

CLUSTER POLICY REPORT

V4 CLUSTER POLICIES AND THEIR INFLUENCE ON THE VIABILITY OF CLUSTER ORGANISATIONS

CLUSTER POLICY IN THE CZECH REPUBLIC

Drahomíra Pavelková

Pavel Bednář

Adriana Knápková

Pavla Břusková

Martina Sopoligová

December 2016



This project is implemented and co-financed by
International Visegrad Fund | www.visegradfund.org

I.	INTRODUCTION	3
II.	THE GENERAL ASPECTS OF THE CLUSTER POLICY	5
2.1	The definition and types of cluster policies.....	5
2.2	The rationale for smart cluster policy.....	5
2.3	The Smart Cluster Policy Model	6
III.	RESEARCH METHODOLOGY.....	10
3.1	The analysis of development and current situation in the individual countries.....	10
3.2	The V4 cluster policies comparison	11
3.3	Success stories dissemination	12
3.4	The V4 Cluster Policy Reports	12
3.5	The Smart Cluster Policy Model	13
IV.	CLUSTER POLICY DEVELOPMENT AND CURRENT SITUATION IN THE CZECH REPUBLIC	14
4.1	Cluster policy, strategic documents and programmes.....	14
4.2	Supporting authorities and institutions	22
4.3	Cluster mapping, establishment and development of the cluster organisations.....	23
4.4	Evaluation of cluster organisation performance	24
4.5	Awareness and satisfaction of cluster organisations' managers	25
V.	Analysis of cluster policy approach and results	29
5.1	SWOT analysis of cluster policy in the Czech Republic.....	29
5.2	Cluster policy best practices from the Czech Republic.....	30
5.3	Success story.....	38
VI.	RECOMMENDATIONS FOR IMPROVEMENT THE CZECH CLUSTER POLICY.....	39
VII.	CONCLUSION.....	44
	APPENDIX 1: Methodology Guide.....	45
	APPENDIX 2: Documents and programs related to the cluster policy in the CR.....	53
	APPENDIX 3: List of cluster organisations by type in the CR	71

I. INTRODUCTION

As cluster policy has been recognised one of the basis for building the competitiveness of Europe through excellence and innovation, it counts among the strategic priorities of the European Commission. The European Union's desire to make Europe the most competitive and dynamically developing area has resulted in stimulation of innovations and mobilization for cluster concept development. Therefore, numerous initiatives have been launched in this direction. The EU has based its cluster policy on activities focused on the creation of an environment favourable for cluster development, i.e. ensuring appropriate financial instruments and improvement of coordination channels, supporting science-education-industry cooperation. The levels of intensity of the undertaken activities and models of implemented cluster policy in the member countries, however, vary significantly.

It is no matter of doubt that clusters are first of all the phenomenon arising from the needs of the market. Nevertheless, the intervention from public sector is desirable if enabling a better and more effective use of the clustering potential. Well-functioning cluster organisations are conducive to structural changes and general improvement of competitiveness, better exploitation of the innovative potential of SMEs and the bridging of the industry-academia gap while the role of competition is not undermined. Therefore the cluster policies should be more strategic, focused on cluster management professionalization including, among others, the financial needs of the cluster organisation operation.

The efforts of the European Commission to develop and upgrade the cluster policies have been numerous. Based on the European Cluster Memorandum and a Commission Communication on clusters in 2008, the cluster development programmes were reinforced by the European Cluster Policy Group (ECPG) establishment. The 18-months work of 20 partners led by Dr. Tea Petrin, the former Slovenian Minister of Economics, was topped by policy recommendations towards the Commission and also the Member States level¹. The latter included the task to encourage better cluster programmes at the EU Member State level and streamline EU funding for clusters by creating a unified set of administrative procedures. The idea of a common/shared approach was considered to take place in this recommendation, in particular, the method of open coordination (OMC), i.e. the facilitation of the best practice learning between member countries to enhance the quality of these programmes.

Subsequently, the European Cluster Alliance (ECA - established by the EC in 2006) elaborated the overview of international good practices named "The Use of Data and Analysis as a Tool for Cluster Policy"². Next to the definition of the cluster policy that refers to the range of actions aimed at improving cluster performance, the notion of a fact-based cluster policy was applied by the ECA. Hence, policy is said to be fact-based when it is derived – in part – based on concrete and measurable information or data. In other words, it is necessary to have common methodology for cluster-benefits assessment to ensure a good cluster policy.

¹ European Cluster Policy Group (2010) Final Recommendations - A Call for Policy Action.

http://www.clusterobservatory.eu/common/galleries/downloads/ECPG_Final_Report_web-low1.pdf

² European Cluster Alliance (2009) The use of data and analysis as a tool for cluster policy. An overview of international good practices and perspectives prepared for the European Commission.

The countries of the Visegrad Group (V4) have been developing their national cluster strategies individually, losing the opportunity to learn from each other, share the capacities, create synergies and interlink the cluster policies structurally. The ClusterCOOP Project³ (2011-2014) tried to enhance synergies among national/regional cluster policies and funding frameworks in CE countries. The project “V4 cluster policies and their influence on the viability of cluster organizations” financed by Visegrad fund and includes partners from all V4 countries follows the idea to exchange knowledge and experience to improve national and regional cluster policies in V4 countries.

In the Czech Republic, the “boom” in cluster concept development began in 2004 with an programme offered by CzechInvest. The programme explicitly focused on clusters and the subsequently implemented National Cluster Strategy resulted in great popularization of the cluster phenomenon in the country. The initial enthusiasm, however, disappeared with bureaucracy and organizational problems, which appeared within the implementation of the programme. In addition, the initiated cluster strategy did not meet the raised expectations and has not been continued within the next programming period. The supporting mechanisms for clusters are currently being implemented primarily within the operational programme, but with an undefined vision for further clusters and cluster policy development in the country. Numerous cluster organisations have been established and they have come up to different level of development and management⁴.

The report is divided into seven chapters. After “Introduction” the Chapter II defining general aspects of the cluster policy and introducing a smart cluster policy model is following. The unified methodology, introduced in Chapter III, was applied by all project partners. Chapter IV contains the analysis of development and current situation of cluster policy issues in the Czech Republic covering the dimensions of governments and agencies supporting cluster organisations development within the national and regional dimensions, and the level of cluster organisation managers. Cluster policy in the Czech Republic was compared with results of analyses in other V4 countries. On the basis of analysis of cluster policy approach (summarized in SWOT analysis, best practices and success story in Chapter V) in the Czech Republic and comparison with the smart cluster policy model and experience of project partners’ countries, recommendations for improvement of the Czech cluster policy have been prepared and described in Chapter VI. Chapter VII concludes the project results and benefits for Czech cluster policy.

³ www.clustercoopproject.eu

⁴ Bialic-Davendra, M., Pavelkova, D., Jircikova, E. (2014) *The Cluster Phenomenon in the Selected Central European Countries*. Cambridge Scholar Press. ISBN (13):978-1-4438-5539-6

II. THE GENERAL ASPECTS OF THE CLUSTER POLICY

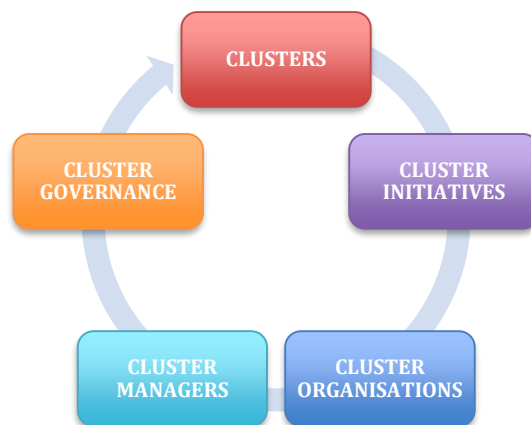
2.1 THE DEFINITION AND TYPES OF CLUSTER POLICIES

Cluster Policies can be defined as specific governmental efforts aimed to support clusters. According to the European Cluster Alliance, these governmental efforts can be sorted into three categories⁵ (similar classification was provided by Oxford Research AS⁶):

1. **Facilitating policies** that are directed towards creating a favourable microeconomic business environment for growth and innovation. Support from the public sector tries to enhance the specific conditions that could improve a cluster's performance (e.g. regional cluster policy stimulating the mapping, facilitation and formalisation of cluster initiatives).
2. **Traditional framework policies**, such as industrial and SMEs policies, research and innovation policies, and regional policy often use the cluster approach to increase the efficiency of a specific instrument (e.g. R&D and/or SMEs support through clusters).
3. **Development policies** aim at creating, mobilising or strengthening business strategies and co-operation between organisations and people through knowledge sharing at a regional or cluster level. The public sector can support particular clusters through broader programmes (national funding competition for cluster organisations) or directly, by target specific clustering efforts (e.g. the Finnish centres of expertise programme to increase the regional specialisation or the strategic centres for science, technology and innovation – SHOKs - to carry out shared research).

2.2 THE RATIONALE FOR SMART CLUSTER POLICY

When assessing the consistency and continuity of a cluster policy considering the cluster development stage aspects, we can discover an important dimension of a cluster policy - a **consistent and continual cluster policy** that should be aware of the needs of each cluster life cycle segment and should react on them in a systemic way:



In many countries the cluster policies show disproportions in consistency and continuity of the systemic and financial support throughout the cluster development stages:

⁵ European Cluster Alliance (2009). *The use of data and analysis as a tool for cluster policy. An overview of international good practices and perspectives prepared for the European Commission.*

⁶ Oxford Research AS (2008). *Cluster policy in Europe. A brief summary of cluster policies in 31 European countries. Europe Innova Cluster Mapping Project, Norway.*

- a) **Failure in keeping on the started initiative:** Developing/transition countries receiving foreign economic aid for cluster development do not continue it on their own, clusters fall out of the agenda of the governments after the external financial aid is terminated:



- b) **Concentration on cluster organisation only:** Countries with a long-term cluster policy underestimate the necessity of updating the cluster mapping and professional facilitation of cluster actors before the cluster organisation is established; low or not existing cluster governance on regional level (no funding for the “incubation” of the cluster organisation) and little care of the cluster managers’ position consolidation both financially and professionally (no training and/or mentoring/coaching capacities):



Aiming at the general functionality, broad exploitability and comparability of the state-of-the-art cluster policies in the Visegrád countries, the model of the **V4 Smart Cluster Policy** is proposed to be designed and piloted for a common use within this project. The smart cluster policy should identify the principal feedback and policy impact evaluation mechanisms so that it can permanently **balance the extended public inputs** (such as awareness and capacity building, training, operational funding, development programmes, supportive infrastructure, system of governance and evaluation mechanisms) according to specific needs of each phase and segment of the cluster development stage **with the expected cluster outputs** (e.g. cluster performance, employment and innovation, competitiveness and overall economic growth).

In its final upgrade, the Smart Cluster Policy can serve as an auto-corrective tool for the policy-makers and relevant cluster stakeholders in terms of demonstrability of the cluster concept performance and justification of public investment in it.

2.3 THE SMART CLUSTER POLICY MODEL

The Smart Cluster Policy Model (SCPM) issues from the identified deficits of the existing cluster policies causing that the potential of the cluster concept in favour of social capital creation, economic growth, competitiveness of businesses and regional development is not fully exploited.

The SCPM approach requires that the national/regional cluster policy documents and the related financial tools - the cluster-devoted funding programmes, embody the maximum understanding of the cluster concept, sensible attention to the needs of the cluster development stages and provide tailored measures for keeping all the cluster processes at the highest level of the benefits and welfare generation. Thus, the SCPM represents the principal exigencies for the cluster policy's attainment of the ideal – most productive shape.

The following three aspects of cluster policies were taken into account when constructing the SCPM and designing the eight indicators for its assessment (in italics):

- A. The time aspect of the SCPM postulates a long-term period of validity of the cluster policy and active attention to it in terms of up-dating the relevant government documents and programmes to keep them on the state-of-the-art level. The time aspect is reflected in both the Durability indicator of the cluster policy measuring in the length of the time span of the document/programme operation (long-term, mid-term and short-term duration) and the Continuity indicator expressing the confirmation of the governments positive attitude towards the cluster policy issue being, in the ideal case, the permanent part of the policy-making tools with regular updates to follow the new needs and context of the cluster policy.
- B. The executive aspect of the SCPM is enlightened in three dimensions showing whether:
- a) the national/regional government recognizes the importance of the cluster policy issue in the most adequate way, i.e. devotes the cluster issue an independent or autonomous document/programme. The Autonomy indicator then expresses the degree of the focus on the cluster policy topic showing if the policy document/funding programme is exclusively devoted to it or, in less favourable cases, is a part of a broader/similar policy but with a corresponding proportion of the cluster policy focus, or the cluster issue is only generally mentioned without any specifications. If the cluster policy document is autonomous (not part of other policies/programmes), which is the condition of the SCPM, it gives better prerequisites for its effectiveness and up-grades.
 - b) the cluster policy is firmly anchored in the government system through relevant institutional measures ensuring that the cluster policy document/programme is fully operable - as determined by the Functionality indicator:
 - vertically, i.e. it has been adopted by the government as a government decree (or similar high-level policy document) or, in less favourable cases, as a strategic document or methodology with medium or low/no effectuality;
 - horizontally, i.e. it has a general force across the sectors of the governmental departments (i.e. industry, agriculture, services etc.) vs. some sectors only or limited to one sector;
 - functionally, i.e. the implementation of the policy is fully working in accordance with the planned scheme.
 - c) there is a clearly entrusted governance body for the cluster policy development, implementation and monitoring, which is incorporated in the Viability indicator. Here, the premise is used for the SCPM that there is an exclusively established institution (which used to be the case of the Hungarian "Pole Office") or, in less favourable cases, the cluster policy implementation is incorporated within duties of an existing interdepartmental body or only one ministry. The existing allocation of financing from the public budget is also an important criterion of the SCPM to be measured by the Viability indicator.
- C. The thematic aspect of the SCPM concentrates on the scope and content of the cluster policy document/programme with the aim to embrace all the now known needs and supportive activities to ensure the full use of the holistic nature of the cluster concept:
- a) The SCPM builds on the fact that a cluster can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the cluster support scheme is the necessity.

Thus, the **Integrity** indicator for the SCPM should state the maximum degree of covering the sectors of public administration and the industries (no matter if traditional, such as automotive, or from technological or service/creative industries etc. including emerging and cross-sectoral industries) with no limits.

- b) One of the most important aspects of a good cluster policy is to understand the needs of individual cluster development stages (cluster, cluster initiative, cluster organisation, cluster management, cluster governance) and offer each stage the necessary support. The **Complexity** indicator of the SCPM then analyses to which extent the following development segments of clusters are taken into account within the cluster policy structure and related measures (including involvement of expert capacities and budgeting the relevant financial resources) concerning:
 - i. **Cluster mapping and analysis** (statistics, desk research and interviews);
 - ii. **Cluster Initiative development** (cluster actors facilitation stage towards the cluster organisation establishment);
 - iii. **Cluster organisation incubation** (the start-up support for the cluster management capacity building, joint projects of a smaller scale);
 - iv. **Cluster organisation development** (R&D and internationalisation-focused joint projects, cluster management excellence);
 - v. **Cluster governance** provided by the government/delegated authority influencing all of the previous segments if efficiently performing.
- c) The SCPM finally assumes that the cluster policy document/programme includes all the currently known and suitable supporting activities that can lead to the best performance of cluster organisations as the resulting structure of the whole cluster development efforts and investments. Thus the **Consistency** indicator of the SCPM detects the degree of the provision of the maximum of the supportive measures and actions that the public sector institutions (policy-makers) can/should offer within their governance to assist and optimise the cluster policy with the conscious goal to receive the best quality on its output. Among the desirable supportive measures there are:
 - i. The **national accreditation scheme** for cluster organisations, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently);
 - ii. **The training schemes for cluster stakeholders** targeted at cluster analysts, cluster facilitators, cluster managers and the cluster organisation staff, cluster governance representatives and other actors of the regional/national cluster-relevant development and innovation infrastructure, including the availability of experienced lecturers and trainers;
 - iii. **The cluster concept awareness building** – the basic good that the policy-makers can do for clusters – to inform about them and communicate their successes, benefits, examples worth following and the best practices in all five types of cluster organisation activities (i.e. information & networking, HR development, R&D and innovation projects, PR & marketing and internationalisation) in the form of conferences and other public events, cluster managers meeting and cross-cluster matchmaking, publications and various media outputs. Many regional

governments lack the proper understanding of the role of clusters in competitiveness improvement and how they can contribute to it.

