CLUSTRAT

Further thoughts on the strategy development

Discussion Paper

Dr. Petra Püchner

Nina Fritz

Verena Neubauer

Steinbeis-Europa-Zentrum

April 2013

STEINBEIS-
EUROPA-
ZENTRUM

CENTRAL
EUROPE
COOPERATING FOR SUCCESS.

EUROPEAN UNION
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DEVELOPMENT FUND

In CluStrat, a joint strategy shall be developed to advance the exploitation of Emerging Industries (EI) in the CENTRAL EUROPE (CE) cooperation area. Three EI have been selected by the project partnership as a focus of the strategy development within the project:

1. Active Ageing

2. Green Economy / Sustainable Development

3. Sustainable / Intelligent Mobility

The opening-up of these future markets is vital for the future competitiveness of the CE regions in global competition. Beyond these EI, knowledge / technology transfer, internationalization as well as gender and innovation in clusters are to be included into the joint strategy. These topics are considered as Cross-cutting Issues (CCI) relevant in any EI, and they can also be understood as "strategic leverage" for the advancement of the EI.

Each of the CE countries has specific potentials, and gaps, regarding the competences (industries, technologies, R&D capacities etc.) that are required in order to be able to deliver the new products and services which will be demanded in the EI. In this respect, the joint strategy of CluStrat shall propose new measures to support

- the **targeted deployment of regional strengths** (Smart Specialisation) with a view to the EI, as well as

- the formation of **transnational strategic partnerships** to combine the regional strengths in a way that makes efficient use of all the expertise and knowhow present in the CE area.

The idea behind this approach is to identify and make use of complementarities between regions. As opposed to the previously prevailing way of thinking, this presents a paradigm shift: After all, in this approach regions rely on knowhow from other regions wherever they themselves do not traditionally dispose of the required expertise.

Strategic partnerships are therefore vital. But what does this mean? What types of cooperation are required? What do they require as prerequisites? How should they be established? And which measures from policy side can enhance such partnership building and implementation? It is these questions that have to be answered through the strategy.

First suggestions regarding the framework for the strategy development:

- **Supporting needs-based development of products / services**

  The development of new products / services relevant to the EI is often technology-driven, while the actual demands of clients, investors etc. are not sufficiently considered.

→ *The joint strategy should therefore include measures for bringing together R&D, investors, enterprises and clients to identify actual demands in EI*

- **Systemic coordination of potential contributors to EI**

  There is a need to make visible the expertise and knowhow existing both at regional and at transnational (CE) level with a view to each EI, in order to facilitate a cross-sectoral development of new products and services, new technology applications in traditional industries etc.

→ *The joint strategy should include measures for a systemic coordination of all potential contributors to a challenge within an EI, across industry / technology boundaries, both within a region and with a view to cross-regional / transnational collaborations.*

- **Introducing KETs into traditional industries**

  In the Smart Specialisation concept, Key enabling technologies (KETs) represent an important means to support the regional specialization in a "smart" way: Their introduction / application in the traditional industries of a region is an opportunity to further advance their products / services.

