevant **phases of developing international cooperation activities** in clusters.

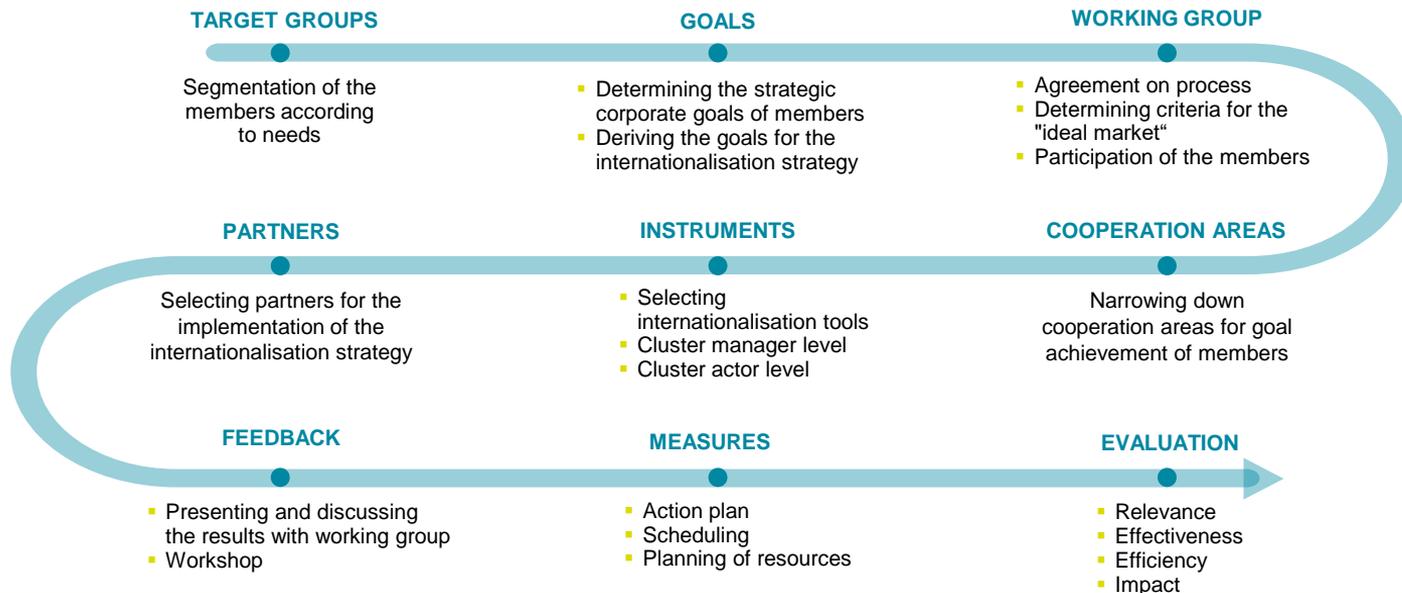




Internationalisation as cluster service

As depicted, cluster managers can actively support the internationalization process for its member companies. The following process provides further overview of relevant steps to be taken. It serves as further guidance to build an internationalisation strategy and develop tangible measures with and for their cluster actors.

It is important to note that this sequence is not rigidly predefined when it comes to internationalisation activities (see also [example on next slide](#)).





EXAMPLE

Internationalisation (EU4SportsClusters 1/2)

EU4SportsClusters project

The aim of the project was to support the internationalisation of sport companies, especially SMEs, outside the European Union using the cluster approach. Moreover, the **objectives** were:

- To foster international cluster collaboration
- To increase the visibility of sports clusters inside and outside Europe
- To improve and upgrade existing promotion programmes on international cluster activities
- To develop a joint internationalisation strategy for the participating clusters
- To communicate, disseminate and replicate these improvements to other clusters

The project was structured into **different work packages**, carried out over two years:

(1) **Building trust**

- Individual sports clusters benchmarking the potential partner clusters
- Internationalisation working groups to conduct questionnaires and interviews with companies
- Identification of suitable target countries based on results
- Internal cluster peer to peer study trips and study tours to “best practice” clusters in the area of cluster internationalization

(2) **Pilot missions:**

strategic methodology being tested in Brazil and Russia



EU4SportsClusters Standard Action

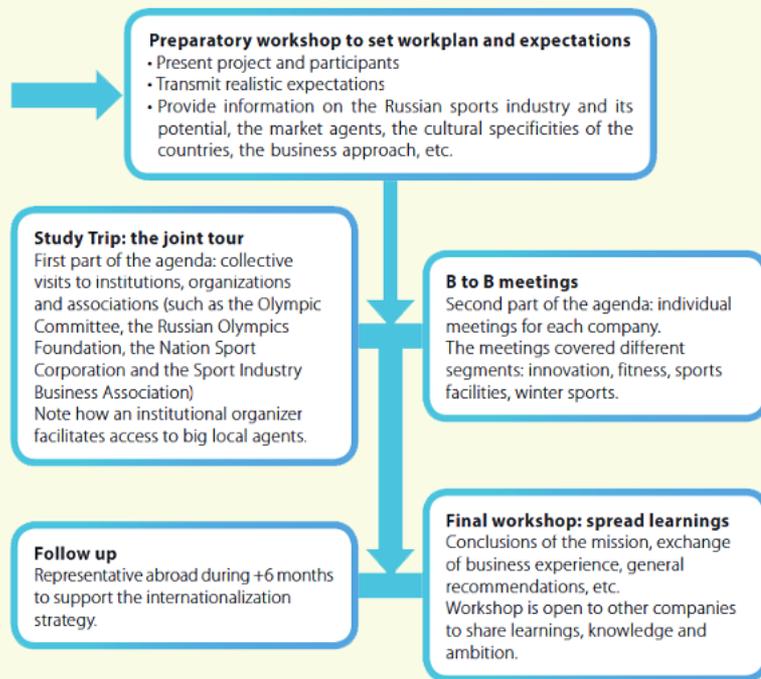


EXAMPLE

Internationalisation (EU4SportsClusters 2/2)

The EU4SportsClusters missions to Brazil and Russia

The main actions carried out within the framework of both the missions to Brazil have been illustrated as follows:



For more and detailed information on the whole process, the activities and lessons learned, please refer to **'further readings'** of this subchapter where you will find the link to the project document .





EXAMPLE Internationalisation (Georgia 1/2)

Georgian Film Cluster

MAIN OBJECTIVE	OPERATIONALISATION	RESULTS
The main goal of the Georgian Film Cluster is to promote Georgia as a location for shooting international productions as well as post-production.	The GIZ project supported internationalization efforts over three years, enabling cluster members to participate in international film markets, e.g. <i>Berlinale</i> and <i>Cannes</i> . Training and capacity development by international experts were also offered.	<ul style="list-style-type: none">Several international productions and post-productions have been brought to the country, demonstrating the competencies of the cluster to an international audience.The Georgian Film Industry grew four times during project duration*.



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EXAMPLE Internationalisation (Georgia 2/2)

Georgian Furniture Cluster

MAIN OBJECTIVE	OPERATIONALISATION	RESULTS
The Georgian Furniture Cluster unites producers, designers and other stakeholders of the industry and helped them improve the quality of their products.	<ul style="list-style-type: none">Improved product quality led to enhanced visibility, including opportunities for international exchange and access to international markets.In 2017 members toured a major international fair in Cologne as visitors to familiarise themselves with international industry standards.	In 2019 the same group was able to exhibit their own products in a special section at “Passagen” Cologne dedicated to Georgian Design Furniture.



For more information, see the video of the Georgian Furniture Cluster:
<https://youtu.be/mfsrhmF4JJw>

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Developing staff competencies

Dynamic cluster development requires on-going competence building

Dynamic change within and beyond clusters through various transformation processes such as digitalization and green economic growth requires constant development of skills and knowledge of the cluster management staff.

Cluster managers are expected to be well-grounded in a cluster's specific economic and technological field. This includes business as well as the relevant technical issues.

Also, they must know the relevant policies and the policy makers. A key success factor is motivation and passion of cluster managers. One has to be able to "sell" the cluster idea and to convincingly communicate the benefits. Only then other cluster actors can be sensitised and convinced to get actively involved in the cluster.

In times of rapid change, cluster managers must be flexible in order to continuously adapt the existing services to the needs of the cluster. They must be prepared to terminate insufficient ones or develop new promising support measures.

Regarding the job profile of a cluster manager, there are various areas of competence that need to be further developed on a regular basis. These include the following:

Technical knowledge:

- Knowledge of the cluster's specific sector/industry/economic field
- Technological expertise
- Market knowledge

Methodological skills:

- Project management tools
- Innovation management tools
- Communication / PR / moderation skills including creative techniques
- Intercultural competencies
- IT / software / knowledge management skills

Strategic Management skills:

- Business consultancy know-how
- Strategy development tools
- Business Modelling
- Leadership capacities, team management

Process management and controlling skills:

- Financial planning
- Quality management tools

Knowledge on cluster-related policies and funding programmes:

- Regional/national cluster-related policies (economic and innovation policy)
- Regional / national subsidies / promotion programmes
- International subsidies / promotion programmes

Language skills:

- Business English skills





Developing staff competencies

Competence building in cluster organisations

As previously mentioned, there are different areas of competence where cluster managers should extend and deepen their capabilities and knowledge on a regular basis. One can distinguish between **basic**, **advanced** and **expert level** of skills and knowledge.