Those countries that already have adopted and apply cluster policies can check their cluster policy “smartness” level through the screening exercise shown in the Methodology Guide of the V4ClusterPol methodology document, find possible deficits and introduce necessary changes to eliminate them.

Those countries that are in the stage of the cluster policy preparation may base the concept on the Smart Cluster Policy Model to avoid the deficits of the policy in its implementation phase.

The following messages to policy-makers and public sector officials highlight their desired role in the Smart Cluster Policy:

- *Act as a careful manager and sophisticated client - the “revealing” of existing clusters should be considered as a part of the government due diligence of the territory administration – clusters are the regional assets that wait for capitalisation.*
- *Build on local differences - prove the competitive advantage through the cluster mapping and cluster analysis tools, include the emerging and cross-sectoral industries.*
- *Understand which industries cluster and how to smooth the way to cooperation and trust among businesses through the cluster initiative and the cluster actors’ facilitation tools.*
- *Recognise the cluster development stages - differentiate actions in line with the needs of each stage – provide measures and funding that ensure the consistency and continuity of the cluster policy.*
- *Foster the dialogue between firms and government through a cluster organisation – perform the cluster governance in line with the region’s needs.*
- *Gain more through measuring, monitoring and evaluation!*

III. RESEARCH METHODOLOGY

3.1 THE ANALYSIS OF DEVELOPMENT AND CURRENT SITUATION IN THE INDIVIDUAL COUNTRIES

The analysis of development and current situation in the individual countries has been carried out by individual partners on behalf of their country. The project leader provided the guidelines for each step of the analysis in the most practical way (clear instructions in written, outlines for text descriptions, questionnaires for interviews, templates for collection of data, the required format of answers and the assessment) and in a due time before the start of each phase of the analysis.

The unified methodology of the research has been applied in each of the partners' country covering the following dimensions:

THE LEVELS OF THE ANALYSIS

- i) The level of governments and agencies supporting cluster organisations development within the national and regional dimensions, and
- ii) The level of cluster organisation managers.

THE DATA COLLECTION AND SURVEY PROCESS

- i) The secondary data for research has been collected employing government strategic documents content analysis and utilizing statistical data concerning financial support (existing programmes)
- ii) The primary data has been assembled as a result of the survey that was conducted in a form of semi-structured interviews
- iii) The survey process consisted of two stages:

Stage 1 – Preparation of inputs for the survey

- 1. Elaboration of the draft questionnaire
- 2. The territorial scope definition (partner regions, national level) – map visualisation image
- 3. Contact database of potential respondents in each partner's country
- 4. Comments on questionnaire by project partners
- 5. Questionnaire verification and finalisation
- 6. The interview plan and scenario (issues to be dealt with face-to-face)
- 7. Adoption of the survey preparedness by expert group (academic workshop)

Stage 2 – Survey implementation and conclusions delivery

- 1. Instruction on data gathering, follow-up and deadlines – common workshop / skype-conference
- 2. Questionnaire distribution with an accompanying letter by the project partner's representative offering a face-to-face meeting for interview
- 3. Data collection and two follow-ups (after the questionnaire distribution and before the deadline)
- 4. Data processing and interpretation

5. Summary of the survey

THE SCOPE OF THE ANALYSIS

- i) The description of the cluster policy historical development, milestones and time-span
- ii) Existing/valid documents concerning the cluster policy implementation, their types (policy decree, programme, methodology, etc.)
- iii) Survey of responsible implementing bodies (ministries, national/regional authorities and development agencies), cluster supporting institutions and universities/research institutes.
- iv) The detailed description of the existing funding programmes:
 - their independency or being part of other policies
 - thematic focus – which cluster activities receive the support (human resources upgrading, cluster expansion, business and commercial activities development, R&D and innovation, business environment improvement, enhancing collective productivity by developing interdependencies and complementarities⁷)
 - the amounts of the programme financial allocations
 - quantitative and qualitative results of the programme
 - applied methods of the impact assessment
 - survey of the cluster organisations and their impact on the regional development

THE ANALYSIS OUTPUTS

The analysis of the V4 cluster policies brought a profound information and knowledge on the state of the national/regional cluster policies, functional programmes and conditions of cluster organisations in the V4 countries. This, together with the knowledge sharing processes through national academic workshops, was enable to make the further steps in identification of the best practices, carrying out the comparison among the V4 countries and providing recommendation for cluster policies improvement within the Cluster Policy Reports in each V4 country.

3.2 THE V4 CLUSTER POLICIES COMPARISON

The project partners used the data collected within the analysis phase for a systematic comparison of the cluster policies in the V4 countries including:

THE COMPARATIVE MATRIX

The comprehensive matrix of both quantitative and qualitative outputs of the analyses will be set up. It will enable to define the position of each country's cluster policy within the Visegrad Group from the point of view of the following criteria:

1. Characteristics of the policy papers, strategies, programmes and the involved actors on national/regional levels;
2. The scope of financial resources involved and their eligible use;
3. System of competition for funding with the impact on cluster organisation and cluster management performance level;

⁷ European Commission (2006). *Innovation clusters in Europe – A statistical analysis and overview of current policy support*. DG Enterprise and Industry report, Luxembourg. ISBN 978-92-79-07289-5

4. The degree of the consistency and continuity of the cluster policy regarding the cluster life cycle;
5. The cluster policy impact evaluation methods and tools.

SWOT ANALYSIS

The comparison results based on the comparative matrix enabled a deeper evaluation of the strong and weak sides of the cluster policy and its threads and opportunities.

BEST PRACTICES SELECTION

Each partner proposed two best practices showing the proven administrative, organisational, infrastructural, thematic, innovative and/or financial arrangements that helped to enhance the cluster development in a substantial way.

3.3 SUCCESS STORIES DISSEMINATION

The identification of the country's best practices to learn from by the others, selection of one best practice per country and the description of its practical impact on clusters in the form of a success story concluded the joint research and evaluation activities.

The V4 Cluster Policy success stories was disseminated via the Final conference with the presence of cluster policy representatives and cluster and other channels/media.

3.4 THE V4 CLUSTER POLICY REPORTS

Four Cluster Policy Reports (CPRs) with policy recommendations for the national and regional public authorities and development agencies as a result of joint research activities has been prepared by each partner. The CPRs consists of three parts:

EVALUATION

The CPRs summarises the cluster policy analysis results and define the current position of the specific country within the Visegrad Group based on the conducted comparison.

This part of the report answers the question: **Where are we?**

RECOMMENDATIONS

The valuable knowledge gained during the process of analysis, comparison and mutual learning among the partners within the academic workshops is materialised in a specific set of proposals and messages towards the government on possible improvements of the cluster policy. The special focus will be given to proven practices how to grow the competitive potential of a region and its clusters, optimise the cluster performance, including its monitoring and measurement, but also how to simplify and shorten process of the application for project funding and generally cut the red tape for cluster organisations.

The recommendations also include the basic elements and rules of comparability that must be applied within each update or new policy drafting so that the approaches used in individual countries in future can be benchmarked.

This part of the report answers the question: **What can be improved?**

3.5 THE SMART CLUSTER POLICY MODEL

A specific part of the CPRs is devoted to the joint draft of the model of the Smart Cluster Policy. The aim is to deliver the relevant messages to each V4 country's cluster stakeholders and policy-makers. The principles of a Smart Cluster Policy will incorporate the best functioning basic approaches and tools to set up a model of a cluster policy respecting the needs of the cluster life cycle and deliberately mobilising of the still unexploited potential of the cluster concept. The Smart Cluster Policy model should address also the need of improving the cluster governance side that should lead to "knowing" policy-makers by means of training, regional and national cluster knowledge and cluster development infrastructure and general cluster expert capacity building.

This part of the report answers the question: **How can it be improved?**

IV. CLUSTER POLICY DEVELOPMENT AND CURRENT SITUATION IN THE CZECH REPUBLIC

4.1 CLUSTER POLICY, STRATEGIC DOCUMENTS AND PROGRAMMES

The cluster concept came to the Czech Republic in 2001 with the need to address pressing problems related to the country's transition economy, such as growing unemployment, low competitiveness, sporadic innovation and lack of business cooperation culture. These were intensively experienced in the Czech most populated Moravian-Silesian Region (MSR) with the capital of Ostrava, the third largest city in the Czech Republic.

MSR was undergoing a prolonged restructuring of its prevailing heavy industry (coal mining and metallurgy) as a typical representative of the older industrialised region dominated by labour intensive industries that lost its former markets and did not recover its cost advantage to find the new ones. The Czech state agency for foreign investment attraction, CzechInvest, initiated a project using a cluster approach to verify its applicability to the Czech Republic's situation with the aim, if acknowledged, to become a part of a national development policy. A tender for "Feasibility study to identify industry groupings in North Moravia for targeted aid scheme support" was announced within the EU pre-accession PHARE fund programme in December 2001. The winner consortium of P-E International represented by Andrew Thorburn, the EU Consultant, and Professor Ron Botham of the University of Glasgow started to work on the project beginning 2002, together with a group of six local experts (the author being one of them) led by Prof. Karel Skokan of the Technical University of Ostrava. The study paved the way for the cluster mapping and facilitation methodology, general apprehension of the cluster concept implementation and cluster policy in the Czech Republic⁸.

The study followed the latest knowledge and trends till then, represented by the European Commission's and developed European countries' cluster policies, regional case studies and so far global experiences. Conceptually, already by 2002, industry clusters had become the sine qua non of economic development policy in many parts of the world. It was a universally accepted fact that successful regional economies are, to varying degrees, specialised. Even the most diversified regions are home to industries that, because of historical accident, targeted recruitment, or geographic peculiarities, are found in higher concentrations than in other places. Competitive advantage of place can be best understood in terms of the comparative advantages of specific industries within that place's borders. No nation, and certainly no region, can be outstanding at producing everything. Therefore successful places develop strengths and focus innovative capacities on certain types of industries, or clusters. Clustering provides firms with access to more suppliers and specialised support services, experienced and skilled labour pools and the inevitable knowledge leakage that occurs where people meet and talk about business. The advantages of place draw not only similar but also complementary enterprises and, as a result, clusters become a breeding ground for new clusters. (P-E INTERNATIONAL, 2002). These and other principles were laid down in the bases of the cluster concept and its promotion in the Czech Republic.⁹

⁸ Bialic-Davendra M., Brusková P. (2014). *The Principles and Main Pillars of the Czech Cluster Policy*. In: Cluster Development in the Czech Republic and Slovenia. (Eds.) Petrin T., Brusková P., Bialic-Davendra M. Faculty of Economics Ljubliana Publishing Office, Ljubliana. p.173. ISBN 978-961-240-281-5.

⁹ Bialic-Davendra M., Brusková P. (2014). *The Principles and Main Pillars of the Czech Cluster Policy*. In: Cluster Development in the Czech Republic and Slovenia. (Eds.) Petrin T., Brusková P., Bialic-Davendra M. Faculty of Economics

A promising beginning for the development of a cluster policy in the country came about with the acknowledgement and implementation of the **National Cluster Strategy 2005-2008** by the Czech Government. The Strategy constituted the main document on clusters in the Czech Republic. In its objectives, it placed an emphasis on the usage of clusters in order to interconnect the resources and programmes measures under various strategies and policies. Additionally, it pointed out the importance of the development of a dialogue with regions, tertiary education institutions and the private sector as well as the issue of helping SME groups work together.

Simultaneously with the National Cluster Strategy, the attention of the **Operational Programme Industry and Enterprise (OPIE)** for the years **2004-2006** has been focused on the issue of clusters. Within the so-called **CLUSTERS Programme**, support explicitly focused on clusters and cluster initiatives has been provided, thus, stimulating their development in the country. The Programme focused on two phases. The first mapping phase was devoted to the identification of existing potential and searching for suitable companies for clusters (a profound analysis of the given sector and the facilitation of the actors towards cooperation within clusters), whereas, the second phase focused on the establishment and development of a cluster organisation.

In this period, the identification of clusters and sectors for potential cluster emergence was carried out under the supervision of the Investment and Business Development Agency – CzechInvest.

Although support for clusters had been continued within the **Operational Programme Enterprise and Innovation (OPEI) 2007-2013**, no further steps have been undertaken towards a conceptual strategy for cluster policy development in the Czech Republic. Establishment and development of clusters were mentioned under the strategic aim of the **National Innovation Policy 2005-2010**. The document was undertaken by the government in 2005 and based on conceptual, strategic and system measures of the **National Innovation Strategy 2005-2010**. There were two expected results of the **National Innovation Policy** in the context of clusters. First, growing number of established cluster organisations and innovation firms at a regional level. Second, growing the participation of regions in taking decisions about innovation processes and allocation of funds.

The OPEI Programme and its **COOPERATION Programme**, within the Priority 5th Axis “Environment for Enterprise and Innovation”. aimed at creation of favourable entrepreneurial environment and support of the formation and development of cooperation groups, i.e. cluster organisations and technology platforms. It concentrated on strengthening the innovative potential and the use of new technologies as well as aiming at stimulating cooperation between enterprises and research institutions¹⁰. This new programme was broadened in comparison with its predecessor being less restricted in regards to the industry sphere. Certain fields of support, for example, for cluster mapping were no longer provided, however. The Programme also promoted internationalisation through the **CORNET project** of the FP7.

Additional operational programmes have also been implemented within the time frame **2007-2013** playing an important role in cluster development in the Czech Republic though indirectly influencing their growth. Among them the following can be distinguished: the **Operational Programme Human Resources and Employment (OP HRE)** focused on strengthening active labour market policies, the **Operational Programme Research and Development for Innovation (OP R&DI)** focusing on commercialisation and popularisation of R&D, and the **Operational Programme**

Ljubljana Publishing Office, Ljubljana. p.173. ISBN 978-961-240-281-5.

¹⁰ *Operational Programme Enterprise and Innovation* [online]. Ministry of Industry and Trade of the Czech Republic [quot. 28 February 2011]. Available on WWW: <<http://www.czechinvest.org/data/files/oppi-msc-en-29-11-schvalen-ek-674.pdf>>.

Education for Competitiveness (OP EC) where special attention has been paid to the preparation of human resources for the formation and functioning i.e. of technologically focused clusters^{11,12,13}.

In addition, strategic documents such as **Strategies for Regional Development in the Czech Republic for the years 2007-2013** or the **National Strategic Reference Framework of the Czech Republic 2007-2013** play a supportive role in cluster development.

In September 2011 the Government adopted a new set of priorities, within the **National Innovation Strategy for the programme period 2012-2020**. The strategy emphasises a co-operation and networking between companies in order to improve their competitive advantage based on innovation through clusters.

In December 2013 the Ministry of Industry and Trade **certified two methodologies** for development of cluster policies: **National cluster policy** and **Regional cluster policy** prepared by Pavelkova et al. from Tomas Bata University in Zlin.

The OPEI has been followed by the **Operational Programme Enterprise & Innovation for Competitiveness 2014-2020 (OPEIC)**, with the programme **COOPERATION-CLUSTERS**. The main task is to promote business investment in innovation and research, improve the quality of R&D infrastructure, create links between enterprises and R&D institutions. The programme is focused on promoting the development of innovation networks, clusters as tools for increasing the intensity of joint research, development and innovation activities between business and research sector. It supports collaborative research, open centres for research, development and innovations, cluster internalisation and cluster organisation management. The first call devoted to internationalisation and cluster development was announced in the year 2015. The second call focused on collective research would be realised during the second half of year 2016. One of the programme conditions is that only projects of collective research implemented through an international network CORNET will be supported under the second call of this programme. Every applicant must submit an application for a joint development project with a foreign partner.