→ *The joint strategy should therefore include measures for bringing together the relevant traditional industries clusters from the CE regions with KETs clusters / providers (both within regions and cross-regionally / transnationally)*
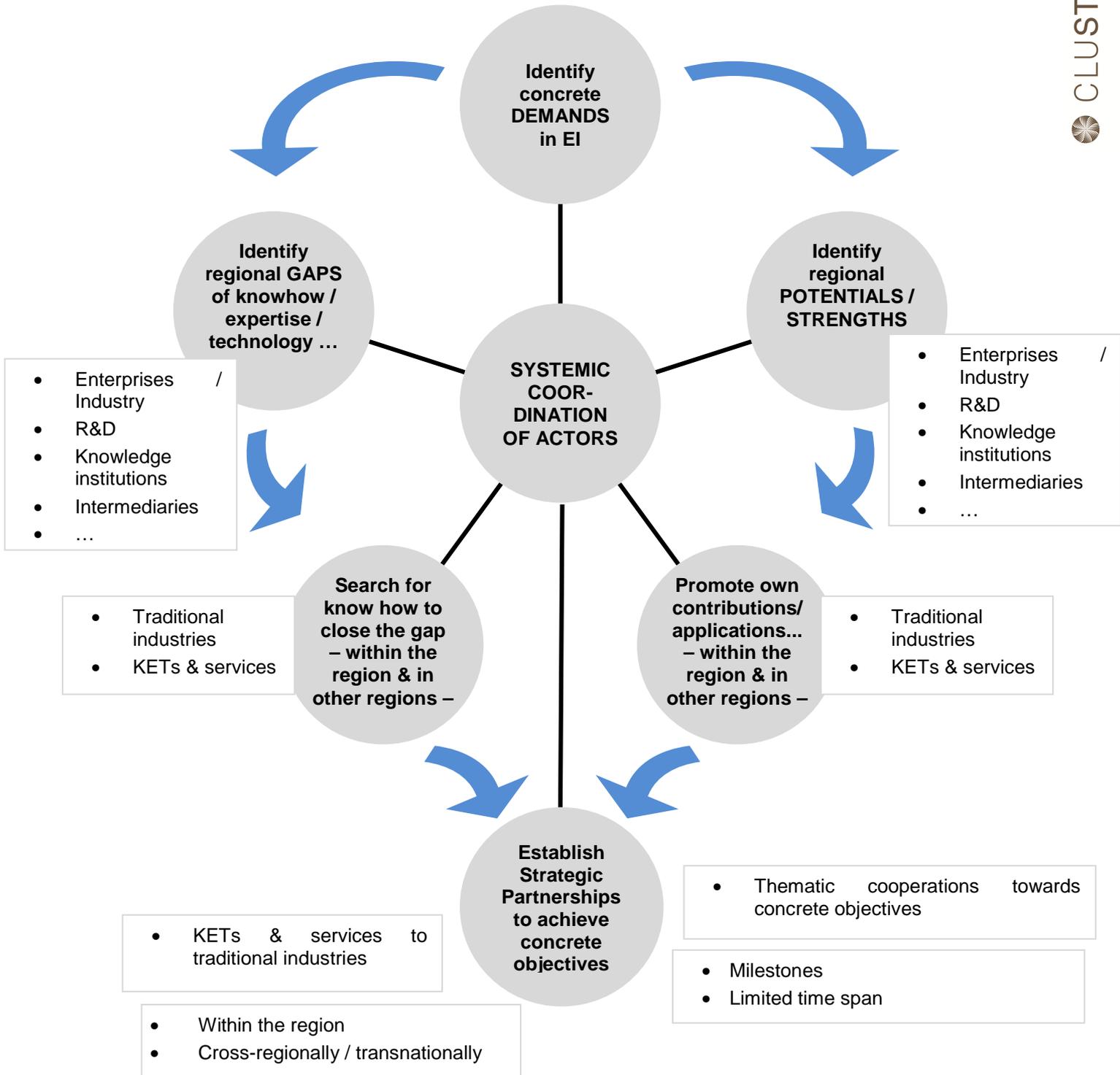
- **Temporary thematic ad hoc cooperation**

  As opposed to long-term cooperation structures, benefits can also be expected from thematically focused and goal oriented collaborations of competent actors.

→ *The joint strategy should include measures to support the setting-up of temporary but very targeted collaborations of all relevant competent actors towards specific goals.*

All of the above suggested measures are to be seen as working together and possibly, new policy concepts and measures can interlink most of those necessary aspects. At the same time it becomes clear that the proposed strategy framework comprises a succession of steps, while the underlying principle is the systemic coordination of the potential contributors and other involved actors.

The measures to be included in the strategy will therefore most probably present different stages of a roadmap for supporting the exploitation of the EI, alongside a systematic coordination of actors, as can be seen in the following picture. A first step will certainly work on regional level, where the systemic approach of joining all relevant actors around the EI is already starting in the CluStrat regions through the expert meetings and workshops.