(1) BASIC LEVEL

- Sufficient knowledge of cluster's specific sector or economic field
- Project management competence
- Adequate communication skills
- At least advanced English skills
- Limited work experience in cluster-related areas

(2) ADVANCED LEVEL

- Deeper knowledge of cluster's sector or economic field
- Profound project and Innovation management skills
- Moderation skills
- Business fluent English skills, second foreign language
- Professional work experience in cluster-related areas

(3) EXPERT LEVEL

- Specialised knowledge of cluster's sector or economic field
- Excellent presentation and moderation skills
- Business fluent English skills, second foreign language
- Comprehensive work experience in cluster-related areas
- Leadership skills

Training approaches



Aside from individual HR development through systematic training agendas in the cluster organisation, it is important to further develop relevant knowledge and skills through other formats like:

- Attending cluster networking conferences – national and international
- Attending policy events
- Company visits
- Organising cluster management team-building formats

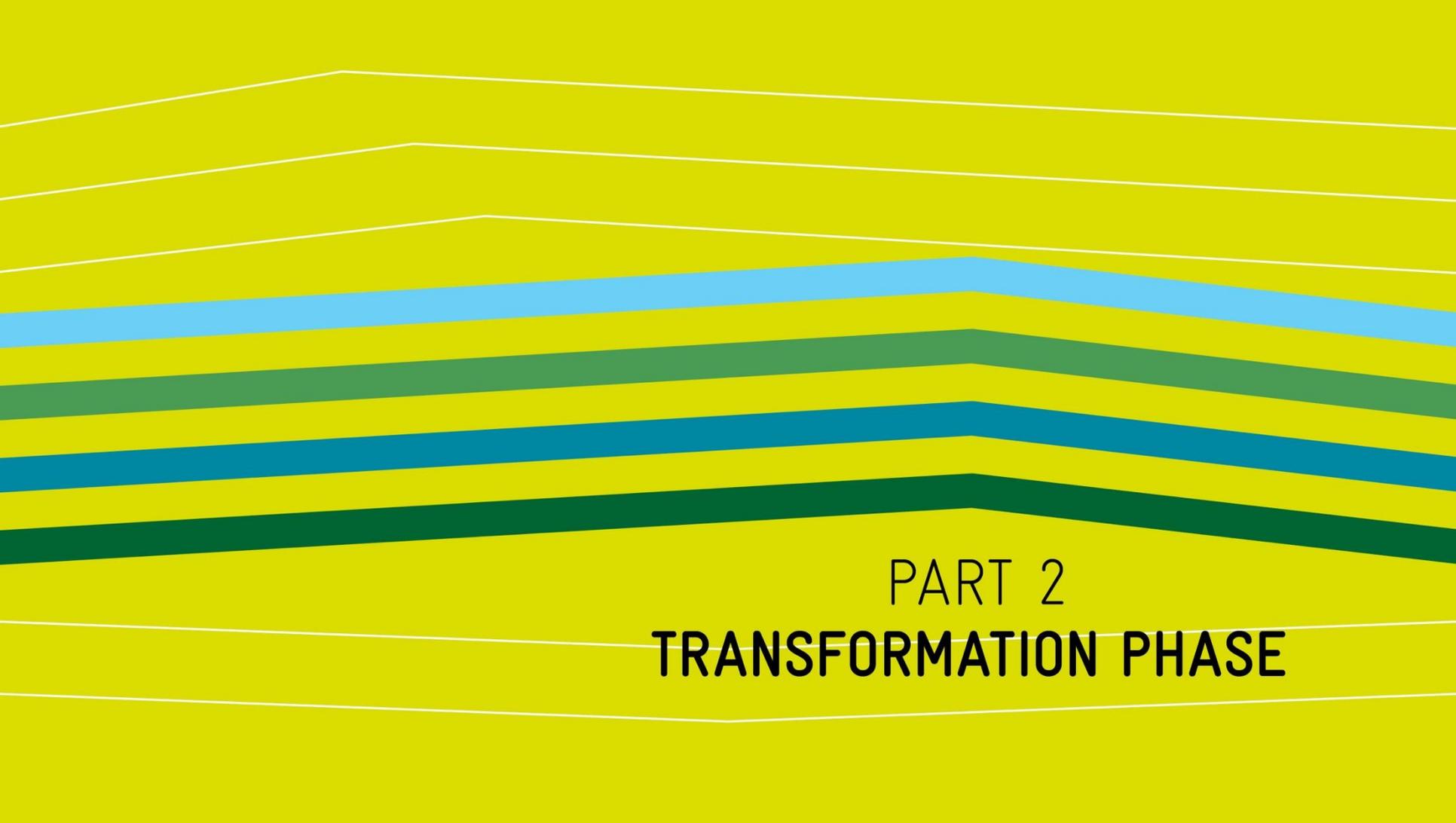




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PART 2
TRANSFORMATION PHASE



OVERVIEW OF PART 2: **TRANSFORMATION PHASE**



- **Introduction**
- **Step by step process for transforming**
 - › **STEP 1: Identifying trends and challenges**
 - › **STEP 2: Stepping beyond cluster boundaries**
 - › **STEP 3: Becoming integral part of an innovation ecosystem**
- **Further readings**





From advanced operationalisation to transformation

Advanced cluster development is often a result of professionalising its management, implementing sophisticated services and building common trust among cluster actors over a long period of time. After a while, clusters are about to enter the next development level where they are confronted with transformation processes. This means that clusters need to deal with issues concerning strategic foresight to better respond to changing market requirements. What are relevant future trends for the cluster? How will the sector change? Which challenges and opportunities will arise for the cluster and its participants? How will cluster-related economic structures transform due to increasing convergence of technologies and changing market conditions? And how can a cluster respond accordingly by modernising and reinventing itself?

8 KEY QUESTIONS when starting

- (1) Is monitoring and evaluation a basis for strategic learning?
- (2) Is there a formal or informal change agent team? Can cluster managers be seen as “clusterpreneurs”?
- (3) Are cluster actors involved strategic processes?
- (4) Are the cluster actors sufficiently exposed to economic transformation activities?
- (5) Are there enough opportunities and encouragement among the cluster actors to identify new trends and to turn them into new ideas and actions?
- (6) Are change, innovation and sustainability topics for the development of the cluster?
- (7) Is there a simple vision for the cluster?
- (8) Is this vision continuing to be actively communicated internally and externally?

KEY ACTIONS The cluster is on the verge of becoming an active driver of transformation. Structures and activities that have been successful in the past may now change with regard to future challenges. What are key fields of action? It should be noted that the following sequence is not fixed and may vary from case to case.

1

Anticipating future developments and managing change

2

Going beyond cluster and regional borders

3

Driving future-oriented regional development





Step by step process for transforming

In order to develop towards a cluster that is capable of acting as an enabler of economic change and as a lever to reach Sustainable Development Goals, sophisticated activities with regards to strategic foresight, cross-clustering and integrated regional development need to be performed.



Identifying trends and challenges

STRATEGIC FORESIGHT

CHANGE AND INNOVATION
MANAGEMENT IN CLUSTERS



Stepping beyond cluster boundaries

CROSS-CLUSTERING

CROSS-BORDER
COLLABORATION



Becoming integral part of an innovation ecosystem

CLUSTERS AS TOOL FOR
REGIONAL DEVELOPMENT





Step 1: Identifying trends and challenges



Identifying trends and challenges

STRATEGIC FORESIGHT

CHANGE AND INNOVATION
MANAGEMENT IN CLUSTERS



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REGIONAL DEVELOPMENT





Strategic foresight

Industrial transformation and converging technologies change the rules of the game

The way in which innovation is created is different today than it was in the past. Different determinants and trends have been responsible for this:

- **Technologies have become increasingly convergent** and now penetrate a wide range of segments of the industry. (e.g. analogue voice telephony and digital data transfer)
 - The complexity of the individual innovations continuously goes **beyond the technological capacities of a company**.
 - Many innovations are created by the **connection and combination of different technologies and industries**. Within established industries, incremental innovations may generate important competitive market advantages.
 - **Digital transformation**, in particular, affects all industries in multiple ways. New digital products and services associated with the “platform economy” have hit the market with dynamic effects. Business processes and activities are moved into the digital realm and business networks are now interconnected digitally across borders.
- Many **high-tech innovations require long development lead times** before they can be introduced to the market. The “**Valley of Death**” of an innovation increases for innovations that depend on complex production processes or that involve new production processes as integrated elements of innovation.
 - The role of **intellectual property rights (IPR) and data protection** in innovation processes has changed. Established protection mechanisms (patents, secrecy) compete with the new methods of innovation management (e.g. open Innovation). Also, new digital innovation ideas are often not initially covered by adequate cyber security solutions. This can create certain economic risks.
 - Considering the greater importance of **green and circular economic activities**, innovation processes and outputs must operate in an environmentally friendly and sustainable manner.