Apart from programmes undertaken on a national level, the policy is being pursued on a regional level within the **Regional Operational Programmes (ROP)** and **Regional Innovation Strategies (RIS)**. Through covering several thematic areas with the aim of accelerating development and increasing regional attractiveness for investors as well as facilitating innovation and infrastructure development, promoting entrepreneurship and creating favourable supportive conditions for enterprises, they indirectly support cluster development. The differences in the importance and intensity of the steps undertaken with regard to clusters are visible within the regions. A number of them appear as active, while others treat the cluster issues marginally.

Time span of the development of cluster policy in the Czech Republic can be seen on Figure 1.

¹¹ *Operational Programme Research and Development for Innovation* [online]. Ministry of Education, Youth and Sports, July 24, 2008. Available on WWW: <<http://www.msmt.cz/strukturalni-fondy/operacni-program-vyzkum-a-vyvoj-pro-inovace-1>>.

¹² *Operational Programme Education for Competitiveness* [online]. Ministry of Education, Youth and Sports. Available on WWW: <<http://www.strukturalnifondy.cz/getdoc/5257c95e-fac7-45bb-8313-a489678b9010/Dokumenty>>

¹³ *Operational Programme Human Resources and Employment 2007-2013* [online]. Ministry of Labour and Social Affairs. Available on WWW: <<http://www.strukturalni-fondy.cz/getdoc/61e1c103-49f7-4d5a-b809-1142bce99472/Dokumenty>>.

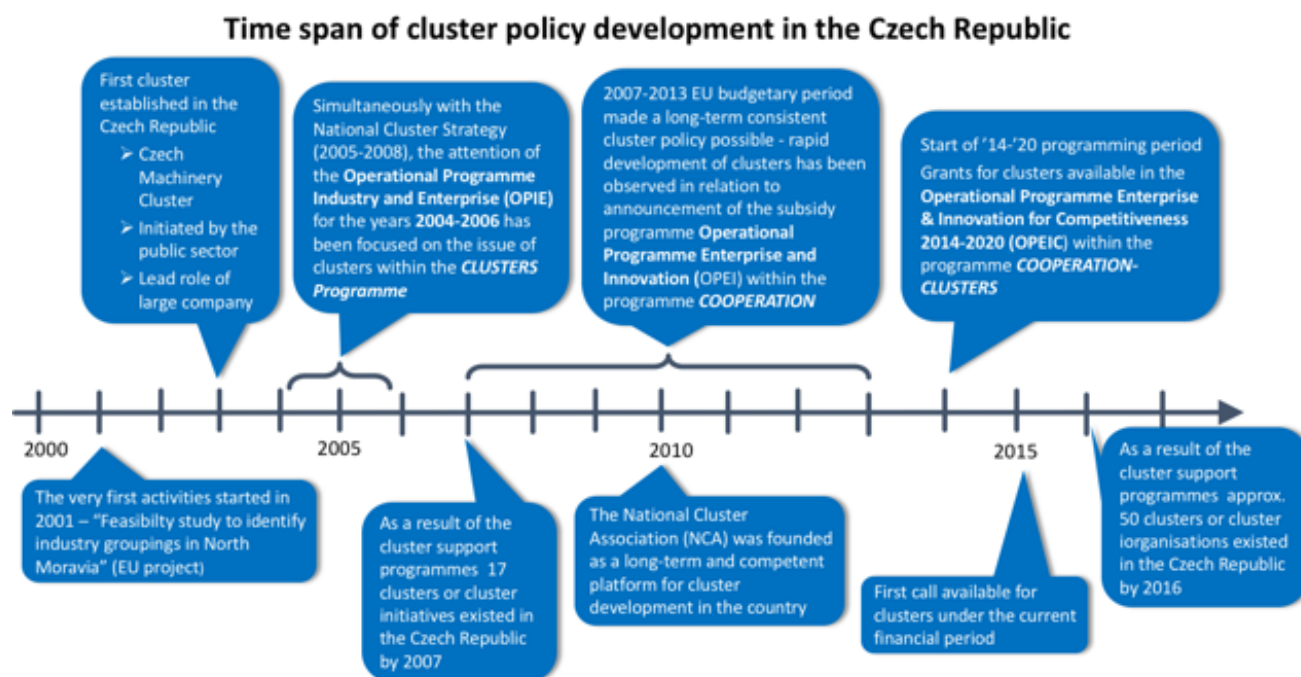


Figure 1: Time span of cluster policy development in the Czech Republic

Source: own processing

Summary of relevant strategies, documents and programmes distinguished in two main periods 2007-2013 and 2014-2020 is stated on Figure 2.

Results of spider analyses (Figure 3, 4 and 5) processed according Methodology Guide (Appendix 1) show the development of cluster policy in the Czech Republic and compare it with the development of the cluster policies in Hungary, Poland and Slovakia.

More details concerning documents and programmes related to the cluster policy in the Czech Republic could be found in Appendix 2.

Relevant strategies, programmes, calls assessed through the desk research

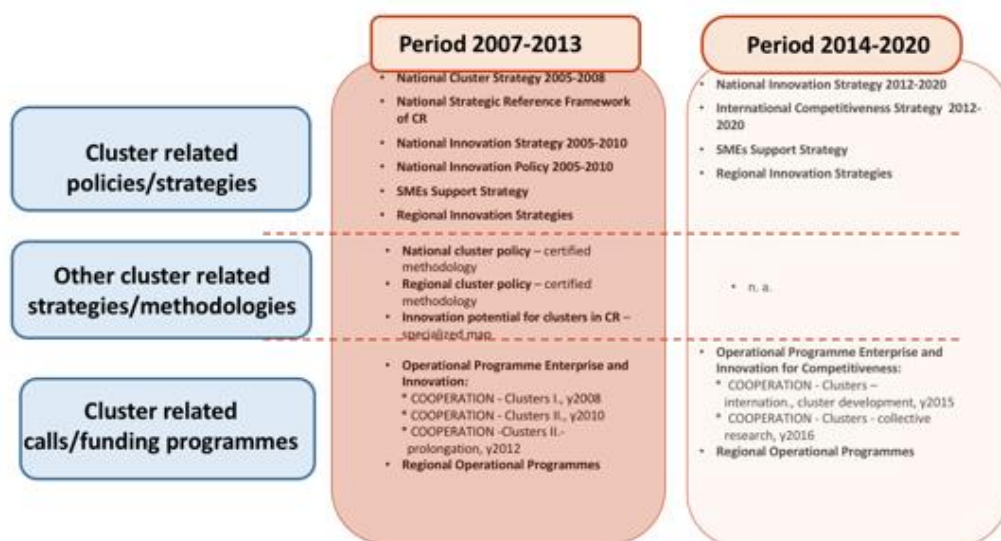


Figure 2: Summary of relevant strategies, documents and programmes for periods 2007-2013 and 2014-2020 in the Czech Republic

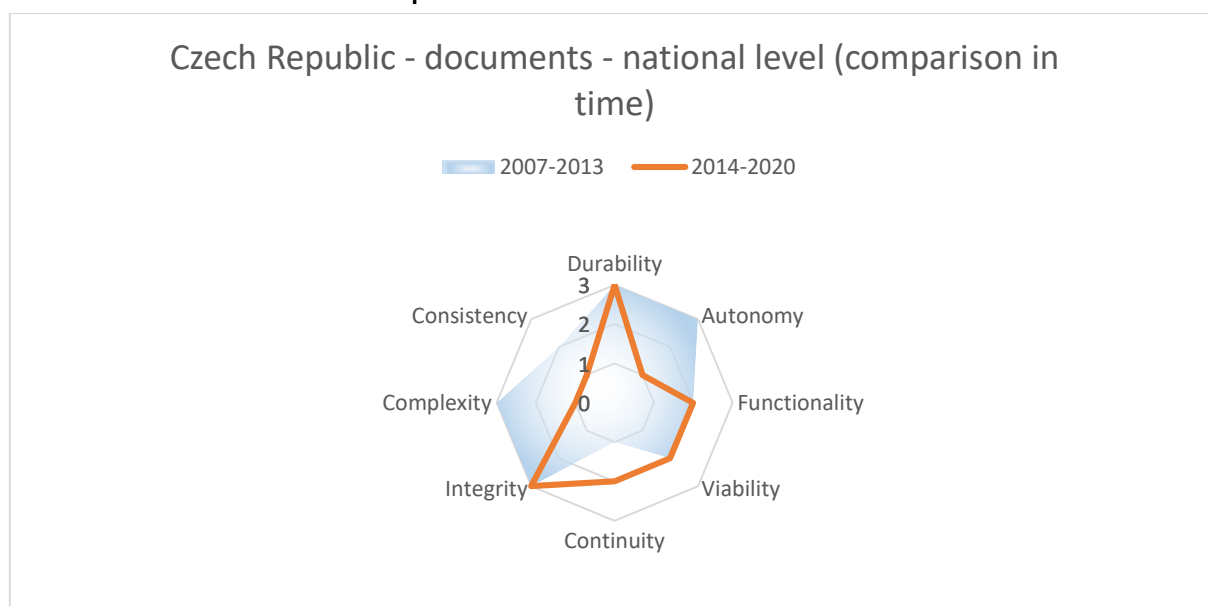


Figure 3: Spider analysis of the characteristics of the documents supporting development of cluster policy in the Czech Republic

Source: own processing

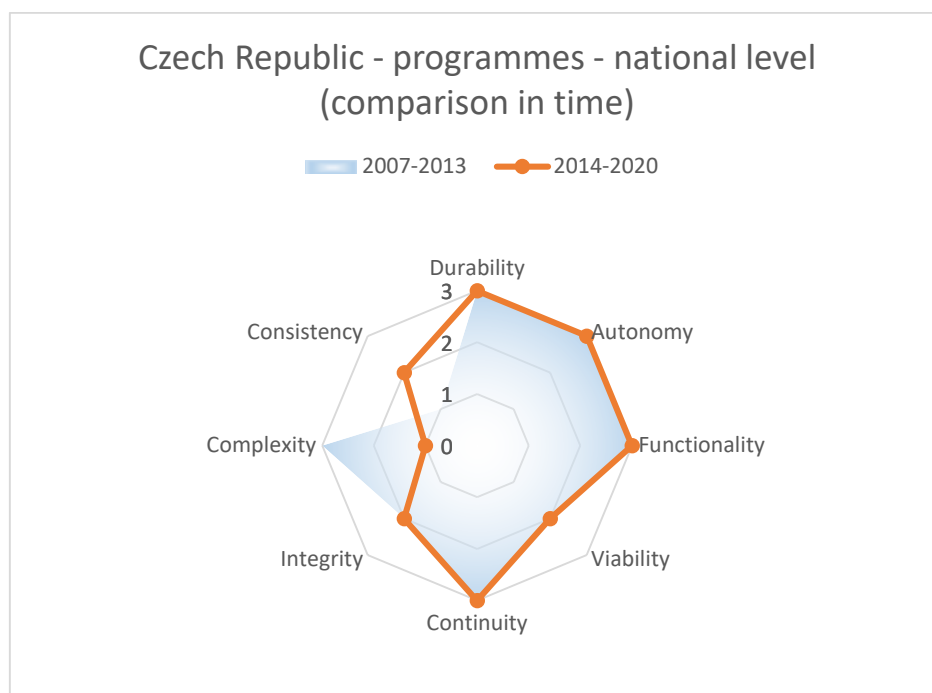


Figure 4: Spider analysis of the characteristics of the programmes supporting cluster organisations' development in the Czech Republic

Source: own processing

**Documents - national level - comparison of V4 countries
(2007-2013)**

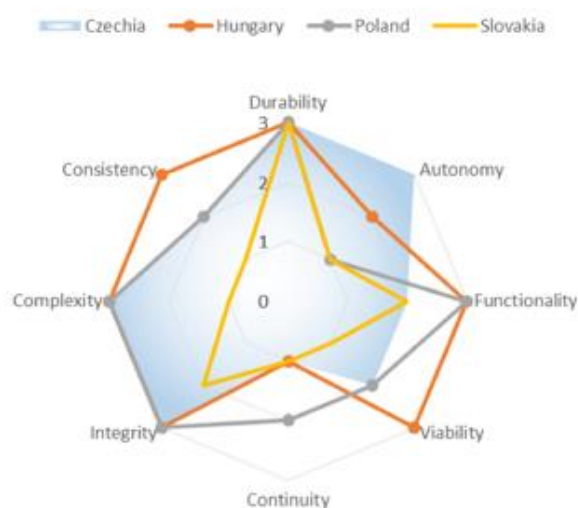


Figure 5: Comparison of the cluster policy characteristics in V4 countries in the period of 2007-2013 - documents

Source: own processing

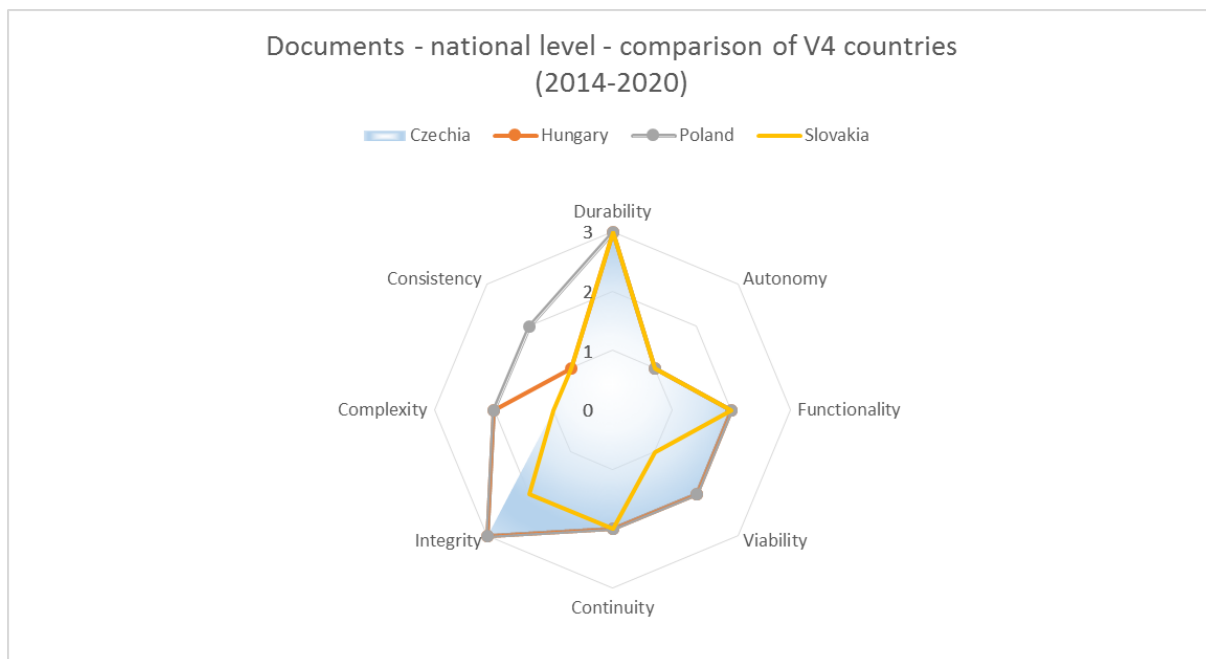


Figure 6: Comparison of the cluster policy characteristics in V4 countries in the period of 2014-2020 - documents