Identify concrete DEMANDS in EI

Identify regional GAPS of knowhow / expertise / technology …

Identify regional POTENTIALS / STRENGTHS

SYSTEMIC COOR-DINATION OF ACTORS

- Enterprises / Industry
- R&D
- Knowledge institutions
- Intermediaries
- …

- Enterprises / Industry
- R&D
- Knowledge institutions
- Intermediaries
- …

Search for know how to close the gap – within the region & in other regions –

Promote own contributions/ applications... – within the region & in other regions –

- Traditional industries
- KETs & services

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Establish Strategic Partnerships to achieve concrete objectives

- Thematic cooperations towards concrete objectives

- KETs & services to traditional industries

- Milestones
- Limited time span

- Within the region
- Cross-regionally / transnationally

This approach works towards achieving value chains which might go beyond a single region or even country. Through a systemic coordination of actors, competences and knowhow are identified and assembled regionally, cross-regionally and transnationally towards the achievement of solutions for concrete challenges.

Possible scenarios in regard to Emerging Industries are shown below from the German policy dialogue results:

Green Economy / Sustainable Development

For Germany, the main area for policy intervention is seen in the topic of material efficiency and green production. Using less material, recycling of materials during production and after use as well as recovery of all – especially the rare – ingredients in materials and products – those are the main issues to be dealt with in the coming years.

Example: It was one of the findings of the National Policy Dialogue in Germany in the area of Green Economy / Sustainable Development that there is a clear need for a better recycling management with a view to materials and resources. For instance, in cell phones and smart phones materials are used which are not only rare, but also cannot be found in Europe. Thus, not only for the reason of resource efficiency, but also for reasons of autonomy from other regions outside Europe, these resources should be re-used after the life-cycle of the initial product has come to an end.

In order to establish this kind of circular flow of materials, the interests and / or expertise of many actors have to be considered, for instance:

- the producers of the initial product

- the potential re-users of the used resources

- the consumers

- the providers of recycling / waste management processes

A pre-requisite to the systemic coordination of actors towards this objective is someone to formulate the objective in the first place, and raise awareness regarding its benefits. The circular flow to be established might stretch beyond a single country.

Example: Sustainable / Intelligent Mobility

The transport sector is one of the areas which shall contribute novel technology solutions to address cities' needs in the Smart Cities approach. Climate-friendly and smart transport systems including new inter-linked transport modalities and related services are needed. One solution can be based on e-mobility with its connected challenges concerning energy storage & supply as well as transport range – this shows some of the aspects which could become relevant here.

For developing solutions for these challenges, cities have to create platforms which include all relevant players such as the automotive industry, energy suppliers, battery technology / energy storage expertise and transport infrastructure / systems experts. Not all of this expertise might be present in a region – which is why this gap could be closed by involving, for instance, automotive industry or battery R & D capacities from other regions / countries.

In the smart city area we already have such examples as in Amsterdam or Lyon, certainly triggered through the smart city initiative on EU level and the related funding programmes. Here, policy and related instruments are the trigger for bringing forward solution oriented innovation partnerships on city level.

Example: Active Ageing

For Baden-Württemberg, the active ageing market is very much linked to ambient assistant living. Living at home as long and independently as possible is not only a personal concern of many people, it can also save costs for the national health care systems. To facilitate this, there are manifold technological opportunities to support safety and daily-life management at home. ICT and micro-electronics are just two enabling technologies which can come into play in this regard. Applied in construction, interior design, furniture production, production of home appliances etc., they can optimize these products and services. For instance, monitoring systems can be installed in households observing different areas of the household with a view to potential dangers, like irons or ovens which have not been switched off when the inhabitant of a flat leaves it. Also the application of ICT and micro-technology in the care sector opens up improvements for patients as well the staff of care facilities. For instance, through floor mats which are equipped with sensors and placed in front of patients' beds, the staff on duty in care facilities could be alarmed

if patients leave their beds and therefore might need to be supported; the patient knows he is taken care of.

In order to develop these kinds of innovative solutions, the technology providers and appliers have to know about each other and recognize the potentials cooperation. For instance,

- architects, interior designers, manufacturers etc. have to know about the possibilities offered by ICT and micro-technology in order to be able to integrate them into their work.

- the ICT sectors needs to know the specific needs and concerns of the staff of the care facilities in order to be able to develop targeted solutions which actually enter the markets.

- In addition, the specific needs of the patients / consumers of Ambient Assisted Living solutions need to be taken into account (for instance, reluctance to use technological devices on the sides of many elderly people).

In addition, a region might have a strong furniture industry and a diverse spectrum of architectural expertise, but a lack of the specific ICT and micro-technology knowledge required to develop the requested products. Or, the ICT and micro-technology expertise is available, but the furniture and architecture industry are not aware of their presence and / or the potentials of its application in their domestic area of expertise.