Taking into consideration the above-mentioned trends and determinants, innovation processes are becoming increasingly demanding, complex and time-consuming, especially for SMEs. Therefore, interactions between stakeholders with different competencies are required more frequently.





Strategic foresight

Clusters as agents of dynamic transformation

The above-mentioned trends accelerate change processes and increase challenges for companies to modernize and diversify their business for future competitiveness. Clusters are by nature ideally suited to support bridging competence and/or capacity gaps of member businesses. Yet, the cluster management needs to take on a new role. They must be well informed about specific members needs. At the same time, they must also be familiar with relevant trends and potential future developments with regards to cluster-related technologies, value chains and market needs. Anticipation

and foresightedness are becoming key factors and an integral parts of the monitoring. In fact, a cluster organisation has to equip itself with new knowledge on a regular basis. They must be able to integrate it into service activities for the cluster actors. New cluster activities where cluster management and cluster actors jointly map out future trends and challenges become increasingly relevant.

This changing role of clusters and the associated requirements and tasks will continue and even accelerate over the coming years. The last chapter presents a more precise [outlook toward 2030](#).





Change and innovation management as key activity of clusters

Every cluster is in danger of “ageing”, losing dynamism and the ability to respond to new framework conditions. Even successful clusters are not immune to losing their innovative strength as success sometimes leads to inertia. Preventing this and finding strategies for future success are the tasks of an active strategic learning culture and management. The basis for strategic learning and management is the will and the ability to **derive the future from the future** and not from the past. However, this requires different forms of collecting information and planning on the part of management. **Change and innovation management** should therefore become a main field of activity in a cluster at the strategic level as well as at the operational level.

Which key aspects should be taken into consideration by the cluster management?*

- (1) **Large and globally active companies** have their own methods and structures to deal with the internal innovation management of the company. This also includes making decisions regarding which of the innovation topics are to be dealt with in-house exclusively and which of them are to be made the subjects of cooperative projects.
- (2) For **medium-sized enterprises**, there are usually standardised methods for innovation management that facilitate the implementation and operation of an innovation management

system. These companies (depending on their size) employ at least one executive or a small staff division that is familiar with innovation management.

- (3) **Smaller enterprises** (even if they are active in the high-tech sector or can be described as innovative) usually do not have a structured innovation management. The standardized methods and procedures of innovation management are often too complex or oversized or do not adequately take into consideration the specific circumstances of the respective enterprises. At the same time, SMEs are specifically dependent on external know-how.
- (4) Often, **SMEs** are unable to provide an appropriate strategic-level effort for innovation processes within their own companies. They are highly market (customer) driven and, most often, the executive management is directly responsible for any innovation initiatives.
- (5) **SMEs** are usually integrated into value chains, often as suppliers. Original equipment manufacturers (OEMs) are at the other end of the value chains.
- (6) **Roadmaps, technology scouting, foresight processes, and similar methods** for assessing future trends and market / technology developments can provide a framework for the innovation strategies of individual companies. A commonly adopted cluster strategy helps SMEs to jointly track a broad market or application spectrum.





Change and innovation management as key activity of clusters

- (7) With a **cross-stakeholder innovation or cluster strategy**, clusters can identify and reduce the economic risks that lie in the innovation process for SMEs because they make the needs of their customers more predictable. Industry roadmaps can be similarly useful.
- (8) **Working groups (including innovation labs and innovation arenas)** initiated and coordinated by cluster or network management can be an ideal open innovation platform and a starting point for concrete innovation processes.
- (9) **Cluster managements** can also act as **external innovation experts** for their member SMEs. They enjoy the benefit of trust and neutrality as opposed to external consultants. Often, they also act as project coordinators in later phases.
- (10) **SMEs** most easily find partners for innovation in the familiar environment of their own cluster. A condition for this, however, is a professional cluster management. The more specific the requirements, the more willing are stakeholders to engage in supra-regional networks. This is especially the case in the absence of a critical mass or sufficient competencies within their own cluster.
- (11) **Radical innovations** are relatively rare. In daily business and when defining their service portfolios, cluster managements have their focus on incremental innovations. Providing support for the transformation of sub-industries in the course of an implementation of radical innovations can also represent an important value-added service by cluster management.





Methodologies for future-oriented cluster services

Select methods of strategic cluster innovation management

LEVEL	CLUSTER-RELATED
Innovation strategy	Roadmapping, portfolio analysis, international determination of position, cluster strategy, framework of SME strategy
Internal conditions (Innovation culture)	Advanced training options, connection of industry and research, working groups, innovation labs, open innovation arenas
Operative innovation management	Strengthen contacts with cooperation partners, innovation matchmaking, technology transfer
External conditions	Joint purchasing platforms, recruitment of qualified personnel, contact with public authorities and multipliers
Transfer of results	Common brands or processes, innovation packages



Methodologies for future-oriented cluster services

Exemplary method: Roadmapping

Roadmapping means graphically noting methods in order to present complex scenarios including their dependencies in terms of time and pathways. They are often used for complex projects to develop strategies for product families, industries, or even clusters. This method is about visualizing the knowledge and the findings of experts in a mode-rated dialogue, and reaching a consensus based on the processes presented and the factors illustrated.

This results in roadmaps or structural plans that provide insight into the complexity, the critical development paths and the temporal development of an industry.

The major advantages are:

- Visualization of complex processes
- Substantiation of statements and determination of events, dimensions, and relations
- Reduction of complex connections and dependencies on the central aspects
- Multidisciplinarity through involvement of different expert groups

This method is also used in various research and development areas, including product roadmaps, technology roadmaps, research roadmaps, and industry roadmaps.

As a practical example, we would like to present the **Visual Roadmapping** method here. Besides the technical aspects, this method includes socio-economic factors of influence and effects on the economy and society. Such questions are of critical importance in connection with radical innovations. A visual roadmap categorizes the following four relevant aspects that address a specific problem (for example, industry development or topics relating to the corresponding value chain).

- **Socio-economic factors of influence** (legal, economic, social conditions, phenomena, and requirements)
- **Enabling technologies** (scientific-technological requirements for the respective topic)
- **Development of the topic to be considered** (central aspects and milestones that are of importance for the development of the topic)
- **Effects** (economic and social effects, but also new product and service offers)

Recommended actions are articulated at the end of the process.

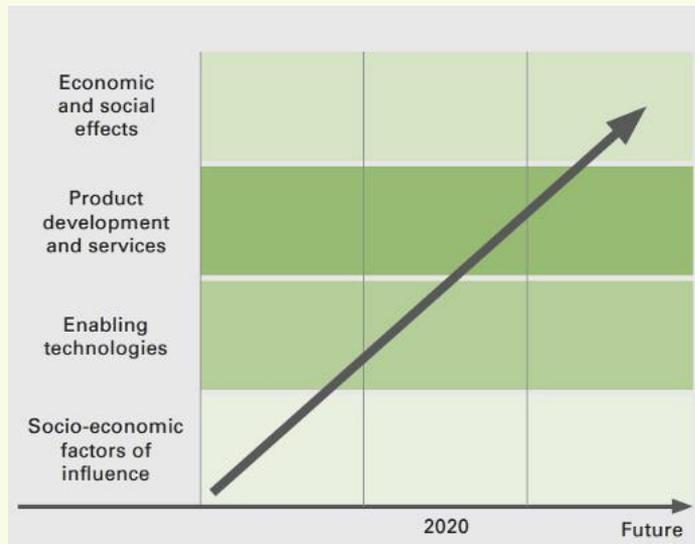




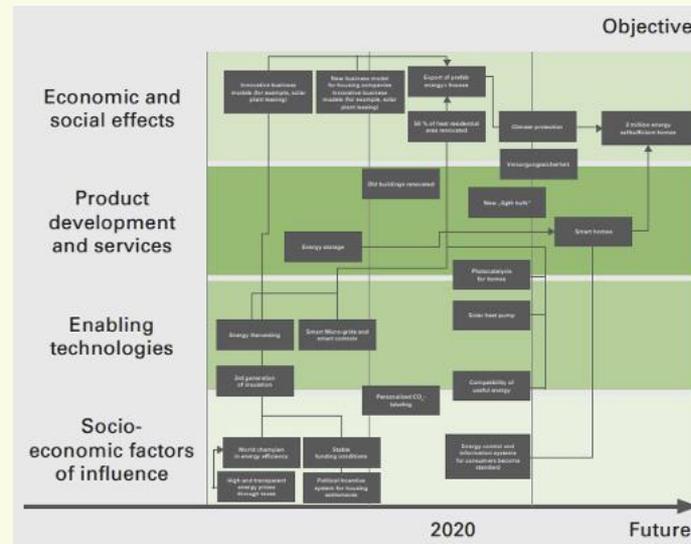
EXAMPLE Methodologies of future-oriented cluster activities

