ClusterCOOP

Enhancing Framework Conditions
for an effective Transnational Cluster
Cooperation in Central Europe Countries

CZECHINVEST · inno · MAG · mh · MINISTRY OF INDUSTRY AND TRADE · NEMZETGAZDASÁGI MINISZTÉRIUM · SPEA · rzeszów · REGIONE PIEMONTE · University of Ljubljana

CENTRAL EUROPE COOPERATING FOR SUCCESS. · EUROPEAN UNION EUROPEAN REGIONAL DEVELOPMENT FUND

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Ministerial Conference on Transnational Cluster-cooperation in Central Europe Region

2013|09|24
Budapest

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Core output 3.1.6

March 2013

ClusterCOOP Project is a first time ever endeavour of a Hungarian Ministry *(the Ministry for National Economy*) to lead manage a project within the framework of the EU European Regional Development Fund's Central Europe Programme. It is done in partnership with the Ministry of Industry and Trade of the Czech Republic and the Ministry of Economy of the Slovak Republic their respective background institutions, Czechinvest the Investment and Business Development Agency and the Slovak Innovation and Energy Agency, the Italian Region of Piedmont, the University of Ljubljana, the Polish city of Rzeszów, MAG Hungarian Economic Development Centre and INNO AG from Baden Württemberg. Thus the project involves all relevant policy makers in all partner countries competent in cluster cooperation and development. The partnership represents a horizontal and vertical mix that can best address project aims, achieve and maintain project results.

Innovation is a crucial driving force for economic growth, relevant to every economic sector. Europe needs to improve its performance in innovation to withstand comparison with competing global partners. Clusters provide conditions conducive to innovation, specifically "open innovation" promoting new ideas. They can leverage this potential and increase their excellence if they create linkages with other clusters exploiting complementarities.Creating and enhancing framework conditions for the effective cross-regional and cross-border cooperation of clusters in CE requires joint actions by the policy makers. In many cases, the regulatory level is exactly the area which CE cluster experts see as the major bottleneck for successful cluster cooperation. Partner countries/regions identified similar CHALLENGES regarding transnational inter-cluster cooperation:

1. There are little or no synergies among national/regional cluster policies, and the current framework does not solicit cooperation,
2. There is a need to identify industries which, through cluster-cooperation, could become a driving force for national/regional economies
3. The current level of support for transnational cooperation is much lower than desired.

The roots of the project go back to the previous Hungarian Presidency of the Visegrad cooperation where during the meeting of the ministers of Economy a Memorandum of Understanding on cooperation in the field of the Cluster development of the V4 countries was signed. Consequently a project entitled "*Enhancing Framework Conditions for an effective Transnational Cluster Co-operation in Central European Countries / ClusterCOOP*" was submitted to the European Regional Development Fund's Central Europe Programme and approved somewhat later.

The ambitious 3 year project beginning April 2011 has a *general objective* to help clusters better exploit their innovation capacities and improve their competitiveness so that in the long term, their development and effective cooperation improves the position of the CE Region in the European Economic Area. Considering *common challenges* the Partnership *defined specific objectives* aiming at enhancing framework conditions for efficient transnational cooperation among their countries and regions in three fields, namely: **1)** Enhance existing and create new synergies among national/regional cluster policies and funding frameworks; **2)** Facilitate emerging industry development through cross regional cluster cooperation and **3**) Promote the flow of information between, and provide a common knowledge base for clusters of CE to facilitate their networking and cooperation.

The above objectives are achieved through the following *main project results*: a set of common proposals pertaining to **1)** optimisation and *harmonisation of national regulatory frameworks* with regards to transnational cluster cooperation, **2)** the *alignment and integration of different funding schemes*, including measures and modifications leading to more innovative and efficient practices, **3)** promotion of the *development of emerging industry* through cross regional/border cluster cooperation, **4)** setting up a joint *Central European cluster qualification system*; and finally the establishment of a *Virtual Interactive Platform helped by* an international network of *Cluster Contact Points* providing extended knowledge of clusters within Central Europe on the possibilities and framework of transnational cooperation.

Given that *clusters* provide conditions conducive to innovation they remain *fundamental* in promoting new ideas, leveraging economic growth potential thereby creating or increasing their excellence by way of creating linkages (e.g. networking) with other relevant stakeholders and exploiting complementarities, which makes them the *best suited organisations for achieving collective impact*. Hence when the task of establishing *Smart Specialisation Strategies* based on Research and Innovation Strategies is on the agenda as new approach to economic development involving targeted support for research and innovation the *results of ClusterCOOP feed in swiftly to the process thus helping decision makers on all levels*.

Main documents the so called "core outputs" of the Project:

WP3

Common proposal for optimisation and harmonisation of national regulatory frameworks with regards to transnational cluster cooperation

Core output 3.1.6

CONTENT

I. INTRODUCTION

This document is a core output of the ClusterCOOP project presenting the common proposals of the partnership for the optimisation and harmonisation of national regulatory frameworks with regards to transnational cluster cooperation.

The ClusterCOOP project aims at enhancing framework conditions for effective transnational cluster cooperation in Central European countries. The project started out on 2 April 2011 and finishes on 31 March 2014.

The partnership consists of 10 partners, as follows:

- Ministry for National Economy Hungary, LP
- Ministry of Industry and Trade of the Czech Republic, PP3
- Investment and Business Development Agency, CzechInvest, PP4
- Ministry of Economy of the Slovak Republic, PP5
- Slovak Innovation and Energy Agency, PP6
- Piemonte Region, PP8
- University of Ljubljana, Slovenia, PP9
- The City Office of Rzeszów, PP10
- MAG – Hungarian Economic Development Centre, PP11
- inno AG, PP12

Project activities focus on the following three areas:

- Enhance existing and create new synergies among national/regional cluster policies and funding frameworks (Work Package 3)
- Facilitate emerging industry development (Work Package 4)
- Promote flow of information between, and provide a common knowledge base for clusters of CE to facilitate their networking and cooperation (Work Packages 5)

Work Package 3 entitled 'Enhancing policy framework conditions for cluster support and cluster cooperation' contributes to the improvement of framework conditions for transnational cluster cooperation. As part of WP3 partners analysed recent and current innovation and cluster policies of their countries/regions by a common methodology. Based on these a synthesis and evaluation report was produced (Output 3.1.3). Further, an overview of similar policies and good practices was conducted beyond the partnership (Output 3.1.4) and an analysis of the clustering potential of countries/regions inside the ClusterCOOP area was carried out (Output 3.1.5).

Using all these outputs a common proposal of the ClusterCOOP partnership for optimisation and harmonisation of national regulatory frameworks in the area of transnational cluster cooperation has been elaborated and is presented in this document (Core output 3.1.6). The proposals also target the creation of a business environment conducive to the development of new economic activities in the field of emerging industries.
(Figure 1: Positioning of Core Output 3.1.6 in the ClusterCOOP project)

The presented proposals targets national, regional and local cluster-policy makers, who will be responsible for the adoption of the selected measures, according to the action plans (see below). Some of these decision makers have been directly involved in the project, while some others are involved as associated partners. Indirect beneficiaries of these proposals are the clusters, which will benefit from the enhanced policy framework conditions.

The proposals in this document are intended to be used as a starting point for national/regional level proposals for policy framework optimisation that will be tailor made to the different regulatory, legislative and institutional environment of the countries /regions of the partnership (Output 3.1.7).

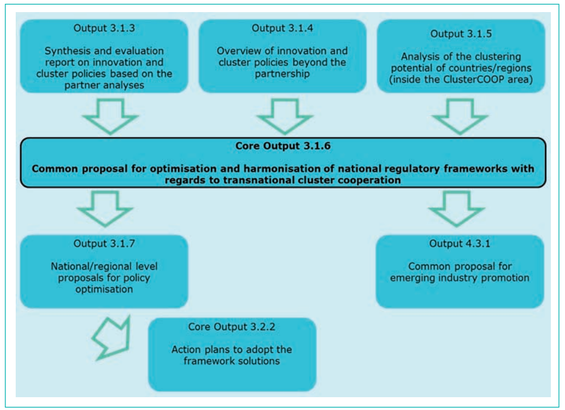
Later on in the project, using the national/regional proposals as a basis, action plans will be developed by the partners relying on a common methodology for the adoption of the legislative, regulatory, and institutional solutions foreseen by the national/regional proposals (Core output 3.2.2).

In addition to that the current joint proposal mix feeds into the proposal for the promotion of cross-regional and inter cluster cooperation in emerging industries (WP4, Action 4.3).

The proposal contains a pool of policy measures and solutions. Once adopted by the relevant national/regional decision makers, these can effectively support cross-regional and transnational cluster cooperation. Beyond that the proposal contains measures which facilitate the creation of a business environment conducive to the development of new industries in emerging sectors.

The current document was drafted by MAG – Hungarian Economic Development Centre (PP11) in cooperation with the Ministry of National Economy, Hungary (Lead Partner) in February – March 2013. Partners commented on the draft in April-May 2013. Based on comments the document was finalised in July 2013. The final version of the document was approved in September 2013 by the Steering Committee of the Project.

Figure 1: Positioning of Core Output 3.1.6 in the ClusterCOOP project



II. SUMMARY OF RESULTS OF PREVIOUS OUTPUTS

II.1. Synthesis and evaluation report on innovation and cluster policies – Output 3.1.3

The synthesis report was based on the country/region analyses that were prepared previously by the project partners using a common methodology. The report was finalised in July 2012.

General results
Based on the reports, between 2-4 policies were identified that deal in some way or another with clusters at project partners. The policies identified by partners are, as follows:

- science, technology, innovation policy
- industrial, entrepreneurship policy
- competitiveness policy
- regional development policy
- cluster policy
- urban development policy
- human capital development policy

Within the framework of the relevant policies ClusterCOOP project partners presented and analysed altogether some *31 programmes and 158 measures/activities*. Most presented programmes focus on *raising the competitiveness of SMEs, supporting the stronger R&D performance of the country/region or enhanced innovation activities* and use clusters as tools in delivering and achieving the aforementioned objectives. So it can be stated that in the countries and regions of the ClusterCOOP project partners the development of clusters is typically not pursued as a standalone policy and is not the final objective of the programmes but *clusters are part of a wider business support ecosystem and serve as a channel* or provide a way for decision makers to deliver and achieve their objectives. In addition and looking back over *the past 10 years there is a clear upswing of policies linked to clusters*.