In the systemic coordination approach, the region will

- on the basis of an assessment of concrete future demands

- raise awareness on the sides of the regional care sector or furniture / architecture industry regarding the potentials of an application of ICT / micro-technology AND if applicable, raise awareness on the sides of the regional ICT / micro-technology providers of the potential applications of their technologies in these industries

- bring together all actors from the region: bring together the regional furniture / architecture industry or care facilities with the regional ICT / micro-technology providers OR look for suitable providers of ICT / micro-technology solutions in other regions / countries IN ORDER TO (ideally)

- foster collaborations across industry / technology boundaries towards concrete objectives.

Are the traditional cluster policies still feasible in regard to Emerging Industries?

The policy dialogues have shown, that

- Regions with successful cluster policies and cluster strengths are looking for new concepts

- Regions with no or little cluster policy are striving to reach the level of the strong regions in cluster policy

Traditional clusters are either technology clusters or product clusters. This means, that industries of the same sector are clustered to support their competitiveness through new developments or create opportunities for improved market access. The above examples show that the level of such clusters may not be sufficient. They can take a role to deal with the transnational closure of gaps in value chains. But an interlinking of more than one cluster and different actors or levels of actors might have to be involved, too.

The provoking question is: should the CE regions not forget about the traditional cluster policy concepts and rather jump into the new area of innovation partnerships, temporary in nature, goal oriented with clear set milestones, comprising actors from all kinds of technology backgrounds as well as users and living labs to achieve a real change for competitiveness?

One area of intervention could be seen on the cluster management – but this is dealt with a lot on EU level as well as on national and regional level. CluStrat should not put more emphasis on the level of cluster management. CluStrat should rather look at clusters as a whole, at the systems of actors they represent, as well as their individual members and their specific competences. And beyond!

Against this background, please find attached a first list of exemplary measures which might be supported through the CluStrat strategy:

- Regional stakeholder workshops for a target-oriented linking of potential participants in / contributors to those areas within an EI which are of specific relevance to a region; in-depth assessment of demands, existing potentials, available knowhow / actors and complementary expertise to be sought from

abroad (if applicable) **– this can be implemented as expert workshops already in the course of the regional policy dialogues!**

- New intermediary services matching KETs and service providers with potential users from traditional industries, and other important actors, both within a region and beyond. These services might partly be provided by the cluster management, but will certainly exceed the resources of cluster managers in many cases.

- Establishment of temporary transnational cluster-collaborations (meta-clusters) for the achievement of a concrete objective – not based on cluster management networks but on cluster member networks, involving the best for the specific target of the innovation partnership and its goals.