Visual Roadmap in the field of climate / environment / energy*

Basic template



Result of moderated workshop with expert group





Step 2: Stepping beyond cluster boundaries



Identifying trends and challenges

STRATEGIC FORESIGHT

CHANGE AND INNOVATION
MANAGEMENT IN CLUSTERS



Stepping beyond cluster boundaries

CROSS-CLUSTERING

CROSS-BORDER
COLLABORATION



Becoming integral part of an innovation ecosystem

CLUSTERS AS TOOL FOR
REGIONAL DEVELOPMENT





From sectoral to cross-sectoral cluster approach

Tapping into new cluster areas

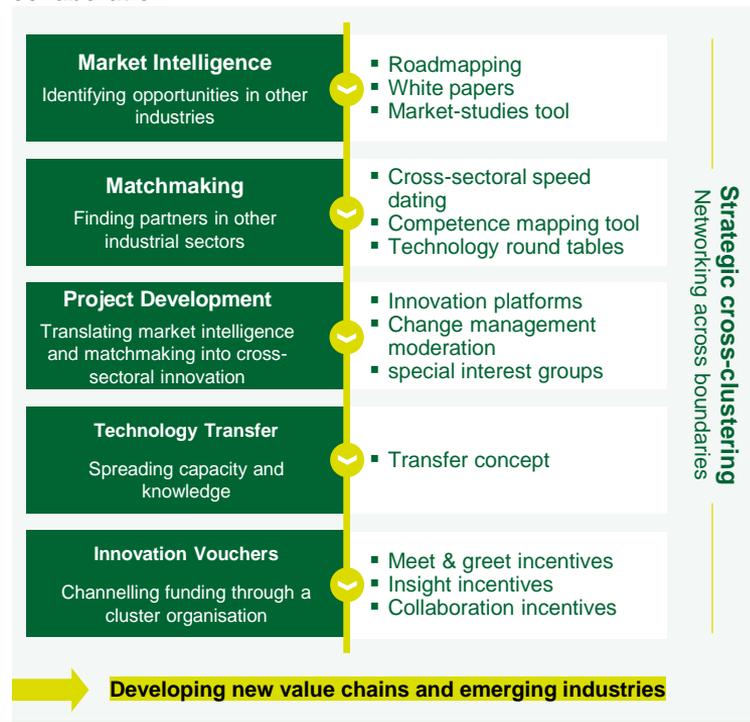
Innovation should not be seen as a target but rather as an instrument to better prepare for industrial transformation processes. During recent years, more and more cluster managements have recognized this potential. This is why innovation management has become increasingly relevant.

Furthermore, clusters have also recognized the **potential of collaborating across their industry boundaries** within the framework of structural change. As mentioned, innovation often happens through connecting and combining different technologies and industrial competences. This is why the understanding of the cluster concept has changed towards “clusters of related industries” and making better use of the complementarities among them to boost growth. Therefore, clusters operate beyond the borders of industrial sectors by integrating different industries into an already existing or newly established value chain to engage in cross-clustering*.

How can cluster entities create a favourable environment for facilitating cross-sectoral cluster collaboration?

There are multiple instruments and services that can be used by cluster organisations to promote cross-clustering. The following overview shows a good example of an integrated service portfolio geared towards cross-sectoral collaboration.

Service portfolio for the promotion of cross-cluster collaboration





EXAMPLE

From sectoral to cross-sectoral cluster approach (1/2)

Cross-Cluster Workshop “Aviation meets Wind Energy”

The increasing proliferation of off-shore wind parks has led to icing issues on the wind mill blades during winter seasons. While this is a relatively new issue for off-shore wind producers, it is a well-known problem for companies in the aviation sector. In 2017, the Renewable Energy Cluster Hamburg and the Hamburg Aviation cluster bundled their respective competences to jointly solve this challenge. Cross-Clustering was the key to success. The matching of the problem solver with problem owner was moderated by the cluster managers.



© Cluster Renewable Energy Hamburg

Cluster-to-Cluster Matchmaking

Going international can take on a new dimension when shifting from export promotion to engaging other clusters as “problem solvers”. Often, cluster actors from smaller countries must “go international” in order to find competitive partners that can help to solve their problems. This is a core aspect of international cooperation.

International cluster matching are good platforms to meet and to be met. In a 2017 meeting in Germany, the matching of problem owners with problem solvers resulted in 15 dedicated cross-clustering projects.



© ClusterAgentur Baden-Württemberg



EXAMPLE

From sectoral to cross-sectoral cluster approach (2/2)

Business Bridges/Digital Transformation in Serbian Automotive Industry,

clusters: Automotive Cluster Serbia & ICT Central Serbia

CHALLENGE	CLUSTER OBJECTIVE	KEY FACTORS & INSTIGATORS FOR SUCCESS	RESULT
<p>Global trends such as digital transformation, digitalization of value chains and manufacturing specific elements like Industry 4.0 increasingly have impacts on all industries and sectors in Serbia. The degree of digitalization of business processes within industries, between players of (horizontal) value chains and within single companies (vertical value chains) will increase enormously in the coming few years.</p>	<p>To develop a format (Business Bridges) to initiate cross-industry cooperation and increased IT solution usage in non-IT industries.</p>	<p>First step was the assessment and analysis of demands for IT solutions for Serbian companies based on interviews with German buyers and Serbian suppliers. As a second step, conferences took place regularly with members of both AC Serbia and ICT Central Serbia cluster on important digitalization and Industry 4.0 trends, presented by large automotive companies (OEM and TIER1) and IT companies. B2B meetings between companies from various sectors are a vital part of these conferences. Finally, workshops on most relevant digitalization topics in the automotive industry are being organised.</p>	<p>A number of small and medium-sized enterprises that participated in the Business Bridges confirm that new ICT-solutions have contributed to the improvement of their business performance. New opportunities for cross-industry cooperation have been created via B2B meetings. A number of enterprises show positive development in increases in sales or product development and innovation.</p>





Step 3: Becoming integral part of an innovation ecosystem



Identifying trends and challenges

STRATEGIC FORESIGHT

CHANGE AND INNOVATION MANAGEMENT IN CLUSTERS



Stepping beyond cluster boundaries

CROSS-CLUSTERING

CROSS-BORDER COLLABORATION



Becoming integral part of an innovation ecosystem

CLUSTERS AS TOOL FOR REGIONAL DEVELOPMENT





Role of clusters in regional economic development

As already pointed out in [chapter 2](#), professional and well-performing clusters represent a critical mass of competences, market knowledge and business intelligence in certain industrial or technological fields. Clusters can serve as ideal vehicles to implement priorities and open up new paths for a future-oriented transformation of regional economic and innovation systems. This applies to both, the strategic and the operational level. Professional cluster organisations foster close relations with cluster actors. This enables them to gain market intelligence prepare for continuous adaptation to new framework conditions.

However, while they are not the only innovation actor in the region, they can be a suitable tool for promoting regional innovation and related economic policies. That is why they can assume an active role during all phases of regional development.

As far as regional innovation or economic strategies are concerned, there are many potential key players. The figure [on the next page](#) reveals that clusters can become key drivers for strategy development and implementation due to their embedded competence and market intelligence.





Role of clusters in regional economic development

		Actors of a regional development process*						
		Economy		Research	Technology Transfer	Politics	Regional Development	
		Companies	Chambers/ Unions	Universities/ Research institutions	Technology transfer /Innovation centers	Regional politics	Economic development	Cluster initiatives
Analysis	Regional capabilities	➡	⬆	➡	➡	➡	⬆	⬆
	Global megatrends	➡	➡	⬆	⬆	➡	➡	⬆
Development	Identification of structure-changing processes	➡	➡	➡	⬆	➡	➡	⬆
	Definition of strategic foci	➡	➡	➡	➡	⬆	⬆	➡
Implementation	Tools / Methods	➡	➡	➡	➡	⬆	⬆	➡
	Implementation of activities and actions	⬆	➡	⬆	⬆	➡	➡	⬆
	Evaluation and performance measurement	➡	➡	➡	➡	⬆	⬆	➡

⬆ Active involvement necessary ➡ Active involvement preferable ➡ Reactive involvement

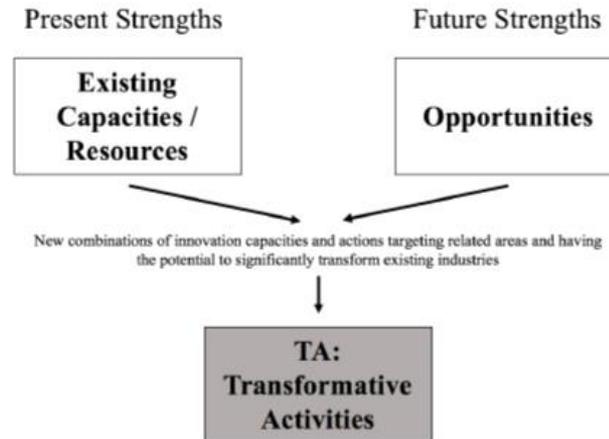




Role of clusters in regional economic development

Today more than ever, regions are interested in predicting future transformative trends. History has shown that just following global trends does not necessarily lead to the desired success. For example, in the 90s, many regions invested in biotechnology. However, only a few really succeeded. What was neglected was the aim to remain competitive on a global level; interventions must be built on existing capacities in existing clusters.