Source: own processing

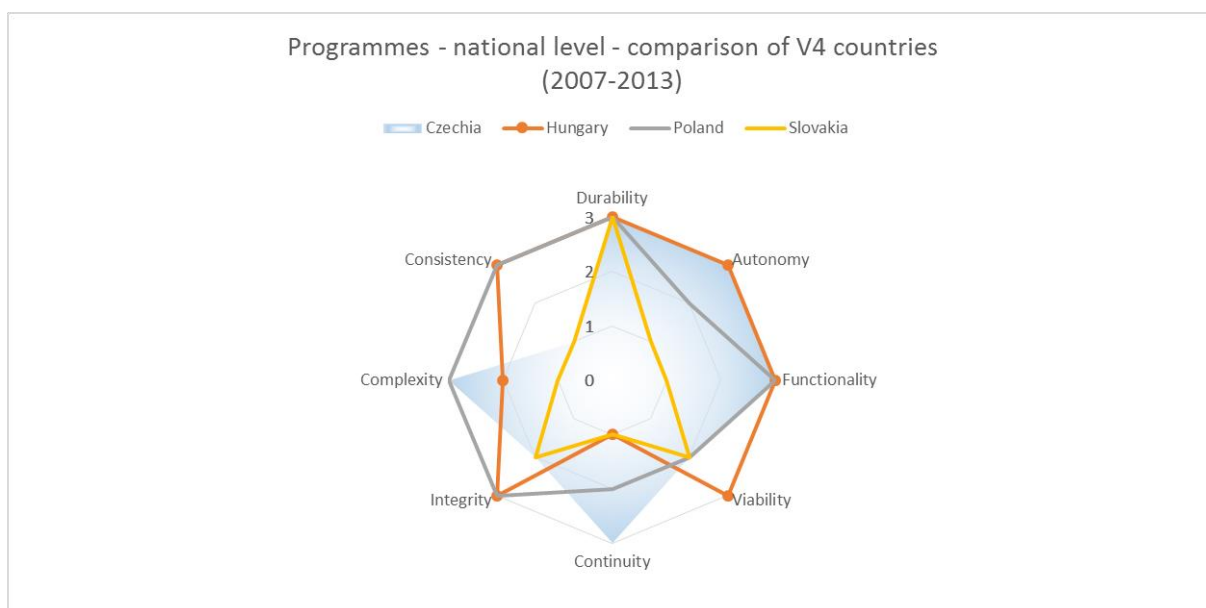


Figure 7: Comparison of the cluster policy characteristics in V4 countries in the period of 2007-2013 - the programmes supporting cluster organisations' development

Source: own processing

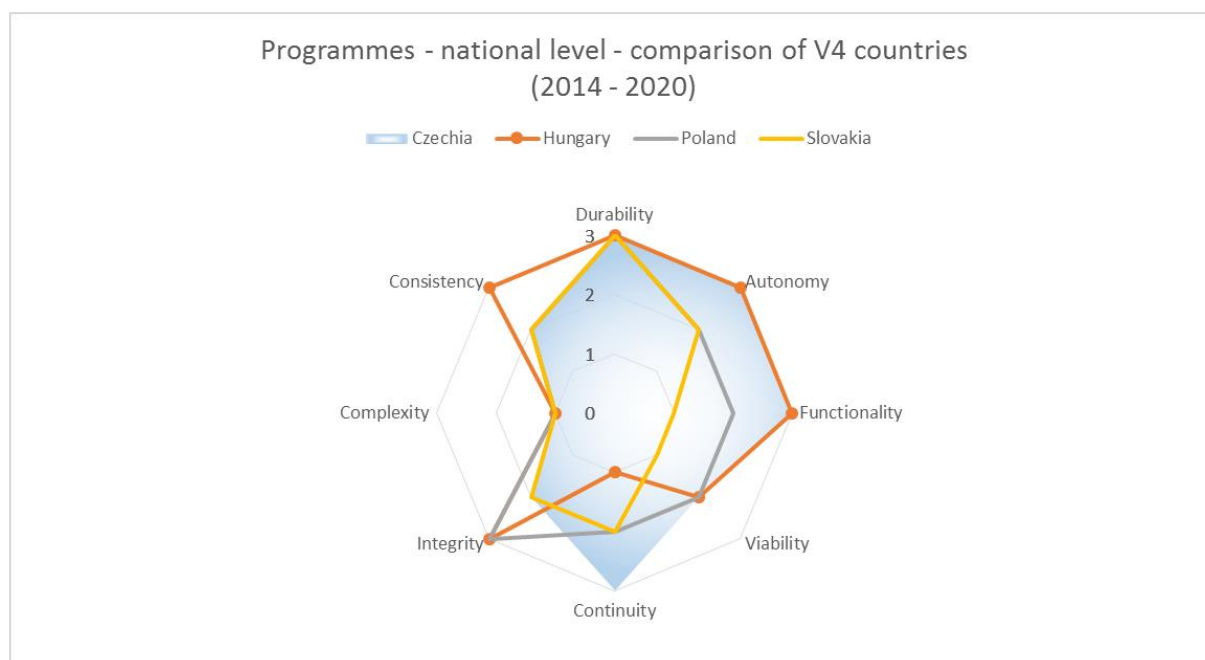


Figure 8: Comparison of the cluster policy characteristics in V4 countries in the period of 2014-2020 - the programmes supporting cluster organisations' development

Source: own processing

Over half of all founded cluster organisations utilised some form of subsidy (from either the OPIE or the OPEI programme), summary of support is stated in Table 1.

Table 1: Summary of cluster organisations' support within operational programmes in the Czech Republic

Operational programme	Cluster supporting programme	Allocation (in thousand EUR)	Min.-max. budget per project (in 1000 EUR)	No. of applications	No. of supported cluster projects	Total amount of support (in thousand EUR)
OP Industry & Enterprise 2004-2006	CLUSTERS, Mapping	17 390	8 – 40 (200-1mil)	67	41	1 260
	CLUSTERS, Establishment & Development		120 – 1 800 (3-45mil)*	18	12	7 921
OP Enterprise & Innovation 2007-2013	COOPERATION Clusters 1 st call	40 000 (1 mld)	120 – 3 200 (3-80 mil)	30	17	22 910 (572 671 000)
	COOPERATION Clusters 2 nd call	30 000 (750 mil)	120 – 3 200 (3-80 mil)	20	22	28 535 (713 385 000)
	COOPERATION Clusters 2 nd call-prolongation	20 000 (500 mil)	240 – 2 400 (6-60 mil)	43		
OP Enterprise & Innovation for Competitiveness 2014-2020	COOPERATION Clusters 1 st call	18 505 (500 000)	19 – 593 (500-16 000)	50	n/a	n/a
	COOPERATION Clusters 2 nd call	1 480 (40 000)	19-555 (500-15 000)	3	n/a	n/a

*Source: own processing based on of CzechInvest
(values in parentheses in CZK)*

Average exchange rate: 2013=25,974, 2014=27,533, 2015=27,283

**Aid is granted with the max level of eligible costs covered by a grant (75%, 65% and 55%) for each of the three years as of the project launch. In the case of the real establishment and development subsidy could be 3 – 45 mil CZK.*

4.2 SUPPORTING AUTHORITIES AND INSTITUTIONS

The **Ministry of Industry and Trade (MIT)** and their subordinate **CzechInvest** can be distinguished among the actors responsible for the coordination of activities and programmes focused on clusters in the Czech Republic. The MIT is responsible for the conceptual side of the cluster phenomenon and cluster policy implementation in the country, whereas CzechInvest is in charge of its practical application.

CzechInvest (Investment and Business Development Agency) focuses its activities on strengthening the competitiveness of the Czech economy through supporting SMEs, business infrastructure, innovations and attracting foreign investments in the areas of manufacturing, business services and technology centres. It is widely involved in cluster issues, both in the application of a policy based on clusters as well as being the Intermediate Body assisting in providing support for cluster organizations. The agency fosters the establishment and development of not only clusters, but also other cooperative groups such as poles of excellence or technology platforms, where the actors from different pillars of a Triple Helix collaborate with one another. During the first wave of a cluster supporting scheme, CzechInvest provided a wide range of assistance, not only in information and financial support, but also in the form of wide publicity, as well as in awareness and capacity building - education and certification of facilitators, etc. In 2004, it drew attention to the phenomenon of clusters via offering an educational programme explicitly focused on clusters. The programme gathered cluster facilitators from throughout the country, academics from tertiary institutions, representatives of regional governments and regional institutions and the private sector providing them with training and familiarization with the cluster concept. From 2016 API have assumed responsibility of CzechInvest regarding the support of OPEIC for cluster development.

The **National Cluster Association (NCA)** was consequently founded as a long-term and competent platform for cluster development in the country. It has been actively involved in cluster issues since 2010. NCA aims at bringing *“together organizations and individuals”* and *“on the basis of concentration of knowledge, experience and expertise”* ensuring the sustainable development of cluster initiatives and cluster policy in the country, thus, strengthening its competitiveness¹⁴. The association focuses on representing the interests of Czech cluster initiatives, facilitating their development and stimulating their internationalisation (representing them on an international arena). It provides information support, training of instructors/facilitators, promotes clustering, is directly (actively) involved in the establishment of clusters and recruits companies suitable for clustering. NCA does not associate only clusters, but also universities, regional and innovation agencies, and consultants.

The **actors on a regional level** are rather marginally involved in cluster issues, if involved at all. They are mainly focused on coordination of a development policy. Worthy of mention as an exception are the Union for the Development of the Moravian-Silesian Region, which supported the mapping, establishment and promotion of industry clusters contributed to the formation of regional industry clusters, and the Regional Development Agency Ostrava, which is supporting clusters through its ClusterNet initiative.

¹⁴ www.nca.cz

4.3 CLUSTER MAPPING, ESTABLISHMENT AND DEVELOPMENT OF THE CLUSTER ORGANISATIONS

The issue of cluster development in the Czech Republic was analysed for the first time in the Moravian-Silesian Region, where a feasibility study focused on identifying the industry groupings was implemented in 2002. Since that time, awareness of the clustering idea has begun to grow and certain activities in regards to clusters/cluster initiatives development in the country have been undertaken. Altogether close to 80 clusters/cluster initiatives have appeared in the country, some of them were not established in the end and some declined or went through a reorganization process after a certain period of their existence.

Clusters in the Czech Republic are characterized by the period of 13 years of existence; the oldest Czech Machinery Cluster emerged in 2003. Rapid development of clusters has been observed since 2006 in relation to announcement of the subsidy programme OPIE Clusters.

At the beginning of 2016, according the study of Tomas Bata University in Zlin, there were 51 active cluster organisations in the Czech Republic (Appendix 3). Figure 6 shows history of the cluster organisations establishment.

A variety of industry sectors, both in traditional as well as in high-tech branches, can be observed (Figure 7), with a predominance of manufacturing industries.

The largest number of clusters exist in the Moravian-Silesian and South Moravian regions, while in contrast, there are regions such as Ústí nad Labem or Plzeň with poor interest in clusters/cluster initiatives development.

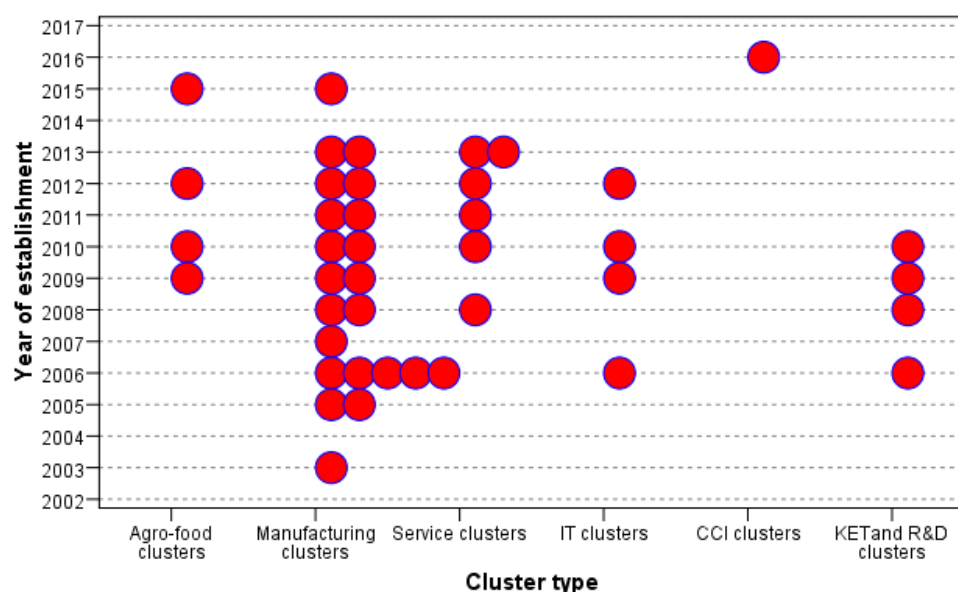


Figure 6: Year of cluster organisations establishment, by type

Source: Own processing

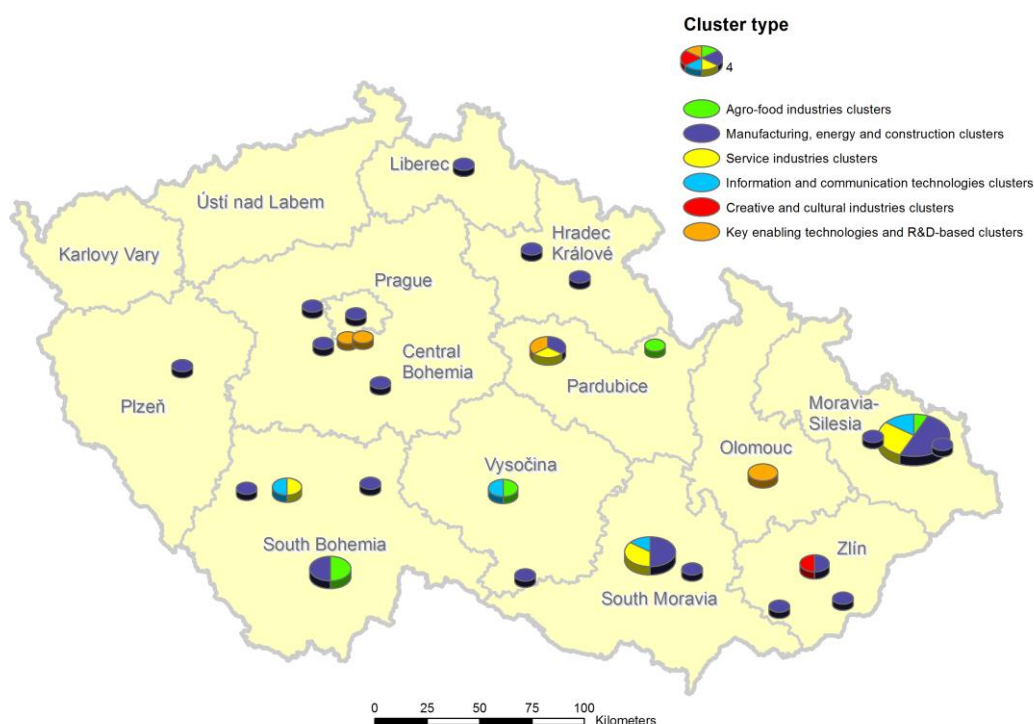


Figure 7: Map of the cluster organisations distinguished by sectors in the Czech Republic (June 2016)

Source: own processing

4.4 EVALUATION OF CLUSTER ORGANISATION PERFORMANCE

In the Czech Republic no systematic tool for cluster performance evaluation has been accepted. Methodology certified by Ministry of Industry and Trade in 2013 includes proposal for accreditation system, but only philosophy of this system was applied for evaluation of cluster organisations when they apply for financial support within Operational Programme Enterprise & Innovation for Competitiveness 2014-2020 (OPEIC), *COOPERATION-CLUSTERS*. This evaluation scheme prepared by Pavelkova et al. from Tomas Bata University in Zlín in 2015 categorizes the cluster organisations into three groups according performance (Table 2). On the base of this categorization they can apply for projects with different aiming and amount of financial support.