More than half of the identified policies related to clusters have surprisingly given no clear definition on what is meant by the term clusters. The presented policies use altogether 13 different cluster definitions. This situation raises an important issue, namely whether there is *a need for a joint definition of the term cluster* among relevant national/regional level stakeholders if transnational cluster cooperation is to be promoted and successfully implemented. The answer is probably 'yes' and the ClusterCOOP project is legitimate in considering that it can help policy makers develop a proposal on this issue.

Currently for most partners there are *adequate financial resources for the support and development of clusters* through country-wide or regional programmes. EU funds (typically ERDF, to a limited extent ESF) are the most important source of funding for cluster development related programmes for the partners involved in the ClusterCOOP project. The most relevant channel for Structural Funds is the nationally implemented and co-financed SF programmes, but the direct EU programmes such as CIP have also an important role. Furthermore, it can be stated the *funds* allocated to programmes related to cluster development *grew with time in the last 10-12 years*. There is a wide variety of tools and measures applied – however, there is *a strong focus on non-refundable grants*.

In the case of the Czech Republic, Hungary, Slovakia, Slovenia and Poland, the overwhelming majority of funding is from EU sources from 2004 onwards. National sources or regional level domestic sources are generally absent. In the case of the Piedmont region in Italy and Germany we can see that a fair share of the funding is from national level and regional level sources.

The *programmes* presented by partners *target a diverse group of actors in the economy and society*. Only few programmes are targeted directly at clusters – rather *innovative business/companies, SMEs, R&D institutions* are named as primary target groups in the programmes.

Partners typically reported that *measures* for supporting clusters are not *available* continuously over years but *in campaigns* that are adjusted e. g. to the start of the implementation of a new policy.

Each partner listed numerous institutions that are involved in policy making and in the implementation of the measures related to clusters. Almost in all countries ministries responsible for development, economic affairs, research and development and innovation have been named. In some cases the measures themselves are implemented by ministries but mostly implementation is delegated to an intermediary/implementation body at both a national and/or regional level.

The presented measures targeted to clusters are varied in many aspects. Nevertheless, we can group these measures in two major categories:

1. *Direct financial support to the clusters/cluster (management) organisations/cluster members*. These are typically non-refundable grants or in few examples refundable grants (financial instruments under e.g. JEREMIE).
2. *Indirect support to clusters/cluster (management) organisations/cluster members* through:

a. training, education
b. information
c. mapping
d. monitoring and evaluation

The frequently mentioned beneficiaries in the measures and activities presented by partners are as follows:

- Cluster coordinators/cluster management organisations
- Clusters
- Cluster member companies - individually or a group of the members
- Universities, R&D institutions – either as formal cluster members or as per se
- Municipalities/regional authorities
- Ministries, agencies

Results of the SWOT analysis

As part of the work, partner level SWOT tables were provided by the project partners on the status of cluster development activities. From these *a partnership level joint SWOT table was derived*. The methodology is presented in detail in the summary report. Below we summarise the most relevant statements from each quadrant of the table.

As major ***strengths*** partners reported *already existing and well-performing clusters* as well as *strong R&D and higher education background*. It means that based on the assessment of partners there is an established cluster landscape on which policies linked to clusters can be promoted and built upon. High ranking was given to '*Available funding sources*', so partners agree that for the development of clusters adequate funding is available. Further, partners consider the *existing 'National/regional level policies targeted/linked to clusters'* as a further strength.

Table 1: Ranking of strengths in the joint SWOT table

STRENGTHS	POINTS
Already existing and well-performing clusters	15
Strong R&D and higher education background	15
Available funding sources	13
National/regional level policies targeted/linked to clusters	12
Tools/measures linked to the development of clusters	11
International links	10
Favourable business environment	10
Strong/growing industries/sectors	10
Bottom-up clusters	9
Local and regional actions	9
Strong/dedicated institutional background	8
Analytic methods, statistical methods	6

Concerning ***weaknesses*** highest ranking was given to '*Difficulties in translating knowledge to marketable products*', which is a key issue for clusters. In fact – among other reasons – clusters are promoted so that knowledge is translated to marketable products. The high relevance attributed to this factor may mean that this issue is still critical in the countries/regions of partners and no major results have been reached up until now even if there is a solid cluster base and there are policies and actions targeted to clusters.
'*Problems of innovation and educational environment*' were also ranked high, which is a clear indicator that there may be a strong R&D and higher educational background but engaging with them and securing firm commitments such as connecting it to the business sector remains a strong challenge.

Partners put high relevance to '*High dependency on state funds and its consequences*'. Among strengths, the available funding sources were given high points. Putting together these two factors it follows that partners see that state funds have too great a role in the development of clusters and if state/regional funding sources dry out then clusters may have a sustainability problem.

Relatively high points were given to 'Inadequate mindset of companies and entrepreneurs', 'Changing or incoherent policies, unrealised strategies.' Further, 'Low awareness of stakeholders' was also highlighted on a regular basis.

'Lack of supporting legal environment' was given small relevance so partners do not consider the legal environment as an obstacle for the development of clusters.

Table 2: Ranking of weaknesses in the joint SWOT table

WEAKNESSES	POINTS
Difficulties in translating knowledge to marketable products	15
Problems of innovation and educational environment	13
High dependency on state funds and its consequences	12
Inadequate mindset of companies and entrepreneurs	12
Changing or incoherent policies, unrealised strategies	11
Low awareness of stakeholders	11
Lack of financial sources/capital at SMES/in the business sector	10
Limited/ineffective cooperation between firms or between firms and science/local govt.	10
Modest quality level of programmes, Implementation of programmes with deficiencies	8
Problems of growth dynamic and economic crisis	8
Insufficient state support	7
Lack of supporting legal environment	7
Unbalanced sectorial development of clusters due to policy	5
Societal issues	5

Concerning ***opportunities*** the highest ranking was given to 'Inter-regional cooperation, internationalisation and stronger cross-border links', which indicates that *partners see a very strong potential in promoting cross-border development of clusters and inter clusters/inter sector cooperation*. Therefore, we need to find efficient policy mechanisms and tools to assist this opportunity.

'Better/consistent implementation of policies/programmes linked to clusters' were given also a high ranking, which shows that *current policies/programmes may be good in terms of objective but they need better actions and consequent implementation*.

'Better knowledge transfer' was ranked as relevant, which is in line with the experience that *there is a strong potential in R&D and higher education background but the knowledge is not marketed efficiently*.

Partners see a relatively strong 'Potential to higher growth, competitiveness and innovation thanks to the existing clusters', which reinforces the results in the Strengths quadrant with regards to the existence of established and well-functioning clusters. *Partners seem confident that there is a reasonable potential in the further development of these clusters*.

'Attraction of capital/FDI thanks to clusters' may be a very interesting opportunity for which clusters could be used but partners see a rather modest potential in that. This gives some food for thought. A possible reason may be that clusters are perceived by most partners as SME development tools, in which SMEs team up and there is no real place for large companies and/or multinationals. Additionally, clusters may have been established to join the forces of SMEs to counterbalance competitiveness drawbacks versus large companies and multinationals. Nevertheless, some examples in the partnership (Slovakia, Hungary) show that large companies and multinationals may have an important role in clusters by providing opportunities to SMEs (e. g. reaching customers to a scale, which would be impossible for the SME alone, provision of test-bed for innovations, potential financing for developments, structuring the supply chain, end users, launch clients and support for internationalisation actions and EU projects).

Table 3: Ranking of opportunities in the joint SWOT table

OPPORTUNITIES	POINTS
Inter-regional cooperation, internationalisation and stronger cross-border links	16
Better/consistent implementation of policies/programmes linked to clusters	15
Better knowledge transfer	14
Potential to higher growth, competitiveness and innovation thanks to existing clusters	13
Targeted policies	12
Stronger focus on cluster policies fostered by EU	11
Higher awareness of clusters and the potential in clusters	11
More intensive cooperation of stakeholders, partners of triple helix	11
Attraction of capital/FDI thanks to clusters	9
Supporting/favourable business environment	7

Concerning ***threats***, the '*Economic/financial crisis*' is seen as the biggest threat to clusters in the countries and regions of partners. '*Sustainability of clusters*' is perceived as another major challenge that partners shall cope with in the future. This reinforces the result in the weaknesses quadrant, where partners stated that currently clusters depend too much on state funds. Generally, cluster membership fees and revenues from service provision do not cover the costs incurred by the cluster management organisations. Cluster management organisations need to develop in providing those services the cluster companies look for and quality of these services needs be enhanced to reach the expectations of the cluster members.

Most partners do not think that 'Cluster as a fashion' is a true threat.

Table 4: Ranking of threats in the joint SWOT table

THREATS	POINTS
Economic/financial crisis	14
Sustainability of clusters	13
Lack of targeted policies	9
Decrease of public funds	9
Unfavourable sectoral changes	9
Decline in cooperation among stakeholders	9
Divergence of clusters from their role as innovation drivers	9
Social changes and problems of labour market	8
Cluster as a fashion	6
Confusing EU calls with unclear objectives	6

II.2 Overview of innovation and cluster policies beyond the partnership – Output 3.1.4

Cluster policies of four countries beyond the partnership were analysed following the same methodology framework as adopted by partners for the cluster policy analysis in the partnership. The four countries were France, Sweden, Croatia and Austria. The analysis was finalised in June 2012.

The four country case studies presented and analysed illustrate the importance of cluster support and development policies in supporting economic and business competitiveness.

Cluster support is not a stand-alone policy but an important part of different national policies, overall economic or competitiveness policy (Croatia, Austria), industrial and research and innovation policy (France) or R&D and innovation policy (Sweden). In all cases, it is strongly connected with the regional development policy and regional business networks.

Different terms and definitions are used for clusters and support programmes (clusters, networks, competence centres, economic complex, etc.), but key words remain the same, which is cooperation, concentration, proximity and interdependency and networking of actors.