- Etc. **– TO BE CONTINUED –**

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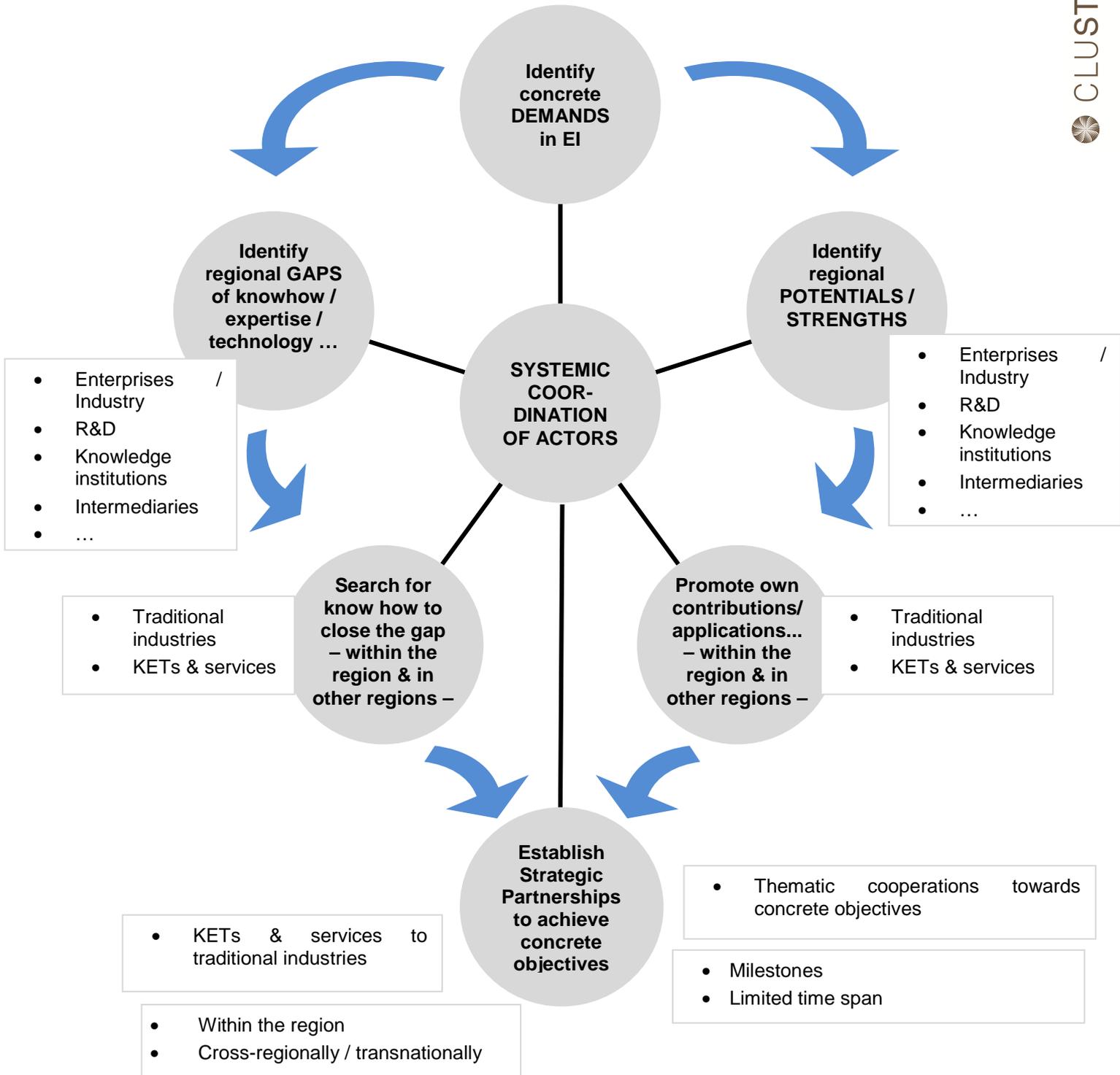
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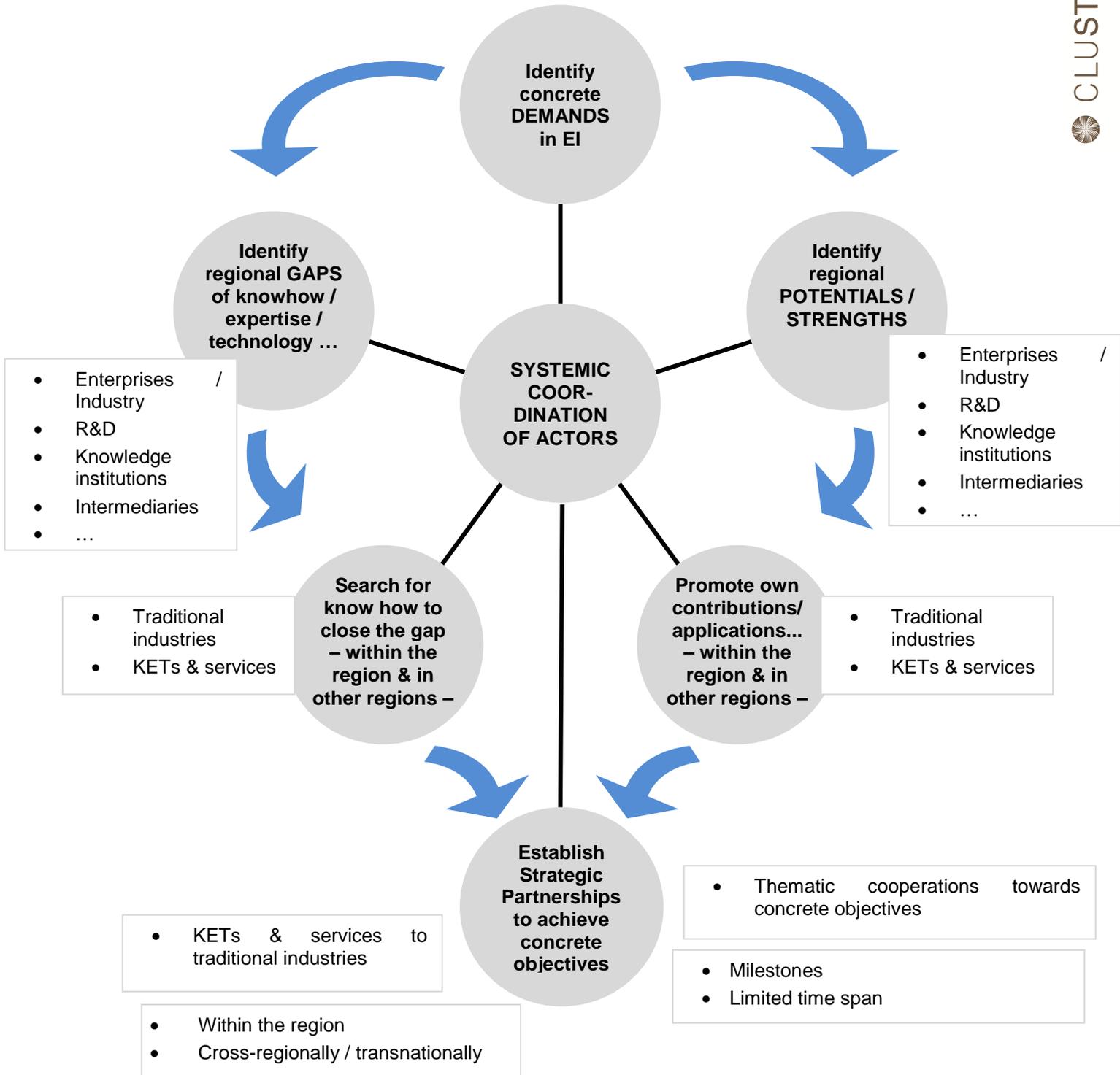
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For Germany, the main area for policy intervention is seen in the topic of material efficiency and green production. Using less material, recycling of materials during production and after use as well as recovery of all – especially the rare – ingredients in materials and products – those are the main issues to be dealt with in the coming years.