Table 2: Categorization of CO according performance and key aiming of support

	Key aiming of support	Excellent CO	Developed CO	Immature CO
1	Cluster organisation development (management, services)	+	+	++
2	Internationalization	++	++	+
3	Shared infrastructure	++	++	-
4	Collaborative research	++	+	-

Source: own processing

The system of evaluation contains set of 24 indicators of structural characteristics of CO, activities, services for cluster members, projects, results of R&D, PR, labelling etc.

4.5 AWARENESS AND SATISFACTION OF CLUSTER ORGANISATIONS' MANAGERS WITH THE CURRENT STATE OF CLUSTER POLICY

According Methodology Guide (see Appendix 1) cluster managers of six selected clusters from the different sectors have been involved in survey using semi-structured interviews.

The aim of the interviews with cluster managers was to get the feedback on the cluster policy and funding programmes – how they are effective and helpful or whether they miss some of the important components and how it can be improved.

1) The structure of the respondents in the Czech Republic

Six functional clusters in the Czech Republic were contacted with the questionnaire to be responded within the interview. The interview was carried out with the cluster manager or other delegated person. The sample of six clusters comprise of the following sectors while each sector was represented by one cluster:

1. **Manufacturing** – traditional (processing) industries with value chains delivering final products to the market – **Moravian-silesian automobile cluster** is the representative cluster
2. **ICT – IT Cluster** is the representative cluster
3. **KETs** (preferably one of the six key enabling technologies: micro and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies) or other technology / R&D-based cluster – **Nanoprogres** is the representative cluster
4. **Agro-food industries** – **Regional Food Cluster** is the representative cluster
5. **Services** – tourism, spa, health, social work, education, transport & logistic – **KLACR** is the representative cluster
6. **Creative & cultural industries** – **Zlin Creative Cluster** is the representative cluster

The reason for the above structure of respondents was as follows: The results of the cluster policy assessment by cluster managers representing all six sectors will show their opinions/experiences with respect to the indicator **6 - Integrity** from the desk research (Does the cluster policy cover all sectors and industries / is limited to certain sectors and industries / only one sector?) The answers of clusters from different sectors will help to evaluate the existing cluster policy rules and their possible changes when considering the justified needs of clusters and the consequent benefits for the society.

2) Results of the questionnaire

Item 0. Identification

Only one chosen cluster (Zlin Creative Cluster) belongs to the group of start-up clusters (was established in 2016), remaining 5 cluster are developed clusters as they have history longer than 3 years, they were founded from 2006 to 2010.

Item 1. - Sector of operation

The sector of operation of the interviewed cluster was defined by one of the six sectors mentioned above.

Item 2. Awareness – policy

Almost all cluster managers were aware of the cluster policy existing in the Czech Republic on the national level especially in previous years and they were able to specify it. The aware of the cluster policy on the regional level was weaker, half of the cluster managers mentioned the existence of RIS3 (Regional Innovation Strategy). All clusters managers agreed that local cluster policy does not exist. The awareness of policy on European level was good, cluster managers mentioned different documents.

Item 3. Awareness - funding programme

Almost all cluster managers were aware of the cluster funding existing in the Czech Republic on the national level and they were able to specify it (Operational Programme Enterprise and Innovations for Competitiveness 2014 - 2020). The answers of cluster managers differ significantly on the regional level depending on different regions and different cluster funding in these regions. All clusters managers agreed that there was no support from local level. The awareness of European level was good, the most of cluster managers mentioned programmes H2020 and COSME.

Item 4. Exploitation

This item helped us to see, how the cluster funding programmes have been used by clusters from different sectors. We can state, that two of the chosen clusters have not used cluster funding programmes – the new established Creative Cluster have not had opportunity so far to get some funding; Regional Food Cluster has not been successful with the applications. The remaining clusters were successful and they were financially supported. All projects were connected with the obligatory co-financing percentage per project from 50 – 60 %. Financial amounts allocated to individual projects varied considerably from 10 to 5 000 thousands EUR/per project.

Item 5. Satisfaction

The Satisfaction item helped to assess the general attitude of cluster managers towards the existing cluster policies/programmes. All cluster managers agreed that they are rather dissatisfied with cluster policy in the Czech Republic. The reasons are as following:

- wrong orientation of the cluster policy/programmes in the Czech Republic (KLACR - Cluster of tourism)
- sector approach of the Ministry of Industry and Trade is bad because some CZ NACE are excluded from support programmes (clusters are about business and added value and not about the CZ NACE - CZ NACE is only for statistical purposes) - (KLACR - Cluster of tourism)
- cluster organisation are not supported by government and local authorities - compared to neighbour countries, such as Austria and Germany. All operation and employees are to be financed by private sources of members (or by successful project applications), clusters are not very well supported particularly at the initial stage of existence – Regional Food Cluster and Zlin Creative Cluster
- initial very strict criteria for applying for a project (e.g. only some parts of food industry could be involved, no supported possibility to have big companies as members - only SMEs supported) – Regional Food Cluster
- support for collaborative research is lower than for individual research – Moravian-silesian automobile cluster (manufacturing cluster)

- time delay with decision about accepting projects (problem for especially R&D projects) – Moravian-silesian automobile cluster (manufacturing cluster) and Nanoprogress (R&D based cluster)
- administrative issues (implementation problems, software problems, delay in evaluation etc.) - Nanoprogress (R&D based cluster)
- low funding rate, cluster and its SMEs already invested significant human and financial resources into execution, it is very risky and can cause many problems and negatively influence the outputs - Nanoprogress (R&D based cluster)

Only one positive feedback from on cluster policy from the Moravian-Silesian Automotive Cluster (manufacturing cluster) was mentioned, e.g. the Czech Republic has a cluster policy and functional clusters, contact places are existing and helpful.

Item 6. Relevance

The Relevance item discovers the cases when cluster policy and its measures are not applicable to all clusters and, vice versa, the clusters cannot make full use of it, giving the objective reasons for its partly relevance or complete irrelevance. All cluster managers of the chosen clusters agreed that the cluster policy /programmes in the Czech Republic are partly relevant and they mentioned several reasons why they are not completely relevant:

- clusters would need more business oriented policy - KLACR - Cluster of tourism
- not all potential clusters were initially supported, it means many branches of the food industry could not obtain financial support – Regional Food Cluster
- collaboration with big enterprises is not supported, collaboration of small and middle farmers is not supported – Regional Food Cluster
- support for collaborative research is lower than for individual research – Moravian-Silesian Automotive Cluster (manufacturing cluster)
- culture and creative industries are underestimated; public support is primarily focused on traditional industries with research results such as patents (Zlin Creative Cluster)
- in the current policy the fact is not reflected, that if a project is led by cluster as an neutral organization, the results are have much higher potential to be used in practice and bring significant benefit to the companies, competitiveness and society, many projects are for research and development centres and clusters, as innovation actors are not allowed to participate or have lower scores in evaluation because of wrongly defined evaluation criteria - Nanoprogress (R&D based cluster)

Item 7. Needs

This part offers possible needs of clusters that can be potentially incorporated in the cluster policy upgrade. Again, all cluster managers agreed, that the cluster policy/programmes do not cover all their needs. Comments are as following:

- almost all cluster managers require the periodicity of calls at least once a year and manager of Moravian-Silesian Automotive Cluster (manufacturing cluster) emphasized

that it is necessary to know about prepared calls in advance, it is necessary to keep timing and not to change the conditions for project applications and programmes

- all cluster managers agreed that there should be better training for cluster management what can be supported by these comments – there is no system of cluster management training (IT cluster), regular cluster management meeting should be organized by Ministry of Industry and Trade (KLACR), offer of certified courses is missing (Moravian-Silesian Automotive Cluster), offer of training for embryotic and emerging clusters, particularly in services and cultural and creative industries is missing (Zlin Creative Cluster), there are training courses only if there is a project, still half of the amount must be funded by the members of the cluster (Nanoprogress)
- cluster manager of new Zlin Creative Cluster requires higher amount of financial support for start-up clusters
- all cluster managers agreed that better governance from the public sector would be very useful, they mentioned the relevant administrative bodies should be more skilled and more proactive

Item 8. Improvement suggestions

This open question motivated the cluster managers to suggest possible improvements of the cluster policy/programme so that they can better fit the needs of the clusters and are a valuable source of information for the policy-makers. The improvement suggestions are as follows:

- the regional cluster policy should cover the operation costs of the cluster organization (IT cluster)
- cluster policy should set goals to be achieved in terms of increasing competitiveness and innovations in whole economy, not only for the chosen sectors, policy must be opened for all possible business (KLACR)
- to build centre for cluster management training (Moravian-Silesian Automotive Cluster)
- eliminate prejudice against clusters of services as well as cultural and creative industries (Zlin Creative Cluster)
- better funding rate which will support research activities in clusters, financial support for operational costs of clusters, better PR activities which will emphasize excellent cluster examples (Nanoprogress)

V. Analysis of cluster policy approach and results

5.1 SWOT ANALYSIS OF CLUSTER POLICY IN THE CZECH REPUBLIC

SWOT analysis of the Czech Cluster policy is stated in Table 3.

Table 3: SWOT analysis of the Czech cluster policy

Strengths	Weaknesses
Existence of the National Cluster Strategy 2005-2008 - support of all stages of the clusters development, support for cross sector cooperation, transfer from national to regional level, clusters' stakeholder education, i.e. implementation of holistic strategy	A partial fulfilment of the objectives of the National Cluster Strategy as well as neglecting of its updating
Implementation of the national program to support clusters since 2004 by the Ministry of Industry and Trade	Public support is limited only to CZ-NACEs under the governance of the Ministry of Industry and Trade
Acceptance of the TBU's in Zlin certified methods at national and regional level by the Ministry of Industry and Trade	Lack of presence of a managing authority for clusters development comprising representatives from various ministries such as culture, industry and trade, regional and local development; low level governance at regional level leading to establishing and supporting cluster organizations
Setting evaluation system cluster organizations for their support within specialized calls under the operational programs by the Ministry of Industry and Trade	Lack of coordination and complementarity of national and regional implementation of cluster policy
Activities of the National Cluster Association to encourage the development of clusters and awareness among stakeholders on the formation of cluster initiatives	Lacking the system and tools of public support for education of cluster managers and other cluster stakeholders
	Implementation of the recommendations of certified methodologies at national and regional level by the Ministry of Industry and Trade and Regional Authorities are entirely voluntary, because they are not enforceable by law
	Evaluation of performance of cluster organizations are not used to obtain accreditation or certification, but only to the allocation public support from the EU Structural Funds
	Collaborative research exhibiting a smaller support than individual research of firms
	Prevailing low or no support for the establishment and development of cluster organizations at the regional level, mostly biased support as well as differentiated approach to support of cluster organizations at the regional level
	Low interlinking of the RIS 3 and clusters in the Czech Republic, the majority of the regional RIS 3 does not build on clusters.

Table 3: SWOT analysis of the Czech cluster policy – cont.

Opportunities	Threats
<p>Establishing system of support for education of cluster management (i.e. accredited certification centre) and cluster stakeholders in the regions</p> <p>The definition and delimitation of cluster policy objectives for the next period and the application of good practices from abroad by the government or the Ministry of Industry and Trade, such as the European Commission initiatives, DG Growth or U.S. Cluster Mapping</p> <p>Activation of regional stakeholders in the formation and support of cluster organizations by regional authorities or the Ministry of Industry and Trade in collaboration with the Ministry for Regional Development</p> <p>Applying the entrepreneurial discovery process for regular updating and managing Research and Innovation Strategy for Smart Specialisation (RIS3) implementation</p> <p>Involvement of other ministries or sectors, such as agriculture and services, in the implementation of cluster policy or establishment of managing authority for clusters development</p>	<p>Long term underestimation of the significance of clusters and cluster policies among political leaders as well as public administration</p> <p>Changing priorities in the area of development and innovation strategies and other relevant policy papers within the EU structures and cohesion policy</p> <p>Inability of adequate response to global changes and trends in the development of various sectors of the national economy</p> <p>Political instability in countries or regions in terms of export restrictions such as armed conflicts, sanctions, tariffs, quantitative restrictions, difficult application of patent rights and trademarks</p> <p>Reduction of public support for R & D</p> <p>Increasing differences in providing public support for development of emerging clusters from regional funds contribute to increasing disparities between regions</p>

Source: own development

5.2 CLUSTER POLICY BEST PRACTICES FROM THE CZECH REPUBLIC

Practice No. 1: The National Cluster Strategy

Period of its application: 2005 - 2008

Responsible organization: adopted by the Czech Government under Government Resolution No 883 of 13 July 2005

General introduction of the best practice:

The main features and principles of the National Cluster Strategy prepared by the CzechInvest state agency with the assistance of the team of local and foreign experts include the following dimensions:

i. Support for the Regions

Rather than dictate economic priorities to the Czech regions, the Ministry of Industry and Trade (MIT) wishes to support regional authorities to identify and support their own priority industries and activities that will have the greatest impact on competitiveness and innovation. Therefore through CzechInvest and its other agencies it will work closely with regional authorities, universities and the private business to focus on those sectors of regional economies with the greatest potential. This will lead to the development of clusters of companies, who could through improved collaboration combined with government support create dynamic regional poles of competitiveness and competence that will contribute to national wealth.

ii. Improved collaboration and partnership

It also implies the need for improved dialogue and cooperation not only between national and regional government structures but also between companies, regional authorities and universities. Since this has not been a tradition in the past, it will not be easy to change behaviour and change is never comfortable. However, our country and its regions are too small to waste resources through uncoordinated actions. Successful clusters will demand new behaviour and, as elsewhere in the world, collaboration, networking and partnership will eventually become accepted ways of doing business.

iii. Planning Framework

Strategies based on poles of competitiveness and competence will improve the quality both national and regional economic development plans and their results. To identify actual or potential clusters will require in-depth analysis of regional economic dynamics and engagement with key economic actors. This analysis should identify not only traditional sectors but also those that have future potential or are in the process of emerging. Time and resource constraints have not always made this type of exercise easy or possible in the past. In the future this approach will be a necessity to ensure quality plans for the next EU planning period.

iv. Address real potential

By engaging in dialogue with regional and national authorities, clusters will ensure that their needs and potential are both understood and supported. The government will not support sectors or companies that are not able to demonstrate real potential and will to benefit and improve performance. This does not mean that weak sectors will be ignored. It does mean however that their plans and strategies have to be realistic and designed to address weakness.

v. Linkage with Innovation and SME strategies

Successful clusters support SME development. They will also encourage new start companies, particularly those with innovative new products or services. There is a clear collaborative link, as identified above between this policy and the national and regional innovation strategies and systems that have been developed over the past years. They have common goals and similar objectives. The measures outlined in this policy complement those identified by the other strategies.

vi. Universities and the private sector

Universities all over the world are changing to absorb the impact of globalisation on both skills required and R&D activities. This implies much greater contact with the private sector for many Czech universities to ensure that their 'product' is competitive and meets market demand. Government by itself cannot second guess business needs. Working with universities and the business community and its clusters will improve university productivity and value added.

vii. Upgrading the regional investment product

Effective regional cluster strategies will help regions more easily differentiate themselves from competitor locations by identifying real advantages in local conditions.

It is increasingly clear that location choices for higher value economic investments are determined by specialized factor conditions (accessibility, economic framework conditions, organized supply chains, availability of specialist skills etc.) rather than by public incentives and subsidies.

viii. Private sector leadership

Cluster initiatives are rarely successful unless there is engagement and leadership by the private sector. Therefore the Czech cluster initiative will only support those clusters where the companies involved can demonstrate commitment to move forward and the potential to do so.

ix. Pragmatic approach to cluster development

The diversity of conditions and factors at regional, sector, maturity and organisational levels surrounding and pervading clusters require a flexible approach in supporting clusters. Public sector support mechanisms must ensure that they do not distort company or cluster strategy for the sake of grant support. Cluster development support funds must focus on real needs, priorities and opportunities.