Programmes and support measures are designed in relation to the overall policy framework and objectives. They differ according to the focus and organisational arrangements. But in all cases, there are the following shared characteristics:

- *There is not one single support programme* but a combination of different, direct and indirect support measures. In the case of France and Croatia, there are specific cluster support programmes (direct support to cluster development and cluster management) with additional indirect support measures or funding possibilities (for R&D, innovation support, infrastructure development, investment, etc.). In the case of Sweden and Austria, support is organized in many different programmes, targeting cluster initiatives and cluster development in specific locations or development fields (i.e. focused R&D areas, regional clusters, internationalisation, etc.).
- *Combination of top-down and bottom-up approach* is used in the design of the policy programmes, meaning that programmes are defined and focused at the policy level but cluster initiatives are selected on open tenders.
- *Institutional arrangements for the implementation* of the programmes are different, but in all cases, they involve different institutions at both, national and regional level.

Case studies presented point out some important conclusions that can be defined as key to effective and efficient implementation:

- *Long term orientation and stability*. Best known cases are result of a long term focused and continued support. There are examples of the most successful programs in Sweden (10 years programs), France (three years and now six years in the Cluster 3.0 strategy 2013-2018) and Austria. Evaluation of the Croatian policy stressed lack of stability and long term support as major obstacle for more efficient policy.
- *Adequate institutional arrangement and coordination*. Evaluation proved the institutional competences and inter-institutional cooperation as one of the most important conditions for the successful implementation of the programmes. Case of Sweden can be recognized as good practice on this field.
- *Regular evaluation and adaptation of the programmes*. The need for constant development of the policies to address the needs and support initiatives in different development stages is another important conclusion. Positive examples can be observed in the case of France and Austria, while evaluation of the cluster support programs in Sweden and Croatia pointed out lack of monitoring and evaluation system as a major weakness. Regional actors are also active in the evaluation field, to demonstrate how their programmes complement the national programmes.
- *Emphasis on support for the development of organisational and managerial competences*. Cluster support measures in general aim at supporting cooperation and joint investment in R&D, innovation, internationalisation, However, experience proves the importance of additional support in development of new business models and organisational and managerial competences of clusters. Austria can be named as good practice on this topic.

II.3 Analysis of the clustering potential of countries/regions (inside the ClusterCOOP area) – Output 3.1.5

The analysis of the cluster potential was carried out for five countries/regions of the partnership covering the Czech Republic, Hungary, Poland, Slovakia and Slovenia. Partners used a common methodology to carry out the analysis. In total sixteen clusters from partner countries took part in the analysis by responding to the survey developed previously. Results of the analysis were summed in a report, which was finalised in November 2012.

Main conclusions were as follows:

- Concerning geographic scope, the majority of the *clusters cover either one or more regions*. Small area clusters (within a city) are absent and only a few clusters operate in a city and its surrounding or at a national or close to national level.
- As for the horizontal spread of clusters, half of the *regional clusters belong to one industry*, somewhat fewer clusters belong to only a few horizontally related industries and there were only two clusters that reported belonging to multiple industries.

Cross sectorial clusters are therefore rare as is currently the case in the rest of Europe although the new EU DG Enterprise label ESCP[1] is trying to create the conditions for international and inter sectorial cooperation.

- Concerning the range of vertically related industries within the cluster the *vast majority of regional clusters reported to have only few steps in the vertical production or value chain* and some reported many steps.
- Looking at the growth potential most of the *clusters reported they are mature but growing* and one third of clusters identified themselves as either 'embryonic and growing' or emerging.
- The examination of the innovative capacity of the clusters showed that *most of the surveyed clusters are technology generators or technology adapters* with the technology generators somewhat behind.
- Concerning their competitive positions surveyed *clusters are at least strong competitors but some* them positioned themselves as *national leaders*.
- As for *factors hindering their development* clusters mentioned in first place *problems of financing and the lack of qualified people*. Technology and product development problems were quoted as a less significant obstacle.
- Coming to the issue of the importance of cross-regional cooperation all respondents agreed that *sustainable growth can be based on cross border cooperation*.
- When asked what the *main contribution of such cross-regional cooperation* can be, the results, at the first sight, present a surprising outcome: indeed respondents expect *assistance in technology and product development* in the first place and to a lesser extent support in the lack of finance and qualified-personnel. However such an outcome can well be reasonable since financial and employment issues are expected to be solved on national level (by national level public authorities) and the expectation from cross-border cooperation is rather in the field of new product development and adaptation of new technologies.
- *As a result of cross-regional cooperation cluster companies expect to enhance their competitiveness* by transfer of know-how, technology and information exchange. There are also big expectations for new market potential and the attraction of new investment capital.
- As for the question on the *experience with cross-border clustering most of the cluster companies* claim to *already have experience* and only few state they have just made their first steps in such activities.
- Clusters were asked what type of measures they think can enhance regional cross-border cooperation. In first place the provision of general networking and communication was named by clusters. In second place respondents mentioned the provision of financial assistance. The rest of the replies included assistance with transfer of technology, information and market promotion.

1 European Strategic Cluster Partnerships

III. PROPOSALS

Proposal No. 1

Focus programmes on well-functioning clusters with established track-records

As summed up above the SWOT analysis shows that partners consider already existing and well-performing clusters as a major strength. Further, among opportunities, partners reported a relatively strong potential to higher growth, competitiveness and innovations thanks to existing clusters. These motivate the proposal that policy makers should focus on well-functioning clusters with established track records and majority of the available financial allocation should be targeted to these. At the same time policy makers should find the right balance between supporting current strengths and enabling the emergence of new ones through well-designed and implemented smart specialisation strategies. Emerging clusters (supporting emerging industries) are critical for the CEE countries to make progress on the needed structural change in order to boost competitiveness and growth of their economies.

These results of the analysis and the proposal is in line with the Commission's view on cluster development, which claims that Europe doesn't lack clusters and cluster initiatives but world-class and excellent clusters Furthermore, the proposal resembles one the 3 principles and action proposal No. 3 of the ECPG[2] final recommendations document, which says that public support shall be based on clusters' ability to upgrade.

Use clusters

- actively as a channel to reach business actors with measures in the field of SME development, competitiveness and innovation and
- as a natural platform for continuous dialogue between public authorities and the private sector to get insight into economic reality for better design of policy measures to support companies upgrading

2 European Cluster Policy Group

Proposal No. 2

Use clusters

- *actively as a channel to reach business actors with measures in the field of SME development, competitiveness and innovation and*
- *as a natural platform for continuous dialogue between public authorities and the private sector to get insight into economic reality for better design of policy measures to support companies upgrading*

Successful and established clusters may be a suitable channel for state and regional authorities to reach business actors with their actions in the field of SME development, competitiveness or innovation. Indeed a recent report produced by the TACTICS/European Cluster Alliance[3] on channelling RDI investment via clusters demonstrates the effectiveness of such approaches.[4] Successful clusters tend to consist of companies with high growth potential and better than average performance. In addition to that clusters with track-record serve as a safety net – and will do so even more in light of the new ERDF regulation drafts – for decision makers interested to allocate ERDF funds in projects carrying limited risks. Put differently successful clusters themselves serve as a filter for decision makers looking for good projects and companies striving for growth. Such fertile ground is well positioned to target with development and competitiveness measures for effectiveness and high impact.

During the SWOT analysis partners ranked strong R&D and higher educational background among their main strengths. At the same time partners assessed difficulties in translating knowledge to marketable products as the most relevant weakness. Further, problems of innovation and educational environment were also ranked as a very relevant weakness by partners, which is a clear indicator that there may be a strong R&D and higher educational background but connecting it to the business sector is a strong challenge. In line with these, better knowledge transfer and accessing suitable patents was ranked high among opportunities, reinforcing the observation that there is a strong potential in R&D and higher education background but the knowledge is not marketed efficiently.

In clusters business, academia and research meet intensively, so again successful clusters are excellent environment for innovation-type measures and for best attempts of public authorities in trying to promote the translation of knowledge to marketable products.

Provide measures based on a long-term, foreseeable strategyImplement measures consistently, make them available continuously or based on a long-term and stable action plan

3 TACTICS stands for Transnational Alliance of Clusters Towards Improved Cooperation Support. TACTICS is a project financed under INNO-NET.

4 Report downloadable at www.eca-tactics.eu.

Proposal No. 3

Provide measures based on a long-term, foreseeable strategy
Implement measures consistently, make them available continuously or based on a long-term and stable action plan

Better/consistent implementation of policies/programmes linked to clusters were given a high ranking among opportunities by partners, which is an indication that currently prevailing policies/programmes may be good in terms of objectives but they need better actions and consequent implementation. Among weaknesses partners mentioned changing or incoherent policies, unrealised strategies, which reinforces this.

This proposal is in line with the EU's efforts related to smart specialisations strategies. As the new programming period comes closer each member state and region should design its innovation strategy for smart specialisation. Compared to previous programming periods much more stress should be put on the right prioritisation of domains, areas and economic activities.

Further, the synthesis and evaluation report claimed that relevant measures are not available continuously over years but rather in campaigns, which however are difficult to foresee and to plan with. So experience suggests that there is room for development in consistent, transparent and foreseeable strategy implementation, therefore policy makers are advised to act accordingly.

This is reinforced by the findings in the analysis beyond the partnership, according to which best known successful cases are the result of a long term focused and continued support (Sweden 10 years program).

Concentrate measures into an effective and tailored made policy mix Combine non-refundable grants, indirect support measures and refundable grants for effective support depending on the life cycles of companies

Proposal No. 4

Concentrate measures into an effective and tailored made policy mix
Combine non-refundable grants, indirect support measures and refundable grants for effective support depending on the life cycles of companies

We could observe from the analyses carried out that there is a wide variety of actions, measures and tools applied - however, there is a strong focus on non-refundable grants. At the same time partners put high relevance to 'High dependency on state funds and its consequences' among weaknesses in the SWOT analysis. So partners see that state funds have too much a role in the development of clusters and if state/regional funding sources dry out then clusters may have a sustainability problem. But even with this recognition, currently most of the support provided is in the form of non-refundable grants, which is the type of support that generally 'spoils' beneficiaries at most.

Therefore policy makers are advised to combine indirect support measures and refundable grants with non-refundable grants. There are already local practices used by partners for the indirect support of clusters (training, information, mapping, benchmarking, monitoring and evaluation, etc) and for refundable grants (e. g. in Hungary, a fair share of the investments realised in the framework of JEREMIE equity products targeted members of clusters). In addition to that, the past years have brought a number of new EU-level or transnational initiatives in this respect (European Cluster Collaboration Platform, European Cluster Observatory, European Cluster Excellence Initiative and its rollout programmes to name a few). The ClusterCOOP project itself aims at setting up and operating a virtual interactive platform and cluster contact points to provide assistance to clusters. It is advised to use these developed tools consciously, actively and in an institutionalised way in the years to come.