The key question then is: What are the transformative activities of tomorrow that can entirely change a given sector? Transformative activities can be understood as a certain innovation capacity of a group of actors. These are derived from current cluster structures but have the potential to significantly transform existing industries. Identifying these transformative activities is a key to keep a region in a competitive position. It is understood that transformative activities vary from region to region*.

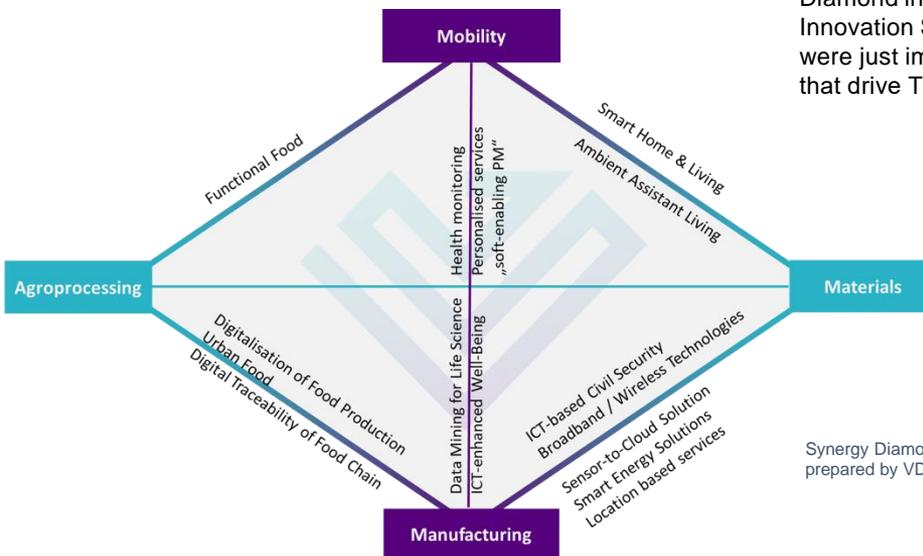




Role of clusters in regional economic development

The S3 Synergy Diamond* has proven to be an appropriate tool for identifying such transformative activities, based on existing clusters. As illustrated below, clusters in a given region (or on national level) are positioned at the corners of the Synergy Diamond. Transformative activities can be identified at the edges between the corners (i.e. between the existing capacities of the two clusters).

The so-called **Entrepreneurial Discovery Workshop** (EDW) is a promising tool used by cluster managers with select cluster actors to identify such transformative actions**. In close collaboration with regional development agencies and policy makers, appropriate strategies and policy measures can be derived to support the development of these transformative activities. As illustrated below, the transformative activities identified on the edges of the Synergy Diamond in 2018 are now integrated parts of the Regional Innovation Strategy of the Lombardy Region in Italy. Similar EDWs were just implemented in Tunisia to identify transformative activities that drive Tunisia's industries of the future.



Synergy Diamond for Lombardy Region (Italy), 2018, prepared by VDI/VDE-IT.





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The image features a solid yellow background with several thin, white, wavy lines that create a sense of movement and depth. The lines are arranged in a series of peaks and valleys, resembling a stylized landscape or a series of ripples. The word "OUTLOOK" is centered in the lower half of the image.

OUTLOOK



OVERVIEW OF OUTLOOK



- **Clusters as agents of regional and economic transformation**
- **Strengthening strategic cluster partnerships**
- **Clusters as agents to manage crises and rapid transformation**
- **Clusters 2030 – International Experts Venturing a Prediction**
- **Further readings**



Clusters as agents of regional and economic transformation

Unique knowledge about local actors and the specific characteristics of a region

The essential role that clusters can play in the context of regional development is often underestimated. Through intensive contact and collaboration with local companies, professional cluster management can build up an in-depth knowledge of their competencies, challenges, ideas and working culture.

While this knowledge is still rarely used in the context of regional development, it is well-positioned to contribute to the positive development of a region

- In the long term, a cluster can offer an integrated strategic approach to successfully tackle the transformation of the region.
- In the short term, a cluster can serve to confront sudden economic crises (e.g. COVID-19) where quick support for urgent problems is needed.



Clusters as agents of regional and economic transformation



Clusters as agents able to manage global and national crises



Clusters as agents of regional and economic transformation

The role of clusters as agents of regional and economic transformation will continue to grow

Technological convergence based on digitalisation and other innovations serve as levers for modernising existing business processes and for creating new business models. Resource efficiency and environmental pressures are main drivers for clusters to advance beyond their original sectoral realm.

Clusters are becoming an important tool for the holistic development of the regions in which they are located. However, in order to successfully shape the transformation and sustain future competitiveness of the ecosystem, these competences have to be interlinked and complemented with expertise from scientific experts and other professionals from partner clusters in other regions. Mission-oriented strategic goals targeting transformative trends must be defined and underpinned with measures that are collaboratively implemented by all relevant actors of the ecosystem.

Moreover, cluster development is no longer only about developing the cluster itself. It constitutes an important piece of the effort to successfully transform the ecosystem sustainably: economically, socially and ecologically. Meeting Sustainable Development Goals (SDG) will be a major indicator in cluster developments in the future.

Cluster managements face increasing complexity

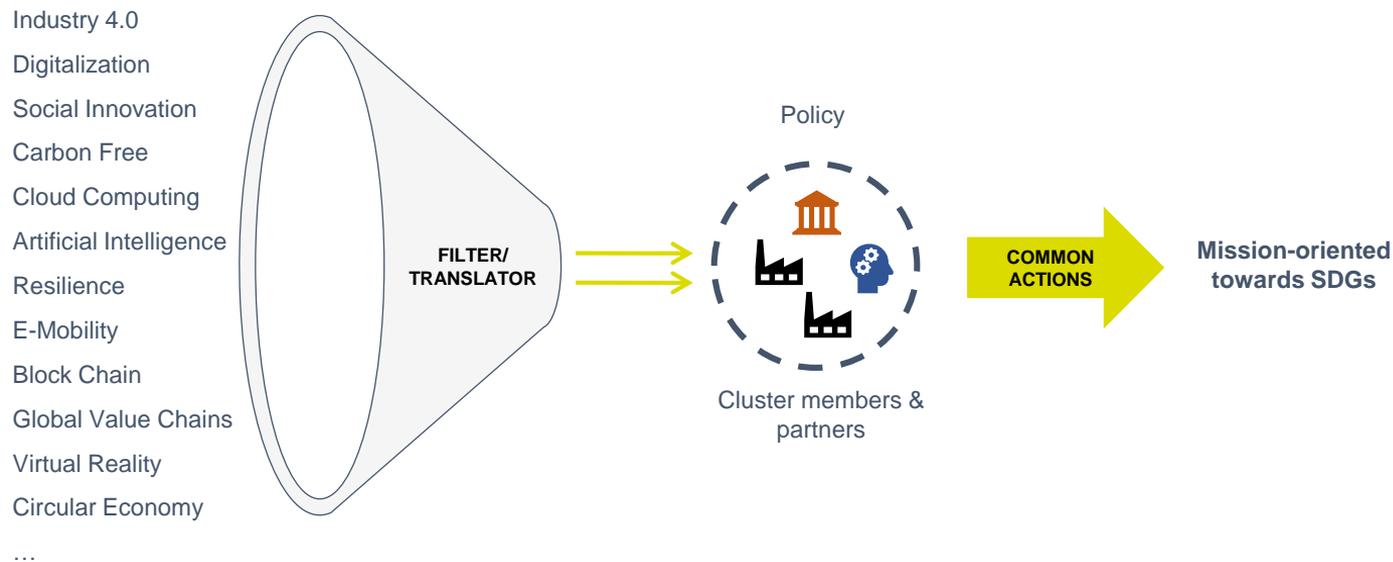
The role of clusters changes and increases in complexity. Megatrends such as digitalisation and resource efficiency present far-reaching transformations with significant impact on businesses of cluster members.

They comprise additional associated technological and social 'sub-trends' such as industry 4.0, artificial intelligence, smart and sustainable mobility and more. The many trends need to be properly filtered and translated in terms of their relevance to the development of a cluster and its entire ecosystem. Targeted support for cluster actors on the one hand and professional advice for policy makers on the other hand will increasingly depend on successfully filtering and translation of those trends.



Clusters as agents of regional and economic transformation

Clusters as experts and translator of trends





Clusters as agents of regional and economic transformation

How to meet these complex requirements as a cluster management?

Competences must be bundled to know about trends relevant for a cluster's development. It is necessary to filter and translate them in a targeted way for the benefit of cluster actors, policy makers and other stakeholders.