Introduction of the objectives of the National Cluster Strategy objectives

1. To use clusters to interconnect the resources of the Ministry of Industry and Trade, the Ministry of Regional Development, the Ministry of Labour and Social Affairs and the regions of the Czech Republic in a targeted and coordinated manner that maximizes the impact of aid granted from public resources. This aim requires the integration of programme measures under other strategies and policies, such as the development of small and medium-sized enterprises (SMEs), innovations, research and development, exports, training and infrastructure.
2. To improve the effectiveness of communications with regions, tertiary education institutions and the private sector with a view to developing shared priorities. In particular, there are efforts to develop dialogue with whole industrial sectors, not only individual companies, by means of a more detailed grasp of the strengths and weaknesses of business within the regions.
3. To ensure the identification and support of sectors and branches with the necessary growth potential and will to enhance their competitiveness through cooperation and innovation, especially in regions which adopt decisions to promote innovative clusters. The aim is to involve SMEs in particular in cooperation, to develop innovation and increase exports.
4. To help SME groups work together on the identification of opportunities for cost-sharing and overcoming traditional growth barriers, e.g. access to finance and information technologies, the performance of research and development, and the marketing of new products.
5. To create a framework for the analysis, monitoring and evaluation of the performance of cluster initiatives, and their impact on the regional and national economy. The evaluation will include a mutual comparison of clusters and, in particular, a comparison with foreign cluster initiatives.
6. To prepare a National Cluster Study in the Czech Republic, the result of which will be the identification of sectors with export potential in the regions. Based on the outcome of regional surveys, to draw up a general study of the industrial structure in the Czech Republic, contributing to the planning of programmes within the scope of Structural Funds for the next programming period.

Main results:

Thanks to the thorough preparation of the National Cluster Strategy 2005-2008 built on a number of timeless principles that could be used even now and its adoption as the Czech high-level government decree, the cluster policy was launched with a potential to significantly benefit the Czech economy and competitiveness. The inclusion of cluster organisations among the eligible applicants for subsidies through an exclusive cluster-devoted funding programme since the very beginning of the Czech membership in the European Union brought the first results during the years 2005 and 2006.

In 2005 the CzechInvest - state agency-driven awareness building campaign was accomplished resulting with 60 trained cluster facilitators across the country, number of workshops at universities, ministries and regional authorities led by Cluster Navigator's cluster guru Ifor Ffowcs-Williams of New Zealand. The topic of clusters was popularised also via national conferences with participation of foreign cluster experts and participation of Czech

The call for projects within the CLUSTERS Programme as a part of the Operation Programme Industry and Enterprise (OPIE) designed the rules for the cluster initiative development processes comprising of cluster actor identification, facilitation and mobilisation towards the establishment of cluster organisations.

The results of the OPIE-based intervention resulted in 41 projects of cluster mapping and 12 projects of cluster organisation establishment with a total funding of 9 181 000 € during the period of 2004-06. The continuation of the cluster-devoted programmes of Cooperation-Clusters through 2007-13 and 2014-20 programming periods has not only contributed to the growth of the number of cluster organisations but also to their perfection in terms of performance and cluster management quality increase.

The political changes in 2007 however caused that the other goals, except the funding programmes, have not been addressed any more.

Main lessons learned:

The route from natural clusters to excellent cluster organisations as public-private partnerships requires the appropriate governance and backing from the public sector materialized in a cluster policy. However, it is not enough to have the funding for one stage of the cluster development (the cluster organisation), one sector (the processing industries and ICT under the competence of one ministry) and on the national level only. The deficits of the current Czech cluster policy have been revealed based on the comparison with the SCPM requirements. It is a permanent task for the cluster stakeholders to restore the cluster policy in an optimum way to achieve the Smart Cluster Policy Model parameters.

Practice No. 2: Continual programme support of COs development

Period of its application: 2004 - currently

Responsible organization: Ministry of Industry and Trade, CzechInvest

General introduction of the best practice:

In the past 13 years several programmes and supports have been launched to develop cluster organisations in the Czech Republic and their activities which contributed to increasing country competitiveness. As a result, a relatively large number of small and fragmented cluster initiatives emerged as well as some relatively large and strong ones.

This support using EU and CR money could be divided into several periods.

In earlier periods funding mainly focused on mapping and support of cluster initiatives and organizations, networking, human resource development, export, and progressively greater emphasis has been put on supporting research, development and innovation and internationalization. In particular periods also importance of evaluation of performance cluster organizations for targeting the aid has been increased. MIT has started for this purpose to use a set of indicators, which fulfills the role of categorization of COs to excellent, developed and immature for funding, and also sends signals to what is essential in the management of cluster organizations to be more powerful and with higher performance.

Introduction to cluster financial support

Financial aid for clusters has been organized by operational programmes in three periods:

2004-2006

2007-2013

2014-2020

1) OP Industry & Enterprise 2004-2006

Programme: Clusters

Programme “Clusters” focused on the development of communication and cooperation between companies, universities, scientific research and other institutions. It supported the formation and development of sectoral cooperation networks – clusters, and was divided into two phases.

The first phase concerned the search (mapping) suitable companies for clusters. Within this phase a non-refundable grant was granted amounting to a maximum of 75% of eligible costs, namely in the range of 0.2 - 1 mil. CZK. Regional governments or their designated organizations, providers of higher education, or research organizations, could be the beneficiaries. The condition for granting the subsidy was an expression of interest in the study from at least 10 companies and also an institution from tertiary education.

The second phase focused on the establishment and development of the cluster organisation. The successful mapping study should identify potential cluster members, and their relationships, benefits for members, vision, strategy, budget and structure of the cluster organisation. Within the cluster development there was an intention to promote mainly cooperation among the cluster members in joint projects in the areas of research and development, purchase and sale, joint promotion, market analysis, improving the competence of employees, expansion of cooperation with research institutions and tertiary education. Within this phase a non-refundable grant was provided by amounting to a maximum of 75% (first year), 65% (second year), 55% (third year) of eligible costs, namely in the range of 3-45 mil. CZK. Aid recipient had to be a legal entity established to promote innovation and increase competitiveness in the industry. The condition for obtaining support was that at min. 1 tertiary education institution or research institute the cluster member had to be a cluster member, cluster must have at least 15 independent organizations, 60% of members had to be SMEs and activities (projects) cluster had to focus on innovation and increasing exports.

2) OP Enterprise & Innovation 2007-2013

Programme: Cooperation

- announced on 17 April 2007.

Basic characteristics:

Who can apply (aid recipients)

- legal entities (firms, universities, regions, clusters)
- recipients for specific activities will be more narrowly defined in individual calls

How much can be obtained for each project (form and amount of aid)

- grants
- the amount of support for individual types of activities - specific information were introduced in individual calls.

For what aid can be obtained (supported activities)

- **clusters** – development of cooperative groupings associating firms in a given field, regional authorities, universities, research and other institutions in the region
- **poles of excellence** – development of specific types of groupings focused on high-tech manufacturing and cross-sector branches (biotechnology, nanotechnology, etc.)
- **technology platforms** - development of sector groupings associating key decision-makers in the branch at the national level that focus on scientific-research projects

Which costs can be supported (eligible costs)

- long-term tangible assets (particularly hardware, networks, equipment and instruments for science and research, purchase of structures and land)
- long-term intangible assets (particularly software and data, intellectual property rights)
- operating costs (particularly rent, wages, travel, seminars and workshops, marketing and promotion)

eligible costs for specific activities were more narrowly defined in individual calls

3) OP Enterprise & Innovation for Competitiveness 2014-2020

Programme: Cooperation - Clusters – the 1st Call

- announced on 29 May 2015.

Basic characteristics:

Who can apply (aid recipients)

The beneficiary may be a legal entity within the meaning of section 118 et seq. of Act No. 89/2012 Coll., the Civil Code, as amended, if it is an association of entrepreneurs and research and knowledge-dissemination organisations or other institutions established for this purpose and if it aims to fulfil the objectives referred to in parts 2 and 12 of the call.

How much can be obtained for each project (form and amount of aid)

The minimum absolute subsidy for one project: CZK 500,000

The maximum absolute subsidy for one sub-project under the activity Collective research: CZK 16,000,000 for excellent clusters / CZK 11,000,000 for developed clusters

The maximum absolute subsidy for one project under the activity Shared infrastructure CZK

15,000,000 for excellent clusters / CZK 10,000,000 for developed clusters

The maximum absolute subsidy for one project under the activities Cluster internationalization and Cluster organisation development: CZK 5,000,000 for excellent clusters / CZK 4,000,000 for developed clusters / CZK 3,000,000 for developing clusters

The maximum aid intensity: for the activity Collective research 45% of the EE for small enterprises, 35% of the EE for medium-sized enterprises; for the activities Shared infrastructure, Cluster internationalization and Cluster organisation development 50% of the EE.

For what aid can be obtained (supported activities)

- Collective research
- Shared infrastructure
- Cluster internationalization
- Development of cluster organization

Which costs can be supported (eligible costs)

The aid shall support projects with outputs affecting the sectors defined by:

In the case of activity Collective research:

personnel costs, externally procured services in research and development (contractual research, consultancy services), additional overhead and operating costs

contracts for externally procured services in research and development may not be awarded to a personally or economically linked person

In the case of activity Shared infrastructure:

purchase of buildings, technical appreciation of buildings, machinery and devices, software and data, intellectual property rights, rent

In the case of activity Cluster internationalization:

wages and contributions, travel, services of consultants, experts, studies, marketing and promotion, seminars, conferences

In the case of activity Cluster organisation development:

wages and contributions, travel, marketing and promotion, seminars, conferences, rent, cluster's facility management, material

CZNACE C 10, 11, 13–33; E 38.32; J 58, 59, 60, 62, 63, M 71.2, 72, 73.2, 74.1 S 95.1

Programme: Cooperation - Clusters - the 2nd Call

- announced on 11 March 2016.

Basic characteristics:

Who can apply (aid recipients)

The aid applicant/applicants; beneficiary/beneficiaries (hereinafter “applicant” and “beneficiary”) may be a legal entity within the meaning of Section 118 et seq. of Act No 89/2012 Sb., the Civil Code, as amended, if it is an association of entrepreneurs along with research and knowledge dissemination organisations or other institutions and organisations that has been established for a special purpose and is oriented towards implementing the objectives set out in parts 2 and 12 of the call. The applicant/beneficiary's articles of association must state that the beneficiary's main activities include promoting innovation and improving competitiveness, and the scope of the beneficiary's activities as specified in its memorandum or articles of association

must include the establishment and operation of a cluster.

How much can be obtained for each project (form and amount of aid)

Aid intensity:

The subsidy will be provided up to a maximum amount of 60% of eligible expenditure for small enterprises, 50% for medium-sized enterprises. The aid intensity for experimental development includes a bonus for effective cooperation.

1. Minimum total subsidy for one project: CZK 500 000
2. Maximum total subsidy for one project: CZK 15 million for excellent clusters, CZK 12 million for developed clusters, CZK 8 million for developing clusters.

For what aid can be obtained (supported activities)

Collective research – projects must meet the conditions specified in the definition of collective and pre-competitive research. For each project proposal, the aid applicant must demonstrate at least three potential users of the project results (SMEs) that will form a user committee, which oversees the progress of the project's implementation and can correct the research direction taking into account the usability of the results. Projects must be implemented in cooperation with research and development institutions in the form of awarding contract research. Within this call, aid will only be provided for implementing collective-research projects through the CORNET international network, i.e. the applicant must submit an application for a joint R&D project with a foreign partner to a current CORNET call.

Which costs can be supported (eligible costs)

- Personnel costs, outsourced services in research and development (contract research, consultancy), additional overheads and operating costs.
- Contracts for outsourced services in research and development cannot be awarded to a personally or economically linked person.
- Expenditures for this activity are only eligible under the condition that the project or its aided part falls entirely into the category of industrial research or experimental development.

Main results:

Over half of all founded cluster organisations utilised some form of subsidy - summary of support was stated in Table 1.

Main lessons learned:

- In the past 13 years, financial support system had become a significant incentive of cluster organisations establishment and development
- Financial support from the point of view of amount and aiming, respectively, takes into account the different stage of cluster organisations development
- The evaluation of potential to be successful in spending programme money effectively has been initiated
- Thorough testing of the evaluation criteria is essential before launching the proposal
- Clearly defined indicators of success could play motivation role for CO development.

VI. RECOMMENDATIONS FOR IMPROVEMENT THE CZECH CLUSTER POLICY

The description of current situation in the Czech Republic concerning cluster policy and cluster organisations is basis for analysis what aspects are most importance for consideration what could be improved and how it can be done. Table 4 summarizes all these aspects and recommendations for the Czech cluster policy being close to a smart cluster policy model.

Table 4: Summarization of analysis results and recommendations for improving cluster policy in the Czech Republic

The requirements of the smart cluster policy model.	Where are we in the Czech Republic with their fulfilment?	What should be improved? (What is wrong?)	How can it be improved?
A. Time span			
Document/programme operation has long-term character	Document and programme operations devoted to the development of clusters are long-term (except special document "National Cluster Policy" – medium-term), started in 2004 with continuing until 2020	The long-term cluster policy document is missing.	To deliver the new cluster policy document with a long-term commitment.
Governments positive attitude towards the cluster policy issue is the permanent part of the policy-making tools with regular updates to follow the new needs and context of the cluster policy	<p>National Cluster Strategy (2005-2008) has very positive impact on development of cluster policy issue and policy-making tools, but it has not been updated</p> <p>Clusters as an important phenomena mentioned in national documents. The programmes supporting clusters are up-dated with needs of clusters for only excellent and developed clusters</p> <p>Regional governments almost without knowledge of needs for cluster development and principles of cluster policy</p>	<p>The cluster policy document is missing on the national level and thus it is not a permanent part of the policy-making tools with regular updates.</p> <p>There are no cluster policy documents and no programmes on the regional level.</p>	<p>To prepare and adopt the new cluster policy document (building on the broad context of the National Cluster Strategy 2005-2008 and the principles of the SCPM) by the government on the national level as a permanent part of the policy-making tools with regular updates.</p> <p>To raise awareness of the regional governments on the cluster issue so that they can adopt their regional cluster policies and provide the adequate funding scheme as a permanent part of their policy-making tools with regular updates.</p>
B. Executive aspects			
The national/regional government recognizes the importance of the cluster policy issue, i.e. devotes the cluster issue an independent or autonomous document/programme.	The government's positive attitude towards the cluster policy was expressed in the document of National Cluster Strategy 2005-2008 and in some other national and regional strategic documents mainly devoted to innovation strategy on national/regional	<p>The autonomous cluster policy document is missing on the national level.</p> <p>Relatively low interlinking of the RIS3 and clusters, the majority of the regional</p>	<p>To prepare and adopt the new autonomous cluster policy document.</p> <p>To complement the Smart Accelerator programmes with clusters' potential</p>

	level, competitiveness and SMEs development strategy on national level.	RIS3 is not built on clusters.	(mapping, facilitation, joint R&D projects etc.) Applying the entrepreneurial discovery process for regular updating and managing RIS3 implementation
Cluster policy document/programme is fully operable vertically, i.e. it has been adopted by the government as a government decree	National Cluster Strategy 2005-2008 was accepted as government decree. Acceptance of the TBU's (Zlin) certified methodologies "National Cluster Policy" and "Regional Cluster Policy" in 2013 by the Ministry of Industry and Trade.	The cluster policy document has not been adopted by the government on the national level since 2008. Implementation of the recommendations of certified methodologies at national and regional level by the MIT and regional authorities is entirely voluntary, because they are not enforceable by law	To prepare and adopt the new cluster policy document (building on the holistic context of the National Cluster Strategy 2005-2008 and the principles of the SCPM) as the government decree so that it can be fully operable vertically. To apply certified methodologies of the "National Cluster Policy" and "Regional Cluster Policy" for the preparation of the national and regional cluster policy and their implementation.
Cluster policy document/programme is fully operable horizontally, i.e. it has a general force across the sectors of the governmental departments	Lack of presence of a managing authority for clusters development comprising representatives from various ministries such as culture, industry and trade, regional and local development; low level governance at regional level leading to establishing and supporting cluster organizations, lack of coordination and complementarity of national and regional implementation of cluster policy.	The cluster policy document is missing on the national level and thus the horizontal operability is not addressed. The cluster funding programme is designed for the industries (CZ-NACEs) within the competence of one ministry only and does not support other sectors	The horizontal cooperation of different ministries and coordination of national and regional cluster policies must be incorporated in the new cluster policy document. To involve other ministries or sectors, such as agriculture, culture and services, in the implementation of cluster policy and/or to establish a special managing authority for the cluster concept support. Activation of regional stakeholders in the formation and support of cluster organizations by regional authorities or the Ministry of Industry and Trade in collaboration with the Ministry for Regional Development
The existing allocation of financing from the public budget.	CO projects' financing – from 2004 within Operational Programmes Schemes	Support for collaborative research is lower than for individual research, collaboration with large enterprises is not supported, low project funding rate. Non regular calls for the project within operational programmes, time	To improve process of preparing and operation of programmes supporting COs