Among refundable grants specific attention could be paid to seed, early- and growth-stage capital investments since clusters are favourable environments for start-ups, spin-offs and other targets of venture capital. Seed financing is most often not provided by commercial banks or VC funds/firms. If the financial envelope of the national level R&D&I strategies allows then a certain part of the financial allocation could be used for refundable instruments.

It is to be noted that such a proposal is in line with the general intention of the Commission to increase the share of refundable instruments compared to non-refundable grants concerning regional policy instruments in the 2014-2020 programming period. Furthermore, the proposal is line with the recommendations of the EC DG Research Synergy Expert Group. Promote inter-regional cooperation and internationalisation activities and stronger cross-border links of clusters Do this with new, effective and efficient measures

Proposal No. 5

Promote inter-regional cooperation and internationalisation activities and stronger cross-border links of clusters
Do this with new, effective and efficient measures

Inter-regional cooperation, internationalisation and stronger cross-border links were assessed as the most important opportunity by partners in the SWOT analysis. It is remarkable that among strengths no similar factors were mentioned, which indicates that there is a huge perceived unused potential in this respect. A reason for this might be that top clusters in the partnership are approaching now to a maturity level, for which going cross-border becomes

on one side reasonable business-wise and feasible and at the same time maybe compelling because of competition needs. While partners are able to report about some isolated attempts of support in this respect, a significant increase in terms of attention and resources seems reasonable for the next programming period.

It must be seen that effective and efficient assistance and support in this arena is a challenging issue. The ClusterCOOP project carries out for example a series of matchmaking roadshows during the project, which is an excellent attempt and each new matchmaking event builds on the experience of previous occasions. But even so, it remains to be seen whether these roadshows are able to bring along measurable impacts at the level of clusters. All in all, more effective and efficient measures than the ones implemented recently or now should be elaborated and promoted in the programming period of 2014-2020.
Promote CEE cross border cooperation for growth of emerging industries

Proposal No. 6

The potential for emerging industries based on CEE cross border cooperation was assessed by common methodology based on the national/regional studies in the ClusterCOOP project.

They revealed many different possibilities in technology areas which have been identified in the EU as the key enabling technologies (KET) and at the cross section of different technologies in relation to market trends and challenges. As such they represent a fertile ground for emerging industries.

ClusterCOOP partners agree that these proposals are just in time for adopting in the planning of the operational programmes and the potential measures of the 2014-2020 programming period. Operational programmes – on transnational, national and regional level – are expected to provide a steady framework and to serve as a major source of financing for measures.

ClusterCOOP partners share the opinion that these proposals may be transferable to other CE/EU countries as a guide for their policy framework optimisation and so offer these proposals to the attention of policy makers beyond the partnership.

ClusterCOOP
CE cluster qualification system

Proposal for a CE cluster qualification system

INTRODUCTION

This document follows the benchmarking report on European cluster qualification systems and the 5th ClusterCOOP Transnational Working Group meeting in Karlsruhe (26 February 2013) during which were presented the different cluster qualification systems analysed in the previous report (European Secretariat for Cluster Analysis, Pôles de compétitivité – French Competitiveness clusters and Hungarian Pole Programme) and started the discussions on the characteristics of a Central Europe cluster qualification system.

This document proposes a model to qualify the clusters of the Central Europe area, based on a limited number of indicators and a simple methodology inspired from the different cluster qualification systems analysed in the previous document.

During the discussions at the last Cluster COOP workshop held in Prague inno were asked to further develop the various indicators and parameters and review the relevance and practicalities of all the indicators. This document represents a summary of this work and as such some indicators have been removed and some new ones added.

In addition some of the partners and inno highlighted the danger of introducing a new qualification system for clusters in CEE territories given the recent reiteration and encouragement for use of the Cluster Excellence system proposed by DG Enterprise. The partners agreed that they would each need to review their own position and usage of the Cluster COOP cluster labelling systems at a national level once the finalised version of the Cluster Cooperation cluster qualification system has been made available and tested by themselves in their individual contexts.

Finally, it should be noted that this qualification tool should not be considered as an alternative to either a cluster evaluation tool or a cluster programme evaluation exercise. These other uses require different tools and different approaches. For example the recent national cluster evaluations carried out in France and/or Portugal have successfully combined use of two distinct methodological tools. Furthermore the Cluster Coop tool is aimed at creating enhanced framework conditions for cooperation between partners and should therefore retain a certain degree of flexibility and "simplicity" to facilitate usage by the clusters themselves.

PROPOSAL FOR A CENTRAL EUROPE CLUSTER QUALIFICATION SYSTEM

1.1 Concept

A single label called "ClusterCOOP label" granted to Central Europe clusters only, differentiating three different cluster development stages:

- emerging cluster (national or regional level);

developing and growing cluster;

- mature or world-class cluster.

1.2 Methodology

An electronic questionnaire to be filled in by the cluster managers applying for the label including a questionnaire based on the following indicators (see 1.3).

Clusters passing at least 80% of the thresholds in one category get the label. An additional "identity" fiche will be require comprising basic contact details,name of the organisation, contact person and date of creation.

1.3 Indicators, thresholds and score

	INDICATOR	THRESHOLD		
		EMERGING CLUSTER	DEVELOPING CLUSTER	MATURE OR WORLD-CLASS CLUSTER
Territorial context	GDP of the cluster territory (based on main regional presence)[5]	Value for information	Value for information	Value for information
	Number of companies and % of SMEs in region	Value for information	Value for information	Value for information
Nature of the cluster	Technological field	Has to be one of the categories defined in the ClusterCOOP project[6]	Has to be one of the categories defined in the ClusterCOOP project	Has to be one of the categories defined in the ClusterCOOP project
	Number of members	Minimum 15	Between 15 and 50	Minimum 50
	Average number of new members since cluster creation	+5	+10	+15
	Triple helix	N/a	All categories of the triple helix[7] should be represented	All categories of the triple helix[8] should be represented
	Percentage of SMEs as proportion of membership	Minimum 25%	Between 25% and 50%	Minimum 50%
	Integration into local innovation system (% of membership drawn from public/research actors)	+5%	5-10%	10%+
	Existence of a members steering committee/frequency of meetings	Yes	Yes and at least 3 meetings per annum	Has to exist and be composed of several entities representing the triple helix and a minimum of 6 meetings per annum

5 Please specify if the cluster has a national membership coverage.

6 Aerospace; Agricultural products; Automotive; Biotech; Building fixtures, equipment and services; Chemical products; Construction; Construction materials; Heavy Machinery; IT; Lighting and electrical equipment; Metal manufacturing; Paper products; Pharmaceuticals; Plastics; Processed food; Telecom; Tourism and hospitality

7 Research and education / industries / public authorities. Indicator should include letter of intent and/or membership fees.

8 Research and education / industries / public authorities. Indicator should include letter of intent and/or membership fees.

	INDICATOR	THRESHOLD		
		EMERGING CLUSTER	DEVELOPING CLUSTER	MATURE OR WORLD-CLASS CLUSTER
Cluster organisation	Legal form	Should be formalized as a registered association or similar	Should be formalized as a registered association or similar	Should be formalized as a registered association or similar
	Date of creation	For information	For information	For information
	Number of employees (full time equivalent)			
	Percentage of private sources of funding	Minimum 20%	Between 20% and 50%	Minimum 50%
Role of the cluster organisation	Initiation and/or labelling of funded or not funded R&D projects per year	At least 5 projects initiated/ labelled per year	At least 5-8 projects initiated/labelled per year	At least 10+ projects initiated/labelled per year
	Number of thematic workshops and events organised with cluster members	Minimum 5 per year	Minimum 10 per year	Minimum 15 per year
	Number of projects or initiatives developed with R&D actors per annum	Minimum 3 per year	Minimum 5 per year	Minimum 10 per year
	Training / education / recruitment events organ-ised pa	2	2-5	5+
	Development of (number of actions pa)	2	2-4	4+
	Number of international projects in which the cluster members participate thanks to the cluster organisation support[9]	-	2-5	Minimum 10 per year
	Participation of the cluster in international events	-	Minimum 2 per year	Minimum 4 per year

9 Can include European Research and innovation projects, Interreg, etc type projects.

	INDICATOR	THRESHOLD		
		EMERGING CLUSTER	DEVELOPING CLUSTER	MATURE OR WORLD-CLASS CLUSTER
Performance of the cluster	Does the cluster action plan include measurable actions/activities and are they regularly assessed.[10]	y/n	y/n	y/n
	Interactions with members (average direct contacts per SME members per annum with cluster management team)	3	3-4	6+
	Number of R&D projects proposals awarded to cluster members under support schemes thanks to support of the cluster	At least 2 proposals funded per year	At least 5 proposals funded per year	At least 7 proposals funded per year
	Illustration of project technological or innovation impacts	Company level performance impacts	Sector performance indicators at a regional level	Sector performance indicators at a national level
	Number of patents from the cluster members developed as a result of cluster actions/projects	N/a	2	+2
	Growth of average annual revenue of SME members compared to national or regional sector growth average.	N/a	Above sector average	5% above sector average

10 If yes, this must include a yearly evaluation/monitoring of the action plan.

	INDICATOR	THRESHOLD		
		EMERGING CLUSTER	DEVELOPING CLUSTER	MATURE OR WORLD-CLASS CLUSTER
Communication Actions	Growth in SME membership per annum or average for last three years	+10%	10-15%	+15%
	Existence of web site (see below[11]	Yes/no	Yes/no	Yes/no
	Average number of articles published in regional and or national press per annum	4	5-12	12+
	Average number of articles published per annum in English/international journals	n/a	5+	10+
International Actions	Cross border initiatives with Cluster COOP Partners	1	1-3	+3
	Cross border initiatives with other territories	0	1-3	+3
Future cluster strategy and actions	Has the cluster put in place a cluster development strategy for the next 3 years	y/n	y/n	y/n
	Were companies involved (especially SMEs) in defining the priorities for the strategic action plan	y/n	y/n	y/n
	Does the future strategic plan include an action plan with identifiable and measurable results/targets	y/n	y/n	y/n

11 Level One yes/no Level 2 web site must include information on members, events, workshops etc Level 3 as for 2 with English language/other foreign language version.