The composition of the cluster management team becomes more crucial than ever before. Skill requirements must be wisely identified and corresponding gaps need to be addressed.

NETWORKING EXPERTS

- Calm and friendly
- Self confident and ambitious
- Communication skills
- Empathy
- ...

TOOLS AND INSTRUMENTS

- Strategy
- Action Plan
- KPI
- CRM
- ...



TECHNOLOGY/SECTOR EXPERTS

- Technical Know-How
- Branch / Sector Knowledge
- Future Trends
- ...

ORGANISATIONAL MANAGEMENT SKILLS

- HR-Management
- Financial Management
- ...



Clusters as agents of regional and economic transformation

Supplementing expertise through strategic partnerships

In times of digitalization, economic and socio-ecological transformation, clusters are required to set up professional cluster management teams covering different fields of expertise and to closely collaborate with the cluster actors. What is more, to increase the innovation capacity of clusters and its members, cross-cluster and cross-border collaboration gain more and more importance. This contributes pooling competences and resources through joint strategies and joint projects.

Different pathways and motivations for strategic partnerships are possible. For example:

- Cluster-to-cluster collaboration for mutual learning on cluster management level (e.g. skills development for cluster managers, technological trends, best practices of cluster services, etc.)
- Identifying international innovation hot spots and approaching technological leaders for potential collaboration
- Untapping new international markets relevant for cluster actors
- Initiating or sustaining cross-border partnerships on B2B level regarding commercial activities
- Initiating international joint R&D projects among cluster actors

Therefore, building and sustaining cross-border partnerships across industrial and technological boundaries becomes a key task of professional clusters.



Strengthening strategic cluster partnerships

Beyond cluster internationalisation

Although clusters are characterised by proximity of actors, there have been several attempts to give clusters a more international and global dimension. Approaches, like the “Virtual Cluster Initiative” aimed to strengthen the competitiveness and to increase the level of awareness of the SMEs involved through promoting cross-border links between specialised hubs and innovation hubs⁴. However, this effort failed since the added value compared to firm-based strategic partnerships and the traditional cluster internationalisation approaches were comparatively low.

Nevertheless, there was a need to use potential cluster initiatives for more than export promotion or initiating joint R&D projects funded by multilateral donors (as was common 15 years prior).

The work of the European Cluster Excellence Initiative (ECEI) in 2009 revealed that two aspects became more and more important in connection with cluster internationalisation:

- **Long-term:** Internationalisation, as cluster development itself, is a long-term process. Many cluster internationalisation efforts failed because the partners involved were only looking for quick wins. Better outcomes resulted from efforts where cluster initiatives were engaged in internationalisation efforts over a longer period.
- **Strategic:** Positive impacts resulted from those cases where international cluster partnerships aimed at a higher and more strategic level.

Consequently, the European Commission adapted their cluster internationalisation policy to implement new support schemes to help cluster initiatives to enter long-term internationalisation engagements with a strategic dimension. Two successful support schemes are presented on the right.



Strengthening strategic cluster partnerships

Building and sustaining international cluster partnerships – the European approach

The increasing relevance of international cluster partnerships has already become a central topic in European cluster policy. The European Commission launched the „**European Strategic Cluster Partnerships**“ through financial incentives to encourage clusters from Europe to actively build up collaboration across regional and sectoral borders. These partnerships aim at bundling resources and knowledge in order to elaborate joint strategies with concrete actions for the benefit of the SME members.

The European Strategic Cluster Partnerships are comprised of two modules:

- (1) The **European Strategic Cluster Partnerships for Going International (ESCP-4i)** is designed to develop and implement joint internationalisation strategies to support SME relationships with third countries. They contribute to the development of common actions such as business missions, cooperation agreements, gateway services, export consortia, and more. This effort is designed to strengthen the access of European SMEs to specific third markets and initiating a long-term cooperation agenda with strategic partners in third countries*.
- (2) The **European Strategic Cluster Partnerships for Excellence (ESCP-4x)** are transnational cluster partnerships selected under the European Cluster Excellence Programme as part of the European Commission's COSME programme. The action is designed to facilitate cross-cluster networking and learning as well as to support the professionalisation of specialised and customised business support services for SMEs. The action will help drive the development of cluster management excellence and formation of strategic cross-regional collaboration among industrial clusters across Europe**.



EXAMPLE Strengthening strategic cluster partnerships

Building collaboration between Danish and German cross-border ecosystems of robotics and industrial electronics

In 2019, a study on the potentials of strengthening the Danish and German cross-border collaboration in the fields of robotics and industrial electronics was conducted.

On the Danish side, the overall goal was to identify relevant German innovation clusters as well as to pinpoint potential cooperation partners along the value chain in Northern Germany. The study included, among other things, hands-on recommendations on how to initiate cluster-to-cluster collaborations around technical R&D projects, commercial activities and attraction of professional talent*.

Methodological steps applied:

- Analysis of R&D data** Detailed analysis of 200,000 publicly co-financed R&D projects in Germany.
- Identifying key actors** Identification of German R&D key actors from academia and industry as well as their R&D scope.
- Expert opinions** To further qualitatively evaluate key actors and identify additional actors.
- Shortlisting of key actors** According to the criteria agreed upon with Danish cluster managers.
- Profiles on key actors** Characterization of relevant actors based on publicly available information.
- Interviewing cluster managers** To validate and verify potential interest for cross-border collaboration.
- Identification of entry Points for collaboration** **Development of hands-on strategies on how to best approach the target group.**
- Identification of partners from academia** Analysis of academia with regards to attracting talents to the strongholds.

Potential entry points for cross-border activities along the value chain:





EXAMPLE

Clusters as agents to manage crises and rapid transformation (1/2)

It is well known that crises often serve to initiate industrial change. What is often overlooked is that in many cases, cluster initiatives have served as change agents. The following two examples illustrate this.

The AVEASEN Case (Financial crisis 2008 – 2010)

The financial crisis in 2008 has left its mark in Spain. Due to budget constraints, the Spanish Government slashed subsidies for renewable energy projects. This included wind and solar energy parks which were already installed with “guaranteed” government support for 10 to 20 years. Consequently, international investors and pension funds promised to ban the renewable energy in Spain altogether. In addition, many Spanish renewable energy SMEs went bankrupt. In the Valencian region, the number of SMEs dropped from 235 to less than 100. Obviously, all of this also negatively impacted the functioning and sustainability of the Valencian Region Renewable Energy Cluster (AVAENSEN). This had two consequences: cluster transformation and market adaptation.

Faced with these challenges, AVAENSEN and its cluster actors needed to radically reinvent themselves. Given that the Spanish renewable energy sector was gridlocked, the cluster actors were forced to diversify their offers in the Spanish market (e.g. energy efficiency, smart cities, circular economy). They also expanded their core activities in renewable energy-friendly markets internationally. Through the Tailored Action Plans, AVAENSEN supported its cluster actors in this shift, acting on their most urgent ‘pain points’ (new clients, financing, visibility, internationalisation and partnerships). As a result, today 80% of AVAENSEN’s members are internationally active, whereas previously only 20% were active in foreign markets. There is a common understanding that AVAENSEN and the cluster team were the key drivers in this crisis-related transformation process.



EXAMPLE

Clusters as agents to manage crises and rapid transformation (2/2)

The Alliance for fibre-based materials – AFBW (COVID-19 crisis 2020)

During the COVID-19 pandemic, there was a global shortage of masks and personal protective equipment. Many firms and clusters worldwide successfully shifted textile production to mask and personal protective equipment. Whereas most firms in developing and developed countries succeeded to produce basic cloth face masks, only a small number succeeded to become supplier for hospital and nursing homes by meeting higher safety standards (FFP2).

The cluster management of AFBW realized the huge opportunity for local textile firms to become suppliers for public health system if they could succeed in producing personal protective items like filtering facepiece respirators by meeting European and international standards.

The AFBW Academy offered a tutorial that explained to cluster actors exactly how to meet the requirements for respirators. In addition, contacts were established with local testing laboratories to ensure the high quality of the masks and mandatory certification. As a result, the cluster actors were enabled to produce protective masks and get them tested and certified.

Furthermore, AFBW started lobbying and engaging in policy advocacy campaigns to advertise the new local suppliers to the local government. It increased the pressure on the regional government not to import uncertified masks and protective equipment from abroad rather than purchase certified items locally. Almost overnight, around 65 cluster actors of AFBW shifted their temporary production. Even now, months later, many of them are still active in the textile health production business.



INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (1/6)

Christina Leucuta, Senior Advisor,
CLUSTERO – Romanian Cluster Association

How will the role of clusters change by 2030? What are new opportunities for clusters in the future?