		delay with decision about accepting projects (problem for especially R&D projects), administrative issues (implementation problems, software problems, delay in evaluation etc.)	
Cluster policy document/programme is fully operable functionally, i.e. the implementation of the policy is fully working in accordance with the planned scheme.	Just partial fulfilment of the objectives of the National Cluster Strategy (2005-2008)	The National Cluster Strategy 2005-2008 has not been implemented fully as planned.	To prepare and adopt the new cluster policy document (building on the holistic context of the National Cluster Strategy 2005-2008 and the principles of the SCPM) and implement it fully in accordance with the planned scheme.
There is a clearly entrusted governance body for the cluster policy development, implementation and monitoring	Implementation of the national program to support clusters since 2004 by the Ministry of Industry and Trade (with its agency CzechInvest – until 2016 and API – from 2016). According the meaning of cluster managers, the relevant administrative bodies should be more skilled and more proactive.	There is not a clearly entrusted governance body for the cluster policy development, implementation and monitoring in the Czech Republic. Partly this function is incorporated with the API state agency.	The optimum solution would be to establish the National cluster competence centre (see the Chapter 3.3 of the Certified methodology for the National Cluster Policy).
C. Thematic aspects			
The SCPM builds on the fact that a cluster can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the cluster support scheme is the necessity.	Support of COs is limited only to CZ-NACEs under the governance of the Ministry of Industry and Trade, public support is primarily focused on traditional industries.	The public funding of cluster organisations only within one sector discriminates the development of clusters in other sectors. Cluster policy should set goals to be achieved in terms of increasing competitiveness and innovations in whole economy, not only for the chosen sectors, policy must be opened for all possible businesses.	Involvement of other ministries or sectors, such as agriculture, culture and services in the implementation of cluster policy or establishment of managing authority for clusters development. The National cluster competence centre as a result of a new national cluster policy would support the clusters of all sectors and industries equally.
All development stages of clusters are taken into account within the cluster policy structure and related measures	In earlier periods, the funding was focused on mapping and support of cluster initiatives and organizations, networking, human resource development, export, and progressively greater emphasis was put on joint projects in R&D and innovation and internationalization. Nowadays, there is no support for cluster mapping and analysis and cluster initiatives development from	There is no systematic support to all stages of the clusters development. The deficit of regional cluster policy causes that the first phases of cluster initiatives at the regional level are not implemented. The support of the developed and excellent COs on national level lacks systematic monitoring and evaluation of their	Implementation of holistic strategy of cluster development: - at the regional level by regional government: i) identification and analysis of specific attributes of the region and its priorities ii) mapping and analysis of potential of cluster initiatives iii) definition of relevant competent supporting institutions

	<p>the national level (support is just for excellent and developed COs, not for immature COs). The support from regional governments for mapping and analysis, cluster initiatives development and COs incubation is limited. Low or not existing cluster governance on regional level (no funding for the "incubation" of the cluster organisation) and little care of the cluster managers' position consolidation both financially and professionally</p>	<p>performance so that the cluster policy and funding could be revised according to findings.</p>	<p>iv) institutionalisation of successful cluster institutions (CO) and their incubation v) financial and training support for cluster management of COs vi) monitoring and evaluation of COs</p> <p>- after developing the COs – support at the national level: i) education and training of cluster management ii) internationalization iii) research, development and innovation projects</p>
<p>The national accreditation scheme for cluster organisations, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently</p>	<p>Setting evaluation system of cluster organizations for their support within specialized calls under the operational programs by the Ministry of Industry and Trade. The system of evaluation contains a set of indicators (CO structural characteristics, activities, services for cluster members, projects, results of R&D, PR, labelling, etc.), some of them are discussed as irrelevant Evaluation of performance of cluster organizations are not used to obtain accreditation or certification</p>	<p>There is no accreditation system provided so that it is not possible to assess systematically the COs performance, make the process simple, clear and stable and use the results for public support scheme of COs. Evaluate results of COs assessment within 1st call for OPEIC projects to update the criteria</p>	<p>To launch the process of accreditation system (accreditation body, assessment criteria and labelling) by MIT - apply experience from evaluation of COs for providing support within OP and proposal of accreditation system in certified methodology "National Cluster Policy" (TBU Zlin)</p>
<p>The training schemes for cluster stakeholders, including the availability of experienced lecturers and trainers efficiently operates.</p>	<p>Lacking the system and tools of public support for education of cluster managers and other cluster stakeholders from both national and regional level</p> <p>National Cluster Association offers some training and education courses for cluster managers and for government authorities</p>	<p>The training scheme for different target groups of cluster stakeholders are not available as a part of the cluster policy.</p>	<p>To establish the system of support for education of cluster stakeholders, facilitators and managers to be delivered by a concentrated expert body (such as NCA).</p> <p>To run accredited certification centre (MIT or other governmental body), obtained certificate for CO management as condition for project applications (funding).</p>
<p>The cluster concept awareness is building</p>	<p>MIT (CzechInvest and API) informs about new calls within operational programmes and EU projects, organizes conferences and other public events, cluster managers meeting and cross-cluster matchmaking, publications.</p> <p>The awareness of policy/programmes on European and national level by CO managers is satisfied, not the same is valid for</p>	<p>There are very rare PR activities provided by the MIT or API. No brochures or any other promotion of the successes of COs and the Czech cluster policy achievements with the focus on excellent cluster examples.</p> <p>No awareness building activities performed by the public sector bodies and little transfer of the</p>	<p>To provide events, conferences, workshops both nationally and regionally, issue brochures, etc. by the national cluster competent body.</p>

	<p>representatives from national or regional governmental bodies.</p> <p>Many regional governments lack the proper understanding of the role of clusters in competitiveness improvement and how they can contribute to it, and CO managers are not usually very much aware about policy/programmes on regional level)</p> <p>Activities of the National Cluster Association help to encourage the development of clusters and awareness among stakeholders on the formation of cluster initiatives and CO development</p>	European cluster policy to the Czech Republic.	
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Source: Own processing

VII. CONCLUSION

The European Commission's objective concerning clusters is to maximise clusters' contribution to the reindustrialisation of the European economy, entrepreneurship & SME growth and regional economic competitiveness (through synergies with smart specialisation)¹⁵. The efforts towards upgrading and at least partially integrating cluster policies within the Visegrad countries through the "V4 Cluster Policies and their influence on the viability of cluster organisations" project are thus more than relevant.

The project methodology consequently tends to streamline the V4 cluster policies from just a policy to a fact-based policy, from a partial cluster concept oriented to a more holistic and consistent view, from separate and incompatible to smart and strong V4 cluster policies based on a long-term partnership and collaboration of the Visegrad countries.

The results of the project in the form of recommendations based on analysis and evaluation of current situation and exchanged ideas from project partners could be relevant for improvement of the cluster policy in the Czech Republic mainly in the aspects of implementing holistic strategy for cluster development at the national and regional level (according the stage of cluster initiatives and organisations development) across the different sectors based on long-term policy documents and programmes and with involvement not only MIT but also other ministries (or by establishment of special managing authority for clusters development).

As very important issues for improvement seem to be establishment of the educational system of cluster stakeholders, facilitators and managers to be delivered by a concentrated expert body with providing certification and launching the process of accreditation system (accreditation body, assessment criteria and labelling) for evaluation of cluster organisations' performance mainly for focusing financial support effectively.

The cluster concept awareness building could contribute significantly to strengthening position and development of cluster organisations in the Czech Republic.

The results of the project were introduced and discussed at the final conference in December, 8, 2016 in Prague. The representatives of ministries responsible for cluster policy implementation of project partners' countries (including representatives of the Ministry of Industry and Trade CR) took part at the conference and panel discussion.

This final report is available at web site of the project: <http://klastr-portal.cz/en/v4clusterpol-documents>.

¹⁵ Ekroth-Manssila Kirsi (2015). *Overview of latest developments in EU Cluster Policy. Head of Unit – SMEs: Clusters Emerging Industries*, Cluster Excellence Day 2015, Brussels.
<http://static1.squarespace.com/static/514068dbe4b07e09335cbef0/t/54eb6266e4b02db31b49b612/1424712294010/Clusters+in+COSME+and+H2020+-+Kirsi+Ekroth-Manssila.pdf>

V4 CLUSTER POLICIES AND THEIR INFLUENCE ON THE VIABILITY OF CLUSTER ORGANISATIONS

METHODOLOGY GUIDE

- I. Desk research**
- II. Semi-structured interviews**

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I. Introduction

This Methodology Guide is considered to be the first step towards the design and evaluation of the Smart Cluster Policy (SCP) model based on the V4ClusterPol project pilot. This guide has been built respecting the V4ClusterPol methodology framework. All recommendations in this guide are practical and realistic to achieve the goals of the project within its timeframe and with given resources. However, the criteria used in this guide for comparative analysis of cluster policies in the Visegrad countries are new in the sense of the holistic approach and qualitative point of view especially in the part of the desk research which forms the first part of this guide giving the detailed instructions to the project partners. The second part of the guide (chapter III) will include the semi-structured interviews with cluster managers.

II. Instructions for the desk research

1) The structure of the data collection forms

There are three types of forms for two periods of time prepared for the comparable assessment of cluster policies in the Visegrad countries and their degree of approximation to the Smart Cluster Policy (SCP) model:

- a. Existing/Preceding cluster policies/strategies (mandatory documents)
- b. Other existing/preceding documents for cluster policy (optional documents)
- c. Existing/Preceding cluster funding programmes

Expressed as a percentage, the SCP represents 100% (the highest values) in all surveyed parameters. Based on data gained from the desk research, it will be possible to identify the proximity of each cluster policy of the V4 country to the SCP model using the spider graph visualisation.

Concerning the **two periods of time**, we mean the programming periods of 2007-2013 and 2014-2020. Filling in the tables for both periods of time (2 x 3 forms), it will be possible to better compare the results in the V4 countries based on the already closed period (2007-2013), especially in case of the funding programmes where data, such as allocation of funds, number of calls, number of projects funded and the total expended, are available.

For the current period 2014-2020, the desk research will only show how the policy is set conceptually in each country, and this will serve for the comparison, as the output data are not known yet.

Concerning the **regional level** of documents/programmes, it is the **partner's region** only to be analysed. So, on the regional level, we will have **four V4 regions** for evaluation and comparison of the existing and preceding cluster policies/strategies materialised in documents and programmes.

2) The structure of the value of the indicators within one category

Based on the structure of indicators with one choice of three options within each category of indicators, the evaluation of the data will count with three levels of values:

1. **High-level** aspect of the country/region's cluster policy that is fully functional and corresponding to the SCP model.
2. **Medium level** of cluster policy attention is given to this aspect of the SCP model and thus it still gives the possibility to the policy-makers to increase the given status by new, better targeted policy measures;
3. **Low level** aspect of the cluster policy in the country/region, maybe not addressed at all by policy measures and thus showing the deficit in relation to the SCP model, which offers the space for policy action;

3) The explanation of the categories of indicators used:

0. **Identification** – the basic identification data including the name of the document/programme, the responsible body/author/managing body, implementation body or the target group that is the document devoted to, the year of the adoption/issue of the document/programme.
1. **Durability** – the length of the time span of the document/programme operation divided into long-term, mid-term and short-term duration.
2. **Autonomy** – the degree of focus on cluster policy showing that the document is either exclusively devoted to it, or is a part of a broader/similar policy but with a corresponding proportion of the cluster policy focus, or the cluster issue is only generally mentioned without any specifications.
3. **Functionality** – the combination of the government level of the document adoption, its scope of force throughout the sectors of the governmental departments (i.e. industry, agriculture, services etc.) and the degree of implementation. The criterion should show whether the cluster policy is firmly anchored in the system vertically (the government decree vs. just strategic document), horizontally (general force throughout the sectors vs. some sectors only) and functional in terms of whether the implementation of the policy is working. For the programme evaluation, the functionality includes specific quantitative data.
4. **Viability** – the premise is used that viability is connected with the existence of clearly entrusted governance body (an exclusively established institution for cluster policy vs. incorporated within duties of an existing government body) and existing allocation of financing from the public budget.
5. **Continuity** – the confirmation of the governments positive attitude towards the cluster policy issue being a permanent part of the policy-making tools with regular updates to follow the new needs and context vs. just included in the current programme period – or something in between?
6. **Integrity** – the degree of covering the sectors of public administration and the industries (no matter if traditional, such as automotive, or from technological or service/creative industries etc. including emerging and inter-sectoral industries) with no limits. A cluster

can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the supporting scheme is the optimum.

7. **Complexity** – One of the most important aspects of a good cluster policy is to understand the needs of individual cluster development stages and offer the cluster's developmental stage the relevant support. The development segments of clusters, in this methodology, are:
 - vi. **Cluster mapping and analysis;**
 - vii. **Cluster initiative development** (cluster actors facilitation);
 - viii. **Cluster organisation incubation** (the start-up support for the cluster management capacity building);
 - ix. **Cluster organisation development** (cluster management excellence, R&D projects, internationalisation)
 - x. **Cluster governance** influencing all of the previous segments if efficiently performing.
8. **Consistency** – the degree of the provision of the essential supportive measures and actions that the public sector institutions (policy-makers) can/should offer within their governance to assist and optimise the cluster policy with the conscious goal to receive the best quality on its output. For the purpose of this analysis, the supportive measures include the existence of:
 - i. **The national accreditation scheme for cluster organisations**, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently);
 - ii. **The training scheme for cluster stakeholders** targeted at cluster analysts, cluster facilitators, cluster managers and the cluster organisation staff, cluster governance representatives and other actors of the regional/national cluster-relevant development and innovation infrastructure;
 - iii. **The cluster concept awareness building** – the basic good that the policy-makers can do for clusters – to inform about them and communicate their successes, benefits, examples worth following and the best practices in all five types of cluster activities (i.e. information & networking, HR development, R&D and innovation projects, PR & marketing and internationalisation) in the form of conferences and other public events, publications and various media outputs.

4) The instructions for the desk research in individual steps

Step 1 – Search out the existing cluster policy documents in your country according to the three types of documents to be described in the three types of questionnaire forms:

1. Existing/Preceding cluster policies/strategies (mandatory documents)

This questionnaire is targeted at those identified policies/strategies that are embodied in legally approved documents and adopted by some of the government administrations in a form of a government decree or other binding procedure.

2. Other existing/preceding documents for cluster policy (optional documents)

This questionnaire is designed for those less binding documents concerning the cluster policies and strategies that have the form of recommendations, best practices, methodologies, studies etc. and can be used as the basis for some policy/strategy implementation but are not mandatory.

3. Existing/Preceding cluster funding programmes

This questionnaire will be used for the description of all financial tools identified to allow the cluster policy implementation.

Step 2 – Classify the identified documents according to their belonging to the territorial administration: national, regional, local and fill in the relevant data in the right columns.