1.4 Decision committee

The decision committee could either be at a national level or could be constituted by national Cluster Contact Point (CCP).

1.5 Impact

Getting the ClusterCOOP label could be a determining factor for cross-border cluster projects in a future scheme/programme. The label will be shared and acknowledged by participating programme owners.

Moreover, anyone should be free to use it also for the allocation of funds under national programmes as part of an evaluation exercise consisting of the evaluation of cluster performance (CE qualification) and the quality of the proposed project (additional evaluation outside of the scope of the system).

The use of the tool would help enhance the management capabilities of the cluster teams and create the conditions for enhanced cluster cooperation at an inter-regional level.

Common proposal for the promotion of cross-regional cluster cooperation in emerging and new industries

WP4

Investigating the possibilities of emerging industry development through cross regional cluster cooperation

CONTENT

I. INTRODUCTION

This document is a core output of the ClusterCOOP project presenting the common proposals of the partnership for the promotion of cross regional cluster cooperation in emerging and new industries.
The ClusterCOOP project aims at enhancing framework conditions for effective transnational cluster cooperation in Central European countries. The project started out on 2 April 2011 and finishes on 31 March 2014.

The partnership consists of 10 partners, as follows:

- Ministry for National Economy Hungary, LP
- Ministry of Industry and Trade of the Czech Republic, PP3
- Investment and Business Development Agency, CzechInvest, PP4
- Ministry of Economy of the Slovak Republic, PP5
- Slovak Innovation and Energy Agency, PP6
- Piedmont Region, PP8
- University of Ljubljana, Slovenia, PP9
- The City Office of Rzeszów, PP10
- MAG – Hungarian Economic Development Centre, PP11
- Inno AG, PP12.

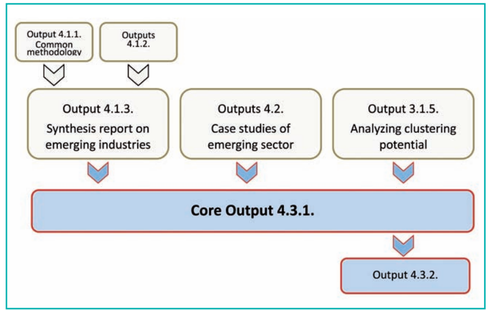
Project activities focus on the following three areas:

- Enhance existing and create new synergies among national/regional cluster policies and funding frameworks (Work Package 3);
- Facilitate emerging industry development (Work Package 4);
- Promote flow of information between, and provide a common knowledge base for clusters of CE to facilitate their networking and cooperation (Work Packages 5).

The Work Package 4 "Investigating the possibilities of emerging industry development through cross regional cluster cooperation" contributes to identification of opportunities for emerging industry development in Central Europe through cross regional cluster cooperation. As part of WP4 the following activities have been carried out (as shown in Figure 1). For identifying emerging sectors relevant to the regions of partner countries, common methodology was prepared (Output 4.1.1) on the basis of which country analyses were performed (Output 4.1.2). The synthesis report (Output 4.1.3) sums up the results. It includes data from 5 countries or regions: Czech Republic, Hungary, Piemonte region,

Slovakia and Slovenia. On the basis of the conclusions of this report, together with findings from pilot case studies on industry development projects in selected sectors from Piemonte region, Slovakia and Rzeszów region (Output 4.2) and analysis of clustering potential (Output 3.1.5), a common proposal of the ClusterCOOP partnership for the promotion of cross cluster cooperation in the field of emerging industries (Core Output 4.3.1) was elaborated.

Figure 1 Positioning of core output 4.3.1 in the ClusterCOOP project



The proposals in this document are the basis for the elaboration of project generation framework (Output 4.3.2) that could support clusters cooperation in the field of emerging industries. Current proposal also feeds into the proposal for optimisation and harmonisation of national regulatory frameworks with regards to transnational cluster cooperation (WP3, Action 3.1.6).

The proposals target regional, national and local policy makers designing measures to strengthen competitive position of a national economy by promoting the development of emerging industries and provide information where to target the support for research and innovation in order to maximize the knowledge based development potential.

This document was drafted by University of Ljubljana (PP9) in July 2013. Partners commented on the draft in August 2013, based on comments the document was finalised in the same month and the final version was approved in September 2013 by the Steering Committee of the Project.

II. SUMMARY OF RESULTS OF PREVIOUS OUTPUTS

1.1 Synthesis report on emerging industries – Output 4.1.3

The synthesis report is based on the country/region analyses that were prepared by the project partners using a common methodology. The nature of emerging industries itself indicates the complexities involved in trying to capture and measure them. Not only is industrial emergence an evolutionary process and therefore difficult to capture until after the industry develops successfully. It also depends on activities of a number of individual and organizational actors and often arises at the intersection of industries as defined by standard classification codes which makes it difficult to capture with the available statistical data. All of this needed to be taken into account when setting up a methodology to identify emerging industries in partner countries and regions which could develop as a result of international cooperation.

In order to identify emerging industries we looked for adaptive clusters which are a source of new industries. Adaptive clusters are characterized by critical mass of firms and support institutions which have the collective capability to develop new products and processes to take advantage of changes in markets and new technologies. Successful new products can trigger processes by which a sector is transformed or a sector new to a region takes shape. In most cases the new sectors will draw upon and recombine skills and capabilities already existent in the region. It is not only the adaptive clusters that are of interest but the entrepreneurial firms within them. Entrepreneurial firms are those which seek to develop competitive advantage by developing new products, processes, technologies, and organizational practices. This enables them to enter into emerging industry markets and to create new market opportunities. They are engaged in the long term partnering relationships with suppliers of inputs and services, customers, technology development partners, financial and research funding agencies, and education and training institutions. Networking is their business model of innovation: they focus on core capabilities and partner for complementary capabilities. The stronger the presence of entrepreneurial firms

12 The conceptual framework and the description of methodology in greater detail can be found in a separate document (Output 4.1.1): "Common methodology for the identification of emerging industry sectors of the partner regions/countries" (Best & Kotnik, 2012) .

13 We define clusters of firms as agglomerations of firms from the same industry that are relevant for regions' employment or number of firms. They do not necessarily correspond to formally organized clusters by companies or government initiatives.

in the cluster, the greater is adaptability of a cluster to the latest technological advances and to emerging market opportunities, therefore the greater cluster's dynamics and the potential to enter into emerging industries markets.

In order to identify adaptive clusters and entrepreneurial firms within project partners' countries and regions, we have developed a methodology that included quantitative as well as qualitative analysis. The aim of the former was to identify clusters with adaptive properties and entrepreneurial firms within them. Once they were identified, interviews were carried out on a limited sample of entrepreneurial firms. This does not exclude the possibility that non-entrepreneurial firms behave in a similar manner.

Let us first summarize the findings on *networking as part of a business model of innovation of firms* and on *firms' view of cross-border cooperation*. Based on the interviews of entrepreneurial firms we can conclude the following:

- Entrepreneurial firms engage in formal as well as informal networks. Most of them strongly emphasize the importance of cooperation in informal networks, such as links with suppliers and customers. High importance is also given to cooperation with universities, research institutes and knowledge providers in general. Some entrepreneurial firms even regard cross border cooperation with knowledge providers as a key tool for improving their innovation potential and market success.
- The most usually listed benefits from networking are: joint research, use of common research infrastructure, sharing experience, know-how and information relevant to new product development and on market trends, access to technology, multidisciplinary knowledge and complementary skills, access to different resources and new materials.
- Cross border networks of entrepreneurial firms are basically built on the core technologies of the industry that the entrepreneurial firms belong to. For example, entrepreneurial firms in automotive industry will be engaged in cross border cooperation with others in automotive industry in the area of core technologies typical of automotive industry. However, cross-technological links are becoming more and more important. For example EFs from automotive industry see possibilities for cross border technological links with transport equipment, energy, and new materials (as presented in more detail in the Synthesis report, pp. 17). Cross border partnering arrangements are also becoming increasingly important for diversification of firms' product portfolios into products of future growing demand.
- Cross border cooperation is an important factor for new industry development.
- In most cases the existing cooperation patterns of firms already have an international dimension. Most of entrepreneurial firms are guided by an open-system business model that stretches across borders. Also, entrepreneurial firms agree that there are many possibilities for CEE cross border cooperation. However, we did not find evidence of existing cooperation with partners from other project partners' countries or regions that would lead to new industry development based on the cross technological links as a result of CEE cooperation

The research performed for Output 4.1.3 allows us not only to draw some general conclusions on the views of firms on networking and cross-border cooperation, but also allows us to identify specific possibilities for cooperation between industries and new industry emergence in project partners. Through the quantitative analysis, the industries which could show signs of being adaptive clusters were identified using available secondary data. Possibilities for cross-border cooperation between project partners' countries and regions can be indicated by looking at a cross-section of these industries. Their distribution is shown in Table 1. The identification of *cross border cooperation possibilities is based on the cross-section of technologies* that are or can be used in production of products and services in each industry. Columns in the table show the situation for each country. Industries (or groups of industries) marked with caps and in italics are those which were identified by project partners as clusters with adaptive properties, thus having the potential to branch into emerging industries. The table should be read horizontally to see the possibilities for cross border cooperation that could lead to emergence of new industries. For example, New materials cluster from Piemonte could cooperate with Slovenian firms from transport equipment industry, with Automation Technologies and Robotic industry from Slovakia, and with Czech nanotechnology firms. The potential for cooperation of Czech nanotechnology firms exists with firms from Slovene Medical device industry. In case of Slovenian Medical device industry there is a potential for cross border cooperation with Biotechnology and Biomedicine cluster from Piedmont, with Slovak Automation Technologies and Robotic industry, and with Czech Nanotechnology industry.