Example: It was one of the findings of the National Policy Dialogue in Germany in the area of Green Economy / Sustainable Development that there is a clear need for a better recycling management with a view to materials and resources. For instance, in cell phones and smart phones materials are used which are not only rare, but also cannot be found in Europe. Thus, not only for the reason of resource efficiency, but also for reasons of autonomy from other regions outside Europe, these resources should be re-used after the life-cycle of the initial product has come to an end.

In order to establish this kind of circular flow of materials, the interests and / or expertise of many actors have to be considered, for instance:

- the producers of the initial product

- the potential re-users of the used resources

- the consumers

- the providers of recycling / waste management processes

A pre-requisite to the systemic coordination of actors towards this objective is someone to formulate the objective in the first place, and raise awareness regarding its benefits. The circular flow to be established might stretch beyond a single country.

Example: Sustainable / Intelligent Mobility

The transport sector is one of the areas which shall contribute novel technology solutions to address cities' needs in the Smart Cities approach. Climate-friendly and smart transport systems including new inter-linked transport modalities and related services are needed. One solution can be based on e-mobility with its connected challenges concerning energy storage & supply as well as transport range – this shows some of the aspects which could become relevant here.

For developing solutions for these challenges, cities have to create platforms which include all relevant players such as the automotive industry, energy suppliers, battery technology / energy storage expertise and transport infrastructure / systems experts. Not all of this expertise might be present in a region – which is why this gap could be closed by involving, for instance, automotive industry or battery R & D capacities from other regions / countries.

In the smart city area we already have such examples as in Amsterdam or Lyon, certainly triggered through the smart city initiative on EU level and the related funding programmes. Here, policy and related instruments are the trigger for bringing forward solution oriented innovation partnerships on city level.