- **Clusters will play a crucial role in developing value chains:** Global value chains will undergo a drastic transformation in the decade ahead. The change will be driven by a push for greater supply chain resilience due to COVID-19, which adds to existing pressures from the technological revolution. While these will present daunting challenges, they will also offer ample opportunities for firms and states alike and will lead to a paradigm shift concerning global value chains development. Clusters will position the European businesses on these transformed global value chains and will offer the way to secure and increase decent and sustainable jobs through a process of re-skilling and up-skilling of employees and entrepreneurs.
- **Boosting smart interregional collaboration through clusters inclusively with emerging countries:** This is vital for supporting innovation, industrial modernization and the scaling up of SMEs. At the same time, the collaboration through clusters offers multiple opportunities regarding the exchange of experience and good practices regarding the fulfillment of the objectives of the 2030 Agenda for sustainable development.

- **Migration of clusters from a sectoral approach to a more mission-oriented approach** (i.e. from Textile cluster towards Creative Cluster, from Agro-food cluster towards Life style Cluster): This will provide multiple collaboration opportunities and possibly new funding sources. The new national and regional smart specialization strategies will consider clusters as main pillars for the national and regional development and for the industrial transformation.

What are potential risks related to the cluster approach?

The lack of a dedicated support for clusters may lead to the disappearance of clusters where the private sector is not yet strong. We need new, agile and cutting-edge instruments if we really want to reinvent sectors and more sophisticated business models.





INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (2/6)

Enric Pedros, Cluster Manager,
Cluster FEMAC in Catalonia, Spain

How will the role of clusters change by 2030?

Clusters will have to become business units by 2030. I am not sure if they become venture capital or just venture innovation units or a mix of both, or why not a prescriber or sales channel. Increasingly changing roles among the members, the faster versus the bigger, the most agile versus the most consolidated, the new market rules (increasingly changing), the complexity of business will force clusters to take a new role, but not only as mere drivers of innovation.

What are the new opportunities for clusters in the future?

- The opportunity will come from two fronts: The need for SMEs to join forces to respond to a more sophisticated and complex demand, but also from the need to incorporate new production, sales and innovation processes, which will make it necessary for clusters to play a more active role in their decision.
- In times where "fast" matters, another opportunity could appear when the European Commission and National authorities realize that the cluster system is the most efficient and "fastest" instrument for the management and transfer of funds for companies and knowledge. But to do so, we must first reduce the public bureaucracy.

What are potential risks related to the cluster approach?

When the theoretical model of Clusters began to be implemented in industrial policies throughout the different regions of the world, they were considered instruments of change in order to reinforce competitiveness. But nowadays, the new technologies make change occur without barely glimpsing before, a trend that warns you of the change. Industrial, European, national or regional policies are late! The Cluster model as we knew it 20 years ago has expired. Before, we were the bridge between companies - the private sector - knowledge centers - universities - and the public sector. Our role must change, we must "understand change" "from within", and this means to understand social changes, climate change, and to act much more quickly. The time between analysis, design and implementation of industrial strategies has become so narrow that part of the cluster's role as a lever for change has decreased.



INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (3/6)

Mareike Boll, Advisor Competence Center Environment & **Steffen Felix**, Sector Project Sustainable Economic Development, Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany

How will the role of clusters change by 2030?

An important subset of clusters are industrial parks (and a further subset of those are special economic zones). Worldwide, we are witnessing a growing interest of governments to establish industrial parks as a driver of industrialization. Global crises, such as climate change, air pollution and the Covid-19 pandemic mean that countries, customers and companies are increasingly interested in standards to ensure that production processes are sustainable and inclusive. In order to respond to this trend and to promote structural transformation, industrial parks will likely want to play a more active role in becoming more sustainable with regards to their social, economic and environmental impacts.

What are the new opportunities for clusters in the future?

Industrial parks have the opportunity to become more sustainable. The cluster as well as the industrial park approach adopted by GIZ (see [Sustainable Industrial Areas](#)) ensures environmental protection,

socially fair and responsible business practices as well as economic viability. Through the provision and use of economically, environmentally and socially shared services within the industrial parks, companies in those parks can become more competitive, maintain social standards, and better address environmental challenges. Adopting such an approach and complying with international standards can increase an industrial parks reputation and thus attract further investments.

What are potential risks related to the cluster approach?

The success of clusters and industrial parks is dependent on their ability to compete and to offer cost-effective solutions. But many industrial parks lack technical capabilities, management resources and financial means. Therefore, adopting a more sustainable approach as described above can be difficult. But if that is not done, then industrial parks risk their reputation and will be seen as spaces that lack social rights, environmental protection and economic viability. So the end game is clear, it is now about making it happen...



INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (4/6)

Hannes Finkenbrink, Advisor Economic Policy and Private Sector Development, Gesellschaft für Internationale Zusammenarbeit (GIZ)

How will the role of clusters change by 2030?

What are the new opportunities for clusters in the future?

- Some industries and value chain elements will geographically disintegrate and form new **virtually connected clusters**. These clusters access expertise from anywhere on the globe (this applies for instance to research and development, software production, analytics, virtual support, medical supplies). Key challenge will be how developing countries can contribute to these virtual clusters and **what infrastructure (soft and hard)** is required to connect to them.
- Ongoing automation and the fear of VC disruptions will decrease the significance of labor costs in many more industries while increasing the significance of **knowledge and expertise**. Accordingly the significance of industry relevant knowledge creating institutions (think tanks, R&D, academia, vocational training, etc.) for the competitiveness of a cluster will continue to increase (**knowledge based cluster**). The competitive edge will be created through the quality of the link between companies and the knowledge creating institutions so that the supply and demand

relationship for very specific Knowhow is in balance. Accordingly access to **global talent** and adequate migration policies will gain of significance.

- Sustainability** in the value creation process will cease to be a nice to have but become a mainstream competitive factor. New industry standards in terms of ecological efficiency will be a requirement to participate in many lucrative industries. Only clusters that can provide these standards will be attractive for foreign direct investment.

What are potential risks related to the cluster approach?

- A **political disintegration** of regions that will cut access to markets and Know-how.
- The rise of **virtual clusters** that will dissolve existing physical clusters in selected industries and for selected value chain elements.



INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (5/6)

Dr. Gerd Meier zu Koecker, Managing Director,
ClusterAgentur Baden-Württemberg, Germany

How will the role of clusters change by 2030?

Successful cluster approaches have shown what cluster-based regional development can achieve, if it is done right. Thus, clusters will play a stronger role in (regional) economic development. We will see a shift from clusters as drivers for productivity and innovation towards cluster as a more flexible tool to support regional developers in different regards, like transformation and resilience.

Especially those cluster approaches will provide tangible impact that are well aligned with other long-term efforts on regional level to assure competitiveness. Thus, we will see a closer cooperation of clusters and other regional entities, like regional development councils, chambers, etc.

Due to the ongoing industrial transformation, many clusters will shift from a sole sectoral focus towards a more mission-oriented focus (e. g. from Automotive Cluster towards Mobility Cluster; from WindEnergy Cluster towards Sustainable Energy or Clean Tech Cluster).

What are the new opportunities for clusters in the future?

There is a huge opportunity for clusters to play a stronger role in regional development. For this purpose they have to understand that regional developers and policies are another key client besides the private sector. Policies and government has not been understood as funding providers rather than as client to be served. This makes it necessary that cluster managements better understand how policy and regional development happens.

What are potential risks related to the cluster approach?

There are two major risks. Firstly, there is a risk that clusters are understood as silver bullet to solve all issues and challenges a region might face. There is also a tendency that clusters are misused for policy wishful thinking. Secondly, in times of increasing public budget cuts there is a mismatch between tasks clusters have to comply with and financial means available.



INTERNATIONAL EXPERTS VENTURING A PREDICTION

Clusters 2030 – Expert opinion (6/6)

Alberto Pezzi, Director of Competitive Strategy at the Directorate General for Industry – ACCIÓ, member of Commission Expert Group on Clusters and Member of TCI Board of Advisors & **Emma Vendrell**, Head of International Projects at the Clusters Unit of ACCIÓ, Spain



How will the role of clusters change by 2030?

Clusters, as a natural phenomenon of industrial economies, will continue to last during the coming years and most probably, productive economic activity will continue to be structured in clusters also in 2030. Regarding the role of cluster organisations, to maintain their relevance they would probably need to evolve towards more flexible and open organisations in order to maintain its alignment to the evolution of a given industry of reference. Moreover, since the convergence of sectors will accelerate in the coming years, cluster organisations should probably be ready to change and to evolve accordingly – sometimes through mergers or sometimes being born in a new niche and emerging activities.



What are new opportunities for clusters in the future?

New opportunities will be linked especially to the capacity of clusters to offer a holistic approach towards new business trends as well as being able to offer a more coordinated response to complex

challenges such as climate change, ageing societies or disruptions (like the Covid-19 pandemic). A concrete opportunity is linked to SDGs and the capacity of clusters to act as a key driver to embed these in companies' strategies and activities.

What are potential risks related to the cluster approach?

The main risk for cluster organisations lies in becoming rigid entities more focused on their own survival (and thus more dependent on structural funds leading to them dedicated to grant-hunting, lobbying...) and not being able to remain flexible and adaptive to a changing business environment.

They risk becoming irrelevant if they are not able to offer a unique value proposition that tells them apart from other sorts of organisations and that provides added value to their members.