	SLOVENIA	PIEMONTE	SLOVAKIA	CZECH R.	HUNGARY
New materials	Transport Equipment	NEW MATERIALS	Automation tech. and Robotics	Nanotechnology	
Nanotechnology	Medical devices			NANOTECHNOLOGY	
Plastic products		New materials	Automation tech. and Robotics	PLASTIC PRODUCTS	
Allum. metalurgy and processing			ALLUM. METALURGY AND PROCESSING		Tools and special machinery
Biotech& Biomedicine	Medical devices	BIOTECH & BIOMEDICINE	Automation tech. and Robotics	Nanotechnology	Dairy products
Medical devices	MEDICAL DEVICES	Biotech& Biomedicine	Automation tech. and Robotics	Nanotechnology	
Basic pharm. products	Medical devices	Biotech& Biomedicine	Automation tech. and Robotics	BASIC PHARM. PRODUCTS	
ICT		ICT	ICT		Electrical installation
El. motors, generators, transformers		New materials	Automation tech. and Robotics	Nanotechnology	Electrical installation
Automotive industry	Electronic components & boards; El. motors, generators, transformers; Transport Equipment	New materials	AUTOMOTIVE INDUSTRY	Plastic products	Tools and special machinery
Automation Technology and Robotics	Electronic components&boards	ICT	AUTOMATION TECH. AND ROBOTICS		
Transport Equipment	TRANSPORT EQUIPMENT	New materials	Automation tech. and Robotics	Nanotechnology	
Electronic components & boards	ELECTRONIC COMPONENTS & BOARDS	New materials	Automation tech. and Robotics	Nanotechnology	Electrical installation
Energy	El. motors, generators, transformers; Waste collection	ENERGY	ICT		
Waste collection				WASTE COLLECTION	

It needs to be noted that this overview does not present an exhaustive survey of adaptive clusters in these countries and thus of all possibilities for cross-border cooperation. The research performed within this project output was limited to a smaller number of industries (mainly due to the differences in availability of statistical data between countries). However, the analysis still produces results that indicate some possibilities for cross-border cluster cooperation.

Further insights into possibilities for cross-border cooperation and emergence of new industries can be gained by analysis of qualitative research results. Through interviews the entrepreneurial firms have provided their opinion on production and service fields where they see the potential for CEE cross-border cooperation. Also, they have offered their views on where they see the potential for emerging industries. Again, this does not present a survey of all possibilities available for cooperation and emergence of new industries since due to restrictions in resources available in project partners for performing qualitative research only a limited number of firms were interviewed. However, the results still point to a number of possibilities and illustrate the usefulness of bottom-up approach in designing economic policy.

We can summarize the potential for cross-border cooperation and emergence of new industries that we have identified by our analysis as seen in *Table 2 and 3*. EF's from the clusters in Czech Republic, Slovenia and Slovakia identified the *key technologies and services as having potential for emergence of new industries, based on cross-technological and cross-sectoral cooperation. They are presented in Table 2 as follows*: advanced materials, optics and electronics, nanotechnology and micro technologies, production and process control technologies, ICT and engineering. Fields of common interest that were highlighted by the most EFs from partner countries were three: manufacturing process technologies, ICT[14] and advanced materials.

In *Table 3* we present a summary of potential *for emerging industries arising from the latest technological advances, changes in the regional economic structure and global (societal) challenges*. Global (societal) challenges where market demand is growing are the following: health care, energy efficiency, sustainable transport, sustainable technologies, and sustainable construction). The fields where new industries could emerge in relation to global challenges are presented for each country's clusters, showing the potential for cross-sectoral and cross-technological cooperation.

Table 2 Potential for emerging industries based on cross-technological and cross-sectoral cooperation

TECHNOLOGY AND SERVICE FIELDS	SLOVENIA	SLOVAKIA	CZECH R.
Advanced Materials	Man. of Other Transport Equipment Electronic Components	Aluminium Metallurgy and Processing Automotive Industry	Nanotechnology Production of Plastic Products Man. of Basic Pharmaceutical Products
Optics, Electronics	Medical Devices Electric Motors, Generators, Transformers Man. of Other Transport Equipment Electronic Components	Automotive Industry Automation Technology and Robotics	
Nano/Micro Technology	Medical Devices Man. of Other Transport Equipment		Nanotechnology Man. of Basic Pharmaceutical Products
Process Technologies	Electric Motors, Generators, Transformers Man. of Other Transport Equipment Electronic Components	Aluminium Metallurgy and Processing Automotive Industry Automation Technology and Robotics	Man. of Basic Pharmaceutical Products Waste Collection Production of Plastic Products Nanotechnology
ICT, Embedded Systems	Medical Devices Electric Motors, Generators, Transformers Electronic Components	Automotive Industry Automation Technology and Robotics Aluminium Metallurgy and Processing ICT	Man. of Basic Pharmaceutical Products Waste Collection Nanotechnology
Design and Engineering	Medical Devices Man. of Other Transport Equipment Electronic Components	Automotive Industry Automation Technology and Robotics ICT	Production of Plastic Products

14 Some examples of process technologies: computer numerically controlled machine tools (CNC), robotics, automated guided vehicles (AGVs), Flexible manufacturing systems (FMS), and computer integrated manufacturing (CIM). Each of these process technologies is used to create and deliver products and services. This distinguishes them from product technology which is the technology embedded within a product (for example: a technology that made video cassette recorder to distinguish it from the technology within the recorder itself).

Table 3 Potential for emerging industries at the cross-section of different sectors and technologies in relation to market trends and global challenges

CLUSTERS\GLOBAL MARKET CHALLENGES	HEALTH CARE	ENERGY EFFICIENCY	SUSTAINABLE TRANSPORT	Sustainable Technologies	SUSTAINABLE CONSTRUCTION
NANOTECHNOLOGY (CZ)	**MEDICAL TREATMENT MEDICAL DEVICES**	**ENERGY PRODUCTION ENERGY EFFICIENCY**	**TRANSPORT EQUIPMENT**		**CONSTRUCTION MATERIALS**
Production of Plastic Products (CZ)	Medical devices		Transport equipment	Production of renewable resources	Construction materials
Aluminium Metallurgy and Processing (SK)		Energy production	Transport equipment	Purification systems	Construction materials
Medical Devices (SI)	Medical devices			Bioengineering	
Man. of Basic Pharmaceutical Products (CZ)	Medical treatment Production systems			Bio-based materials	
Information Communication Technologies (SK)	Production systems	Energy distribution system Management Systems	Transportation systems Management systems	Control and management systems	Production systems Management systems
Electric Motors, Generators Transformers (SI)	Production systems	Energy distribution systems Power generation systems	Fuel efficiency	Power generation systems	
Automotive Industry (SK)		Production systems Energy efficiency	Production systems Fuel efficiency	Renewable resources	
Automotive Technologies and Robotics (SK)	Production systems	Energy efficiency	Production systems Management systems		
Man. of Other Transport Equipment (SI)		Energy efficiency	Fuel efficiency Production systems	Renewable resources	
Electronic Components (SI)	Medical devices Medical treatment	Energy distribution system Management systems	Transport equipment Transportation systems	Bio-based materials	Production systems Management systems
Waste Collection (CZ)		Energy production	Fuel efficiency	Waste treatment Recycling	Construction materials

The qualitative analysis also gave two important insights. First, entrepreneurial firms of adaptive clusters can be found where technological changes or changes in global demand address regions' or firms' production and organizational capabilities or strategic opportunities. These production and organizational capabilities are built on the legacy skills, capabilities, knowledge bases, and the infrastructure of the regions in which the entrepreneurial firms are embedded. Second, the regional industrial specialization between CEE project countries shows a high degree of complementarity, as indicated in Table 1 and 2 indicate. Therefore it is possible to foresee that many technology fields and sectors included in this analysis could be considered as a fruitful ground for CEE cross-border cooperation that could also lead to emerging industries.

Given the importance the firms assign to networking and especially cross-border cooperation, it is relevant to understand the *obstacles that prevent the firms in engaging in cooperation* with partners from other CEE countries. The most often stated ones were lack of funds for financing the exploitation of emerging technologies, for the development of new ideas, for pre-investment proof of concept, and to fund the research and transfer of results to industry. These issues are even more relevant for early-stage development processes of start-up companies. Other factors mentioned were: high marketing cost to enter into new markets, high cost of searching for potential partners, the lack of skills needed to find and estimate disruptive ideas, insufficient innovation skills of employees in general, bureaucratic obstacles, the lack of political support, the lack of innovation culture, difficulties to access new markets, the lack of possibilities for experimental development and testing, distrust in new materials and products. Some entrepreneurial firms mentioned also weak cooperation between firms and academic institutions, patents and licences, other legal obstacles and high administrative barriers. *More specifically relating to cooperation with other CEE partners*, entrepreneurial firms mentioned the lack of trust, lack of interest on the companies side which are most often also competitors, the lack of networking culture, the lack of awareness of the potential for cooperation between firms across borders, lack of knowledge about firms in the CEE region, and the lack of information on the best practices of cross border cooperation between CEE companies. Some obstacles were also reported to exist on EU level, such as: bureaucratic procedures of EC tenders and (only) declarative nature of EU support.

2. Case studies of emerging sector cooperation projects – Output 4.2.

Three case studies of the transnational cluster cooperation projects were selected that are related to the emerging industry sectors, identified by activity 4.1:

- CARE, Clean Aerospace Region Project (PP Rzeszów Poland, presented by the Aviation Valley Poland), performed by the consortium of nine aviation clusters and a consulting company within the EACP (European Aerospace Cluster Partnership) from France, Germany, Poland, Italy, Turkey, Spain, Portugal and Belgium;
- AvtoNet Project within the CE Programme (PP Slovakia, presented by the Automobilový klaster Západné Slovensko), performed by the nine partners, representing business support actors of automotive industries from seven regions (Slovakia, Italy, Germany, Poland, Turkey, Ukraine and Russia);
- ALPlastics Project (PP Piemonte Region, presented by the Piemonte Innovation Cluster "Proplast"), a network of clusters and private/public actors from 5 Alpine regions - Italy, Austria, France, Germany and Switzerland.

A common methodology for case studies presentation was developed. Regional clusters were interviewed to describe the projects, their aims and objectives, partners, activities and impact. Their views on cross-border cooperation as the potential for development of cluster organizations and their members were addressed in greater detail.

These case studies give additional insights, relevant for the Common proposal on promotion of cross-regional cluster cooperation:

- Importance of cross-border cluster cooperation is recognized in all cases. They stress importance of technology transfer, supplier chain development and market development. Traditionally, cross-border cooperation exists with clusters and companies from the same sector or technology field.