Example: Active Ageing

For Baden-Württemberg, the active ageing market is very much linked to ambient assistant living. Living at home as long and independently as possible is not only a personal concern of many people, it can also save costs for the national health care systems. To facilitate this, there are manifold technological opportunities to support safety and daily-life management at home. ICT and micro-electronics are just two enabling technologies which can come into play in this regard. Applied in construction, interior design, furniture production, production of home appliances etc., they can optimize these products and services. For instance, monitoring systems can be installed in households observing different areas of the household with a view to potential dangers, like irons or ovens which have not been switched off when the inhabitant of a flat leaves it. Also the application of ICT and micro-technology in the care sector opens up improvements for patients as well the staff of care facilities. For instance, through floor mats which are equipped with sensors and placed in front of patients' beds, the staff on duty in care facilities could be alarmed

if patients leave their beds and therefore might need to be supported; the patient knows he is taken care of.

In order to develop these kinds of innovative solutions, the technology providers and appliers have to know about each other and recognize the potentials cooperation. For instance,

- architects, interior designers, manufacturers etc. have to know about the possibilities offered by ICT and micro-technology in order to be able to integrate them into their work.

- the ICT sectors needs to know the specific needs and concerns of the staff of the care facilities in order to be able to develop targeted solutions which actually enter the markets.

- In addition, the specific needs of the patients / consumers of Ambient Assisted Living solutions need to be taken into account (for instance, reluctance to use technological devices on the sides of many elderly people).

In addition, a region might have a strong furniture industry and a diverse spectrum of architectural expertise, but a lack of the specific ICT and micro-technology knowledge required to develop the requested products. Or, the ICT and micro-technology expertise is available, but the furniture and architecture industry are not aware of their presence and / or the potentials of its application in their domestic area of expertise.

In the systemic coordination approach, the region will

- on the basis of an assessment of concrete future demands

- raise awareness on the sides of the regional care sector or furniture / architecture industry regarding the potentials of an application of ICT / micro-technology AND if applicable, raise awareness on the sides of the regional ICT / micro-technology providers of the potential applications of their technologies in these industries

- bring together all actors from the region: bring together the regional furniture / architecture industry or care facilities with the regional ICT / micro-technology providers OR look for suitable providers of ICT / micro-technology solutions in other regions / countries IN ORDER TO (ideally)

- foster collaborations across industry / technology boundaries towards concrete objectives.

Are the traditional cluster policies still feasible in regard to Emerging Industries?

The policy dialogues have shown, that

- Regions with successful cluster policies and cluster strengths are looking for new concepts

- Regions with no or little cluster policy are striving to reach the level of the strong regions in cluster policy

Traditional clusters are either technology clusters or product clusters. This means, that industries of the same sector are clustered to support their competitiveness through new developments or create opportunities for improved market access. The above examples show that the level of such clusters may not be sufficient. They can take a role to deal with the transnational closure of gaps in value chains. But an interlinking of more than one cluster and different actors or levels of actors might have to be involved, too.

The provoking question is: should the CE regions not forget about the traditional cluster policy concepts and rather jump into the new area of innovation partnerships, temporary in nature, goal oriented with clear set milestones, comprising actors from all kinds of technology backgrounds as well as users and living labs to achieve a real change for competitiveness?

One area of intervention could be seen on the cluster management – but this is dealt with a lot on EU level as well as on national and regional level. CluStrat should not put more emphasis on the level of cluster management. CluStrat should rather look at clusters as a whole, at the systems of actors they represent, as well as their individual members and their specific competences. And beyond!

Against this background, please find attached a first list of exemplary measures which might be supported through the CluStrat strategy:

- Regional stakeholder workshops for a target-oriented linking of potential participants in / contributors to those areas within an EI which are of specific relevance to a region; in-depth assessment of demands, existing potentials, available knowhow / actors and complementary expertise to be sought from

abroad (if applicable) **– this can be implemented as expert workshops already in the course of the regional policy dialogues!**

- New intermediary services matching KETs and service providers with potential users from traditional industries, and other important actors, both within a region and beyond. These services might partly be provided by the cluster management, but will certainly exceed the resources of cluster managers in many cases.

- Establishment of temporary transnational cluster-collaborations (meta-clusters) for the achievement of a concrete objective – not based on cluster management networks but on cluster member networks, involving the best for the specific target of the innovation partnership and its goals.

- Etc. **– TO BE CONTINUED –**