Clusters have been successful for being fantastic tools for understanding business dynamics in a different, more strategic way.

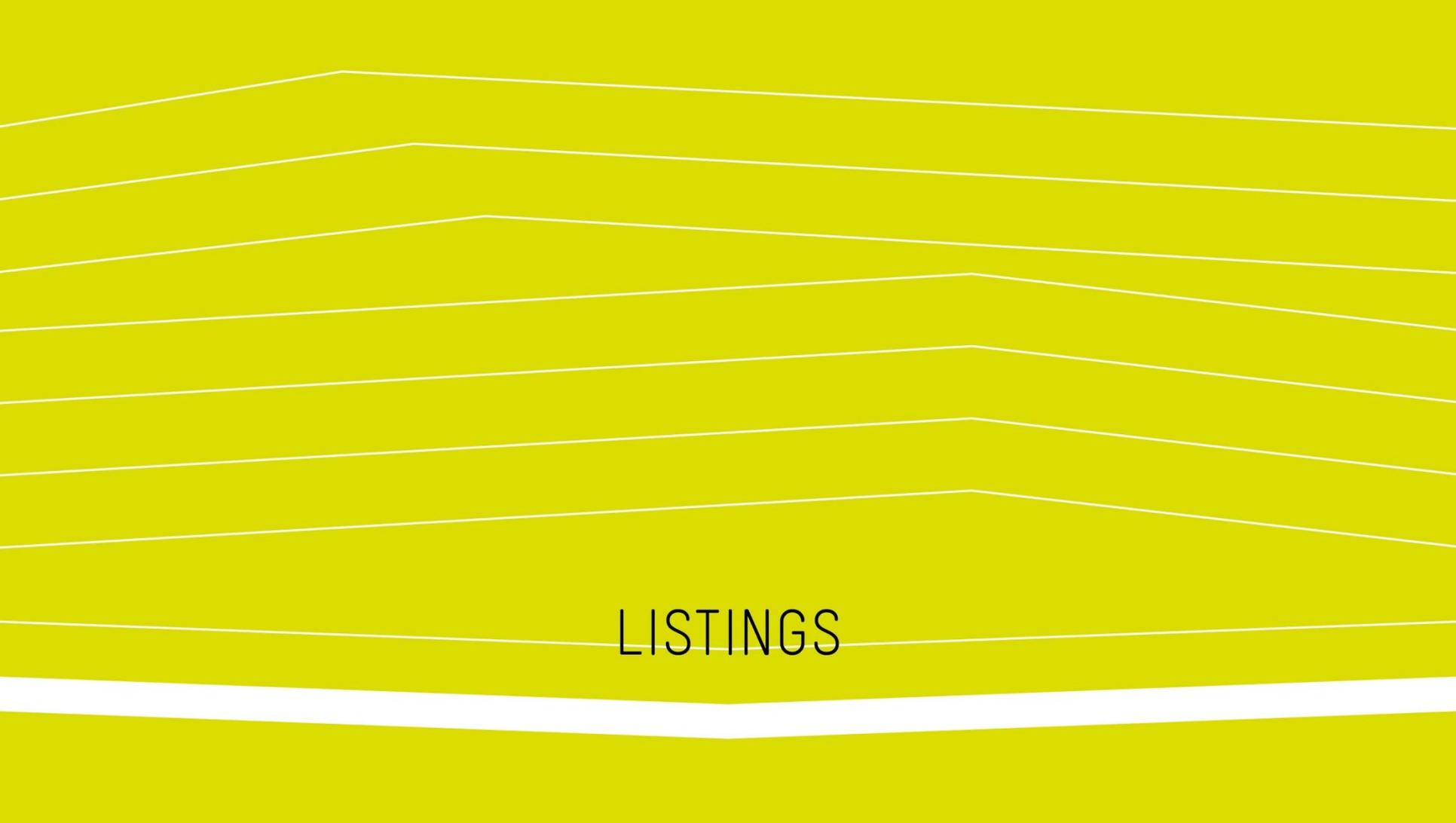
At the moment they become (and partially this risk is already a reality in some cases) the object of the policy, they will become an obstacle to competitiveness and not a way to promoting it. Clusters should continue to be active subjects and not the object of the policy.

These opinions are expressed under a personal point of view and do not necessarily reflect the position of the Government of Catalonia – Generalitat de Catalunya.



FURTHER READINGS

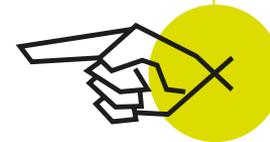
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LISTINGS



OVERVIEW OF LISTINGS



- **All good practices and examples at a glance**
- **Glossary**
- **Further readings**
- **Acknowledgement**



All good practices and examples at a glance

PART 1

EVOLUTION AND RELEVANCE

- Fishery Cluster Uganda
- Automotive Cluster Serbia
- Georgian Apparel and Fashion Association (GAFA)

THE ROLE OF CLUSTER POLICY

- Good practice example for long-term engagement – experiences from Germany
- Good practice example of developing cluster support schemes – experiences from Romania, Tunisia and Georgia
- WICA-Wood Industry Cluster of Albania

PART 2

INITIATION PHASE

- Use cases of cluster analysis
- From demands to key objectives of a cluster
- Cluster Strategies
- Lessons learned

ESTABLISHMENT PHASE

- Ensuring sustainable financing
- Cluster governance structures
- Good practice example for staffing – experiences from Albania
- The Silicon Saxony Case: Willingness of cluster actors to pay for certain cluster services
- Good practice example for developing cluster services – experiences from Morocco
- Developing a cluster brand

OPERATIONALISATION PHASE

- Managing Cluster Projects
- Attracting new Cluster Actors
- Cluster baseline observation – a new analytical approach
- Realigning the Cluster Strategy
- Further development and adjustment of service portfolio
- Internationalisation (EU4SportsClusters)
- Internationalisation (Georgia)

TRANSFORMATION PHASE

- Methodologies of future-oriented cluster activities
- From sectoral to cross-sectoral cluster approach
- Strengthening strategic cluster partnerships
- Clusters as agents to manage crises and rapid transformation



GLOSSARY

Cluster-related terminology (1/2)

Cluster [*]	Clusters are defined as groups of firms, related economic actors, and institutions that are located near each other and have reached a sufficient scale to develop specialized expertise, resources, suppliers and skills. Clusters typically represent a dedicated sector. Clusters can develop from embryonic through to advanced and specialized maturity levels.
Cluster Initiative ^{**}	A cluster initiative is an organised effort aimed at fostering the development of the cluster either by strengthening the potential of cluster actors or shaping relationships between them. They often have a character like a regional network. Cluster initiatives can be managed by cluster organisations or act as a rather loose group of interacting actors without managing entity.
Cluster Organisation ^{**}	Cluster organisations are entities that support the strengthening of collaboration and networking in cluster initiatives and act as service providers by offering or channelling specialised and customised business support services. Cluster organisations are operationalised by a cluster management.
Cluster Actor ^{**}	Cluster actors are on one hand the actors who are located in a given cluster. On other hand, if clusters are understood as an organisation, cluster actors are those entities actively involved in measures undertaken by the cluster management and related actors. In case a cluster (initiative) has a legal form, cluster actors can be considered as members.
Cluster Policy [*]	Cluster policy is an expression of political commitment, composed of a set of specific government policy interventions that aim to strengthen existing clusters and/or facilitate the emergence of new ones. It should be understood as a framework policy that facilitates bottom-up dynamics. This is different from the approach taken by traditional industrial policies, which try to create 'winners'. Cluster policies try to put in place a favourable business ecosystem for innovation and entrepreneurship and thus support the development of new value chains.



GLOSSARY

Cluster-related terminology (2/2)

Strategic Alliance*

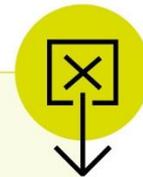
A strategic alliance is a joint activity by at least two businesses with the aim of changing their own situation through the creation of synergies. Under the overarching theme “We’re stronger together“ each of the actors involved contributes special abilities in order to profit from cooperation with other businesses. Such alliances are often seen in clusters, but not necessarily only there.

Value Chain / Value Network / Value System**

In the simplest form of a value chain, raw materials are formed into components that are assembled into final products, distributed, sold and serviced. As products and services became dematerialized and as the value chain itself has not necessarily a physical dimension, value creation happens in a system in which different economic actors (suppliers, partners, customers etc.) are working together to co-produce value (Value Network).

Regional Innovation Ecosystem***

A Regional innovation ecosystem is the evolving set of actors, activities, and artifacts (products, services, technologies, etc.), as well as institutions and the relationships amongst the players, including collaborative (complementary) and competitive (substitute) relations. These relations are important for the innovative performance of a whole region. A regional innovation ecosystem is driven by the importance of spatial factors like location and physical proximity in R&D, innovation and diffusion. Emphasis is on a region as a meso-level unit of analysis, i.e. subnational, however with no explicit definition of what constitutes a region.



GLOSSARY

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