- The aim of the projects studied in the case studies is cooperation in R&D, knowledge and technology transfer. The challenges identified are to support cluster members in accessing knowledge and new technologies, thus achieving critical mass required for investment in R&D and innovation along the value chain. Cooperation between industry and education/research institutions is important both at national and regional level. What is missing is vertical co-operation across different sectors and technology domains that could lead to development of new value chains.

- Clusters have long lasting experiences with cross-border cooperation; they have developed several joint development projects. But at the same time there is general recognition that cluster members do not consider international cooperation as their top priority. Cluster organizations' emphasis on transnational cooperation is not yet met with considerable interest by the firms, especially in the field of R&D and technology transfer. Firms' expectations regarding support for internationalization are mainly related with the establishment of business contacts and access to (new) markets.

- Case studies outline that clusters present favourable environment for emerging industries, stimulating interactions among different actors. Cross-border cooperation brings additional value when stimulating inter-cluster cooperation, involving more actors from different sectors and different technology fields. Case studies' projects are considered to contribute to development of new and promising growth areas while catalysing on the potential synergies in investment in R&D and innovation to develop new knowledge for radical innovation or transformation of existing economic activities.

- Case studies indicate barriers to more successful cross-border cooperation. Lack of the awareness and active involvement of cluster members is an important weakness. The impact of the existing cross-border cooperation on the improvement of the cluster organisations themselves is strong but less so on the cluster members. Especially SME's are less involved and active. Lack of focused internationalization strategies is also defined as a weakness, hindering the potential for cross-border cluster cooperation. Access to finance and support for cross-border innovation activities is another one. In order to facilitate cross-border cooperation in R&D and innovation, case studies' projects are focused on development of the following activities:
  - Stimulating awareness of the potential of cooperation among cluster members, developing information database and cooperation platforms (Open Innovation Platform in case of AlPlastic Project, Directory Database of R&D Actors in case of CARE Project, AutoNet MatchMaking Database);
  - Improving cooperation among clusters, setting up transnational networking and facilitation platforms (case of Cluster Facilitation Programme of ALPlastic project);
  - Ensuring policy support for cross-border cluster cooperation in R&D and innovation, influencing policy programs and measures (Policy and Innovation Programme in case of ALPlastic), participation in international programs and initiatives (case of CARE Project).

The case studies did not directly address the topic on potential for emerging and new industries, but some conclusions on the cross-border cluster cooperation give additional support to the findings of the Synthesis report on emerging industries (Output 4.1.3):

- Enlargement of the market, access to new markets and knowledge and technology transfer are defined as the most important fields of cross-border cooperation for the clusters and cluster members.

- Cross-border cluster cooperation is mainly developed with clusters and firms from the same sector or technology field. It is recognized that strategic innovation requires development of new value chains and vertical cooperation across different sectors and technology domains which is not yet explored.

- Obstacles for cross-border cooperation in R&D and innovation and thus also for exploiting knowledge and technologies as a seed for emerging industries are identified in lack of awareness of the potential among the cluster members and lack of effective policy support. The need for action is recognized both at the level of clusters and national and international policies.

3. Analyses of cluster potential (inside the ClusterCOOP area) – Output 3.1.5

The analysis of the cluster potential was carried out for five countries/regions of the partnership, covering the Czech Republic, Hungary, Poland, Slovakia and Slovenia. In total sixteen clusters from partner countries took part in the analysis. The main objective was to identify the emerging industry development through cross regional cluster cooperation. Partners used a common methodology to carry out the analysis. The summary of all results is presented in the Core Output 3.1.6 "Common Proposal for optimization and harmonization of national regulatory frameworks". Here we concentrate on findings related to the cross-border cooperation and on some other findings which affect CEE clusters' potential for entering into emerging industries.

The main findings are:

- Clusters view cross-regional cooperation as an important factor for clusters to attain sustainable growth due to new opportunities, exchange of competences, and joint projects that such cooperation can facilitate.

- Most clusters expect the main value of cross-regional cooperation to be derived from: adaptation of new technologies, new product development and from accessing the larger market which in turn could lead to smarter specialization and more intensive cross-border collaboration.

- The benefits of cross-border cooperation are expected to come from the transfer of know-how, technology and information exchange. Further, cluster companies expect benefits due to new markets potential and possibilities to attract new capital.

- Most clusters also reported having experience with cross-border clustering. What is not clear from the report is whether they only have cross-border contacts or a real cooperation.

Regarding the measures that can enhance regional cross-border cooperation, most clusters assign the highest importance to the following: measures to facilitate networking between firms and clusters, to provide direct financial support to cluster projects, to facilitate transfer of technology, marketing activities, exchange of information, and cooperation with universities. These findings very much support the findings of the country/regional analyses presented in the Synthesis report on emerging industries (Output 4.1.3), but not in all aspects. Cluster managers and cluster companies have put great emphasis on the lack of financial assistance – i.e. direct financial support to cluster initiatives and to clusters' development of R&D capacities. They consider this as the second most important obstacle to clusters' development. Contrary to this, entrepreneurial firms interviewed within the work on Output 4.1.3 did not discuss this issue. Two of them even expressed the opinion that government financial assistance to cluster development is more of a hindering rather than a fostering factor (since it creates dependence on government financing). Findings of analysis of cluster potential that give additional insight on the CEE emerging industries potential are the following:

- Most respondents stated the following factors as the ones hindering cluster development: problems related either to risk or bank financing, the lack of human resources - young engineers and qualified technicians, the inadequate availability of qualified workforce, the lack of skilled manpower, the lack of high quality infrastructure, specifically R&D institutions, the underdeveloped domestic markets and the low competitiveness of the national economy.

- Half of the regional cluster companies belong to one industry, only few to horizontally related industries and only two reported belonging to multiple industries.

- The vast majority of regional clusters have only a few steps in the vertical production chain.

- Most of the surveyed clusters declared to be technology adapters (followers) and technology generators (leaders) at the same time and only two declared to be technology generators.

The last three statements indicate that the surveyed CEE regional clusters (cluster initiatives) encounter quite serious impediments in view of their capacities to enter into emerging industries. The first statement (concerning the hindering factors for cluster development) corresponds again to the views of entrepreneurial firms obtained through country/region analyses of the obstacles for exploiting technologies as a seed for new industry development presented in Section 1. If partnership countries are truly committed to promote cross-regional cluster cooperation in emerging industries, effective national policies and measures should be designed to alleviate these impediments.

III. PROPOSALS

Proposal No. 1

Promote cross regional cluster cooperation in emerging and new industries. Identify their particular niche in European value chains with regard to KETs development and deployment.

As presented in the Synthesis report on emerging industries, the possibilities for cross border cooperation between project partner countries and regions were identified. These possibilities lie at the cross section of industries that show signs of having a critical mass of firms and support institutions with a collective capability to develop new products and processes, are competitive on global markets, and are based on high degree of specialization. These clusters of firms have emerged naturally; their capabilities have been historically shaped, leading to the development of both special skills and regional specialization.

In these industries the following key technologies and services were identified as having potential for cross border cooperation between different clusters and industries: advanced materials, optics and electronics, nanotechnology and micro technologies, process technologies, ICT and engineering. Fields of common interest that were highlighted most often by interviewed firms in partner countries are three: process technologies, ICT and advanced materials. In addition to this, the possibilities for emerging industries arising from the latest technological advances, changes in the regional economic structure and global (societal) challenges were identified. They include the fields of health care, energy efficiency, sustainable transport, sustainable construction and environment/sustainable technologies.

These technology and services fields offer a fertile ground for emerging industries and are appropriate to be considered by partner countries in designing national innovation strategy for smart specialization. It should be noted however that the identified possibilities for cross border cooperation between partner countries do not reflect all the possibilities for cooperation that may exist in partner countries. To identify them and to come

to consistent results with those presented in this document, it is recommended to apply this methodology in an exhaustive manner, including in research all clusters/industries in project partner countries that show such potential. Common methodology used in this study proved to be a powerful analytical tool for such identification.

Proposal No. 1 corresponds to the Commission's recommendations to member states and regions to develop national and/or regional research and innovation strategies for smart specialization based on identifying their unique assets and competitive advantages. Since the technologies we have identified correspond to technologies that have been identified as the EU's Key enabling technologies (KET) this proposal also calls for partner countries to identify their particular niche in European value chains with regard to KETs development and deployment.

Proposal No. 2

Remove obstacles for exploiting possibilities for emerging industry development on firm and national level.

Industrial emergence is an evolutionary process and it is difficult to capture it until after the industry develops successfully. It depends on activities of a number of individual actors, not only firms and their collaborative actions but also on the institutional set up in which national policies and strategies have an important role to play.
Partners' country/regional analyses on emerging industries as well as analysis of clustering potential and case studies unveiled many hindering factors on both firm and national (policy and institutional) level to emerging industry development. The most often stated ones from a firm perspective were the lack of funds: for financing the exploitation of emerging technologies, for the development of new ideas, for pre-investment proof of concept, for funding the research and transfer of its results to industry, and for supporting early-stage development process of start-up companies. Other hindering factors are associated with the labour market, such as insufficient innovation skills of employees in general, lack of innovation culture and trustful environment, and with the administrative procedures and bureaucracy as well as insufficient political support.

On the national level: inefficient innovation policies were singled out as an obstacle – due to too little financial support and inefficient grant system, too cumbersome assessment procedures and tenders specification, and due to the lack of direction in national strategic framework on development (the lack of focus and prioritization and its link to education policy assuring up-to-date knowledge inputs). Some partner countries were critical towards current administrations as lacking the understanding of characteristics of high technology in different applications, especially those that designate trends and lead evolution, a necessary knowledge to design an effective innovation policy.

To remove some of the obstacles partner countries suggested that national policies should support companies in entering international value chains and channels that would enable them to acquire information about the market needs and trends. It was also suggested that national policies should promote open innovation models, cooperation values and regional market development initiatives for demonstration and deployment of new technologies.

To address these obstacles it is suggested to put appropriate focus on strong framework conditions to address weaknesses in the business environment for innovation in CEE partner countries by well defined and effective national policies targeting the emerging areas of expertise. More specifically, demand-side policies should be addressed to increase investment into new market development and specific measures should be developed to stimulate cross-technological cooperation. Also, financing mechanisms should be adjusted to meet the needs of emerging industries, for example through providing support for experimentation and through developing financial instruments to provide easier and quicker access to smaller grants and to open national tenders (funds and EU funds) for non-resident experts to expand international linkages and strengthening global value chains. The effectiveness of these measures will depend on the level of coordination of all different policy instruments that may affect firms, clusters and industries' potential to engage in new industry development. This is in line with the recommendations pertaining to emerging industries given in the ECPG document "Consolidated Set of Policy Recommendations on Four Themes". Identified obstacles on the firm as well on the national level as results of all three outputs (Output 4.1.3, 4.2 and 3.1.5) demonstrate the complexity of obstacles which cannot be removed by separate policy measures in un- coordinated manner.

Proposal No. 3

Promote the development of trustful networking culture with effective and efficient measures.

Tacit and disembodied knowledge seem especially important for emergent high-tech industries and personal contacts are of significant value for transfer of this kind of knowledge. Therefore, networking and collaboration is crucial for firms in emerging industries to enable the access to resources and to search for knowledge inputs that are used to develop new technologies and products.
Networking and cross border cooperation was singled out by partner countries' entrepreneurial firms, cluster managers/organizations and by cluster case studies as an important facilitating factor for acquiring knowledge and information important for new products, technologies and markets. However, the analyses revealed that in spite of being aware of the benefits and importance of networking for business growth and success, the companies are not actively pursuing these options. We found no evidence of existing networking within and across clusters leading to formation of collective capabilities necessary to develop new products, processes or technologies. The analyses showed the lack of trust and networking culture to be one of the main hindering factors to further development of companies' relationships based on cross cutting of companies capabilities. Companies in a cluster or across clusters are not willing to share their tacit knowledge, therefore the generation and accumulation of new knowledge to be transformed into new products and processes that would create gains to all in the networks is missing. In turn this hinders companies' motivation for cross border cooperation that could lead to the development of emerging industries.
To a large degree, trust is a history-dependent phenomenon. To create trustful culture it is important that on all society levels values on which trust is built – such as integrity, reliability, fairness, open communication, competences and loyalty – are promoted and be accepted as a national defining feature. The above results suggest that the openness to cross border cooperation will depend not only on the proximity in technological specialization between partnership countries but also on the cultural proximity, in which values creating trust are an important part in determining this dynamics. Therefore, it is suggested that policy makers and other opinion makers vigorously promote values on which trust in a society is built upon, such as integrity, reliability, fairness, open communication, competences and loyalty in order to help creating a business culture conducive to innovation cross border cooperation in the field of emerging industries.

Proposal No. 4

Build up industrial innovative capabilities - strengthen and inter-link activities around the knowledge triangle between research, education and innovation.

For companies in emerging industries the access to knowledge inputs that are used to develop new technologies and products is of critical importance. High tech firms search for knowledge in universities and other knowledge providers. This explains why current high tech clusters around the world are located in proximity of excellent universities and/or research institutes. The studies have also shown that training of personnel is one of the important determinants of absorptive capacity of firms which is crucial for their innovative outputs.
Analyses of the national/regional studies on emerging industries and on clustering potential revealed a rather unsatisfactory situation in all partner countries in respect to availability of innovation capabilities for branching into emerging industries. There is a significant gap in terms of demand and supply in science, technology, and engineering education. Interviewed firms were specifically critical about educational system and university training as being inadequate. It lacks interdisciplinary training and generation of applied knowledge, resulting in an inadequate supply of people with skills to find and estimate disruptive ideas. Partners are missing excellent research universities and motivation on the side of researchers to transform new knowledge into new business opportunities, partly also due to a lack of entrepreneurial education at technical and science faculties and to the shortage of entrepreneurs in general. Not only higher education institutions but also R&D institutes were pointed out as lacking in quality and thus hindering cluster development.
This leads to a conclusion that there is an urgent need to update formal education system in accordance to the needs of technological change and to support training activities aimed at improving technical, entrepreneurial and business skills in partner countries.
These results and the proposal are in line with the Commission's view on the need to upgrade European skills and to strengthen knowledge triangle to maintain growth and jobs.

Proposal No. 5

Remove obstacles for exploiting possibilities for emerging industry development on the EU level.

European single market should in principle be fertile ground for cross-border, trans-regional cooperation. However, as our analyses show, this is not the case.

Factors limiting trans-regional and particularly CEE cluster cross-border cooperation pertain to companies themselves, their capabilities, willingness and ability to engage in the cross-border cooperation for emerging industry development, while some of them were directed to European Commission and Member States.

In explaining why companies themselves are reluctant to enter into cross-regional cooperation in emerging industries, entrepreneurial firms stated the obstacles that were discussed in the Proposal No. 2. The case studies findings also support their statements. In addition the following conclusions can be pointed out based on various results, all specific to cooperation within the CEE: cross-border cooperation is hindered by the lack of companies' interest to cooperate with companies from CEE countries which is also connected to a fact that some of them are their competitors, the lack of complementary skills (due to similar industrial structure and similar level of industrial development), the lack of awareness of potential for cross border cooperation, the lack of knowledge about firms in the CEE region, and the lack of information on the best practice of cross border cooperation between CEE companies.

Some of the obstacles to CEE cross-border cooperation seem to be connected to the lack of information on other firms with potential for fruitful cooperation in the region. Identification of potential partners in the case of emerging industry development is made more difficult by the fact that partners need to be found from other industries and technology domains and not within the core industry about which successful firms usually have an in-depth knowledge. Our research has shown that existing cross-border links of firms in partner countries indeed do not extend outside their core industry. Therefore it is to be recommended that policy measures aim at facilitating the search for information on partners (firms and knowledge providers) from the CEE region.

The most often stated obstacles to cross-border cooperation at the EU level were the following. Bureaucratic procedures of EC tenders were especially noted in the analysis of clustering potential, resulting in administrative burden especially large for SMEs which many times prevent them to take full advantage of the existing programmes. At the same time SMEs cannot be leading partners in the EU projects due to their size, thus becoming minority partners which in turn means that the project usually is not related to their core production capabilities. EU projects are currently designed in such a way that they do not lead to a long lasting cooperation between partners engaged in the project, thus preventing the development of trust that is necessary to engage in finding new solutions based on collective capabilities of project partners. In short, general opinion was that EU programmes as they are currently designed are not friendly to SMEs. The example of EU financing of the EU Technology platform for photonics presented by a partner country illustrates this statement. Most of photonic clusters and platforms are concentrated in the Western EU countries.

Domination of large western companies in the EU technology platform for photonics will no doubt result in the marginalization of the presence of smaller firms. Benefits of cross border exchange, accumulation and deployment of knowledge and skills as well as EU financial support will again, as so many times before, bypass small firms also in this case.

Summary of the development and operation of the Virtual Interactive Platform

Background information:

The main aim of the Virtual Interactive Platform (VIP) is to provide direct and easily accessible knowledge support for clusters in project partner countries (and beyond).

The platform will act as a "service and knowledge" centre for clusters, cluster management organisations and cluster members to access up-to-date knowledge on current issues and trends regarding trans-national cluster cooperation. A partner-search facility and a constantly updated database of current supporting programmes and initiatives will be also featured on the platform. The content of the Knowledge Database created under 5.2. will be also accessible through the platform, together with knowledge gathered by the project, hence the Platform will be an important tool of knowledge management as well.

Results: According to the Application form, as a result, a dynamic virtual platform will be operational that is regularly updated and tailored to clusters' needs during the project and after its end. PP11 (MAG – Hungarian Economic Development Centre), who is responsible for setting up this service will maintain the website even after the project closure, ensuring the sustainability of this important communication and cooperation tool. With the help of this platform (which will be widely promoted towards target groups) clusters will possess extended knowledge on the possibilities and framework of transnational cooperation, and they will be aware of the specificities of different countries and regions of the area.

Target groups: Direct TGs and beneficiaries of the Virtual Platform will be clusters, cluster management organisations and cluster member companies/institutions, who will be invited to be active and interactive users of this tool. They will be informed about the Platform via newsletters, project website, Cluster Contact Points (CCP's), and at different venues of the Matchmaking Road-show.

Development process of the platform:

- Basic questions were discussed at the 2nd TWG-meeting in Ljubljana in February 2012.
- The Description of Operation and the Specification were presented in the 3rd TWG-meeting in Torino in July 2012. The procurement was ended then the development of the platform started at Q3 2012 according to above.
- The first demo version of the VIP was presented in the 4th TWG-meeting in Torino in October 2012.
- The development of the platform was also presented at the Cluster Contact Point (CCP) training in Torino in November 2012.
- User guides were sent out in February 2013 to the CCP's. They could start testing the functions of the VIP. The feedbacks and next steps were discussed in the 5th TWG-meeting in Karlsruhe in February 2013.
- The platform was published in May 2013, and it was presented in the 6th TWG-meeting in Prague. The CCP's can use the platform since June 2013.

Current stage of the Virtual Interactive Platform

Cluster Contact Points were set-up. They have access to the administration surface of the platform where they can reach those functions which the partnership agreed before:

- Record and approve clusters who have initiated their registration to the cluster map
- Moderating fora
- Uploading news
- Editing, sending newsletters
- Upload events to the event calendar
- Editing the following menus:
  - Cluster calls
  - Knowledge database
  - Cluster of the Month

The Knowledge database – elaborated by Inno – has been uploaded to the platform, it can be updated at any time by CCP's.

Future steps, challenges

During the development phase of the VIP several other similar cluster platforms have been launched. The most important one is the European Cluster Collaboration Platform. These web-tools pose obstacles to the project team of ClusterCOOP, because it seems there is no real user demand to numerous similar platforms. The key challenge thus, to find those functions which can distinguish the ClusterCOOP platform from the other ones and create real added value.

The utilization of the VIP mainly depends on the activities of the CCP's. An active advertisement of the platform is needed to involve as many clusters and users as possible. Certainly, this is in close correlation with the issue raised above.

Closing remarks:

The Projects' Ministerial Conference scheduled for September 2013 shall approve a Memorandum of Understanding on further cooperation of V4 countries on the topic of cluster development to be pursued in order to best realise the goals to be set by the Smart Specialization Strategies of the countries and the relevant EU Programs.

The ClusterCOOP Project shall have its closing conference (to be organised in Bratislava) early 2014 (planned for first half of February) ahead of/during which the pending outputs of the project shall be presented, approved and publicised. These are "Action plans to adopt the framework solutions", "Proposal for the alignment of funding schemes", "National/Regional level proposals for policy optimization", "EU programming recommendation".