Step 3 – Fill in the available data in four possible ways:

- a) Write complete texts / figures after the colon (:)
- b) Mark with x your answer on the questions (?) to show your choice of the three options.
- c) Add specification in text/figure where needed (Which one/s?)
- d) Choose the right statement from the proposed options, add your own one where appropriate (for example “Choose the type of the document ...” – question 2 in the Form 2) and write the right word/s in the column.

Step 4 – Fill in the Partner's Identification data

III. Instructions for the semi-structured interviews with cluster managers

The aim of the interviews with cluster managers is to get the feedback on the cluster policy and funding programmes – how they are effective and helpful or whether they miss some of the important components and how it can be improved. The results of the interviews evaluation and their comparison in the V4 countries together with the results of the desk research on cluster policies will enable to formulate the recommendations towards the policy-makers and propose relevant upgrades and/or amendments.

1) The structure of the respondents

Each partner will contact five (5) functional cluster organisations / clusters represented by cluster managing organisations with the questionnaire to be responded within the interview. The interview will be carried out with the cluster manager or other delegated person.

The sample of five clusters will comprise of the following sectors while each sector will be represented by one cluster:

7. Manufacturing – traditional (processing) industries with value chains delivering final products to the market and ICT;
8. KETs (preferably one of the six key enabling technologies: micro and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies) or other technology / R&D-based cluster;
9. Agro-food industries;
10. Services – tourism, spa, health, social work, education, transport & logistic;
11. Creative & cultural industries.

The reason for the above structure of respondents is as follows: The results of the cluster policy assessment by cluster managers representing all five sectors will show their opinions/experiences with respect to the indicator **6 - Integrity** from the desk research (Does the cluster policy cover all sectors and industries / is limited to certain sectors and industries / only one sector?) The answers of clusters from different sectors will help to evaluate the existing cluster policy rules and their possible changes when considering the justified needs of clusters and the consequent benefits for the society.

2) The structure of the questionnaire and explanations/instructions for the interview

The questionnaire consists of a cluster identification item (0) and eight thematic items (1 - 8) containing the questions and options of answers. The first column serves for ticking the selected answer (**Tick the choice - x**) and the second column serves for the specifications and more details (**Specification details**).

Item 0. Identification

- Name of the cluster organisation/cluster vs. Name of the cluster managing body (HU, PL)

While the cluster organisations in a form of legal body with its executive management exist in the Czech Republic and Slovakia (associations, cooperatives etc.), the Hungarian and partly Polish clusters have a specific cluster managing body – a legal entity with its own name which differs from the name of the cluster.

- Cluster organisation/cluster established in the year

The year of establishment of the cluster organisation or cluster defines the “age” of the cluster in terms of the cluster development segment (start-up/immature – e.g. up to three years; developed/mature – above three years) that can play role in the cluster policy exploitation, its relevance for clusters and needs of a cluster.

Item 1. - Sector of operation

Question: Choose one sector where your cluster belongs (see the explanation in the Guide)

- a) Manufacturing, specify which:
- b) ICT, specify which:
- c) KETs or other technology/R&D-based cluster, specify which:
- d) Agro-food industries, specify which;
- e) Services, specify which:
- f) Creative & cultural industries, specify which:

The sector of operation of the interviewed cluster is defined by one of the five sectors – see the previous paragraph ad III 1) The structure of the respondents.

Item 2. Awareness – policy

Question: Are you aware of the cluster policy existing in your country?

- If YES, please specify the document (name, period of validity, responsible body)
 - a) on the national level
 - b) on the regional level
 - c) on the local level (municipality, sub-region)
 - d) on the European level
- if NOT, please specify why:
 - i) I am not aware
 - ii) no policy existing in the country

This question should give the feedback on the existence of different cluster policies and the respondent's awareness of it.

Item 3. Awareness - funding programme

Question: Are you aware of cluster-devoted funding programme? If yes, please specify the programme (name, period of validity, responsible body)

- a) on the national level
- b) on the regional level
- c) on the local level (municipality, sub-region)
- d) on the European level
- e) no

Similar as the Item 2.

Item 4. Exploitation

Question: Are you the beneficiary of the funding programme/s ad 3 a), b), c)? If yes, specify and use next columns for more programmes you exploited.

- a) Name of programme/s you applied for funding
- b) Number of projects applied for / time period of projects duration (years from-to per project)
- c) The value of each project implemented (in €)
- d) The obligatory co-financing percentage per project (%)

This item helps to see, how the cluster funding programmes have been used by clusters from different sectors.

Item 5. Satisfaction

Question: Are you satisfied with the concept, scope of measures and support of clusters within the cluster policy / programmes in your country?

- a) fully satisfied
- b) rather satisfied
- c) neutral
- d) rather dissatisfied - specify the reasons why:
- e) fully dissatisfied - specify the reasons why:

The Satisfaction item will help to assess the general attitude of cluster managers towards the existing V4 cluster policies/programmes and discover some of the reasons for dissatisfaction.

Item 6. Relevance

Question: How would you assess the relevance of the cluster policy / programmes in your country towards your cluster?

- a) completely relevant

b) partly relevant - specify the reasons why:

c) irrelevant - specify the reasons why:

The Relevance item discovers the cases when cluster policy and its measures are not applicable to all clusters and, vice versa, the clusters cannot make full use of it, giving the objective reasons for its partly relevance or complete irrelevance.

Item 7. Needs

Question: Does the cluster policy/programmes in your country cover all your needs? If not, please choose what you are missing and specify:

a) the periodicity of calls at least once a year (if other - please specify)

b) the higher amount of allocated money/lower co-financing (if other – please specify)

c) more and better awareness building and training – lack of human capital for cluster management (please specify)

d) funding for start-up clusters and clusters in services, agro-food and creative industries (please specify)

in e) better governance from the public sector – more communication, care and involvement support of cluster activities (please specify)

f) other needs/comments

The item offers possible needs of clusters that can be potentially incorporated in the cluster policy upgrade.

Item 8. Improvement suggestions

Question: Can you suggest some improvements of the cluster policy / programmes in your country that would help your cluster to prosper better?

a)

b)

c)

The open question motivates the cluster managers to suggest possible improvements of the cluster policy/programme so that they can better fit the needs of the clusters and are a valuable source of information for the policy-makers.

APPENDIX 2: Documents and programs related to the cluster policy in the Czech Republic

0. The project partner's identification and contact data

1	Country	The Czech Republic
2	Region	Zlín
3	Project partner	Tomas Bata University in Zlín
4	Form Completed by	Martina Sopoligová
5		martina.sopoligova@gmail.com , 00421902786998
6	Consultations (if appropriate)	Drahomira Pavelkova, Tomas Bata University in Zlin, pavelkova@fame.utb.cz in Zlin Pavla Břusková, National Cluster Association, bruskova@nca.cz

MIT	the Ministry of Industry and Trade of the Czech Republic
CzechInvest	the Investment and Business Development Agency
PA	Priority Axis
GD	Government Decree
MEYS	the Ministry of Education, Youth and Sports
MRD	the Ministry of Regional Development
MLSA	the Ministry of Labour and Social Affairs
MF	the Ministry of Finance
MFA	the Ministry of Foreign Affairs

1.A Existing cluster policies/strategies (mandatory documents 2014-2020)

INDICATORS			Cluster policy territorial administration level				
No.	Type	Questions	National	National	National	Regional (Zlín Region)	Regional (Zlín Region)
1	0. Identification	Name of the document:	The National Innovation Strategy 2012-2020	The International Competitiveness Strategy of the Czech Republic 2012-2020	The Small and Medium Enterprises Support Strategy 2014-2020	The Regional Innovation Strategy of Region Zlín 2013-2020	The Development Strategy of Zlín Region 2009-2020
2		Responsible body:	MIT, MEYS	Government Office of the Czech Republic - Government Council for Competitiveness and Information Society (by 2013 - MIT)	MIT	Technology Innovation Centre (TIC)	The Council of the Zlín Region
3		Implementation body:	GACR, TACR	Implementation Department of MIT	n/a	Department of Region Strategy Development, Technology Innovation Centre	Department of Region Strategy Development
4		Adopted by the government in the year:	2011, RG No.714/2011	27.9.2011, RG No. 713/2011, updated 18.9.2013, RG No.723/2013	12.12.2012, RG No.923/2012	created 4-7/2012, updated 13.7.2015, Resolution No.0589/R15/15	16.12.09
5	1. Durability	Long-term (7 years and more)?	x	x	x	x	x
6		Mid-term (3-6 years)?					
7		Short-term (1-2 years)?					
8	2. Auto	Specifically devoted to clusters?					

9		An explicit part of another policy document? Which one?	(it follows up the International Compet. Strategy of the CR 2012-2020 - the part of innovative environment)	x (Pillar 9 - Innovation, Project 9.41 - Cooperation between companies (development and cluster managing), Pillar 11 - Cohesion policy - cluster development support)			
10		Generally mentioned in an existing strategy?	x (PA - Innovative enterprise - Importance for the development of innovative business also has a co-operation and networking between companies in order to improve their competitive advantage based on innovation, for example, through clusters)		x (Priority 2 - Development of enterprise based on support for R,D and innovation, including the innovation and business infrastructure - cluster initiatives development support , Priority 3 - SME Internationalisation Support)	x (PA A, Specific objective A.1.2. Align the needs of companies with school offer within HR - cooperation between universities and clusters , PA B: Increasing the innovative performance of companies - clusters, Strategic aim B.1.1 - Initiate the implementation of RDI projects - focused on clusters)	x (Thematic pillar I. Competitiveness Economy, Objective 1.1. Applications for sharing the results of research and development in innovative companies, Task 1.1.1. Connect reg. businesses with R&D institutions - promotion of functional clusters in the region , joint development projects within clusters), Task 1.2.1 Ensure effective functioning and cooperation of supporting infrastructure (focused on clusters)
11	3. Functiona	Adopted as the government decree with general force					

		and fully implemented?					
12		Adopted as the government decree with sectoral force /partly implemented?	x	x	x	x	X
13		Adopted as the strategic document with unstated force / not implemented?					
14	4. Viability	Supported by public budget and governed by a specialised institution?					
15		Supported by public budget and governed by traditional government body?	x	x		x	x
16		Not supported by public budget / partly governed by a government body?			x (only SF, fully governed by a government body)		
17	5. Continuity	Continuously valid with regular updates?					
18		Valid for the period 2014-2020 and existing also in previous years?	x (the National Innovation Strategy 2005-2010)	x (the Growth Strategy 2005-2013)	x (the Small and Medium Enterprises Support Strategy 2007-2013)	x (the Regional Innov. Strategy 2008-2013, also related to the Development Strategy of Zlín Region 2009-2020)	
19		Valid in the period 2014-2020?					x (2009-2020)

20	6. Integrity	Covering clusters in all sectors and industries?	x	x	x		x (supporting functional clusters without limits, focused on rubber, aerospace, creative industry)
21		Limited to certain sectors/industries? Which ones?				x (manufacture of rubber and plastic, metal and chemical, electrical equipment of a computer, electronic and optic, machinery and equipment, food products, beverages and other transport equipment-aircraft industry, the furniture. Service sector - mainly ICT and multimedia)	
22		Only one sector supported? Which one?					
23	7. Complexity	Measures for all cluster development stages included?					
24		Measures only for three to four cluster development stages? Which ones?					
25		Measures only for one to two cluster development stage? Which one/s?	n/a	cluster analysis (an empirical analysis of the functioning of existing clusters)	cluster initiative incubation and development (international cooperation, support of international incubation)	cluster organisation development (RD projects)	cluster organisation development (infrastructure building, networking, cooperation, RD projects)

26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?					
27		Only two of the cluster concept support activities provided? Which ones?					
28		At least one of the cluster concept support activities provided? Which one?	none	the cluster concept awareness building (identification of problems, the benefits and potential development needs, best practices)	none	the cluster concept awareness building (providing services for clusters, org. of activities, information portal, seminars, workshops, conferences, case studies - mainly TIC)	the cluster concept awareness building (workshops, information sharing, networking)

1.B Preceding cluster policies/strategies (mandatory documents 2007-2013)

INDICATORS			Cluster policy territorial administration level						
No.	Type	Questions	National	National	National	National	National	Regional (Zlín Region)	Regional (Zlín Region)
1	0. Identification	Name of the document:	The National Cluster Strategy 2005 -2008	The National Strategic Reference Framework of the Czech Republic 2007-2013	The National Innovation Strategy 2005-2010	The National Innovation Policy 2005 -2010	The Small and Medium Enterprises Support Strategy 2007-2013	The Regional Innovation Strategy of Zlín Region 2008-2013	The Development Programme of Zlín Region Area 2010-2012
2		Responsible body:	MIT (cooperation with MRD, MLSA)	MRD	MIT, MEYS	MIT	MIT	The Council of the Zlín Region	The Council of the Zlín Region
3		Implementation body:	CzechInvest	n/a	n/a	n/a	relevant ministries	the Technology Innovative Centre, Department of Region Strategy Development	the Technology Innovative Centre, Department of Region Strategy Development
4		Adopted by the government in the year:	13.7.2005, RG No.883/2005	28.2.2007, RG No. 278/2007, 30.11.2006, RG No.1348/2006 (cofinancing SFs with SB)	24.03.2004, RG No. 270/2004	7.7.2005, RG No. 851/2005	12.4.2006, RG No. 392/2006	06.12.07	9/2010
5	1. Durability	Long-term (7 years and more)?		x			x		
6		Mid-term (3-6 years)?	x		x	x		x	x
7		Short-term (1-2 years)?							
8	2. Auto	Specifically devoted to clusters?	x						

9		An explicit part of another policy document? Which one?						x (PA B: Support infrastructure for the innovative environment in the Zlín Region, Objective B.1 - building and developing of innovative facilities - clusters ,	x (Pillar 1. Competitive Economy, Task 1.1 Increasing the competitiveness of applications of R&D and innovative projects - cluster building and development)
10		Generally mentioned in an existing strategy?		x (Priority A: Competitive business sector - innovative clusters, Priority B: Support of R&D capacity for innovation - centres of exc. and their integration into innov. clusters will be systematically supported)	x	x (Strategic Aim 1 - To strengthen research and development as a source of innovation, Action No.17 - clusters)	x (Strategic Concept: significantly expand the use of SFs for the infrastructure business development through techn. parks, business incubators and clusters)		
11	3. Functionality	Adopted as the government decree with general force and fully implemented?							
12		Adopted as the government decree with sectoral force /partly implemented?	x	x	x	x	x	x	x
13		Adopted as the strategic document							

		with unstated force / not implemented?							
14	4. Viability	Supported by public budget and governed by a specialised institution?							
15		Supported by public budget and governed by traditional government body?	x	x	x	x	x	x	x
16		Not supported by public budget / partly governed by a government body?							
17	5. Continuity	Continuously valid with regular updates?							
18		Valid for the period 2007-2013 and existing also in previous years?		x (the National Development Plan 2005-2008)			x (the Small and Medium Enterprises Support Strategy 2005-2006)		x (The Development Programme of Zlín Region Area 2008-2010)
19		Valid in the period 2007-2013?	valid in the period 2005-2008		valid in the period 2005-2010	x (valid in the period 2005-2010)		x (valid in the period 2008-2013)	
20	6. Integrity	Covering clusters in all sectors and industries?	x	x	x	x			x

21		Limited to certain sectors/industries? Which ones?						x (ecology, chemistry, informatics, plastics, rubber, food industry, production of biological agents, construction, agriculture and forestry, woodworking, armaments)	
22		Only one sector supported? Which one?							
23	7. Complexity	Measures for all cluster development stages included?	cluster mapping and analysis, cluster initiative developing , incubation, development, governance						
24		Measures only for three to four cluster development stages? Which ones?							
25		Measures only for one to two cluster development stage? Which one/s?		none	none	none	none	cluster mapping and analysis, cluster organization incubation (support existing and new clusters, finding new	cluster organization incubation, cluster organization development (support of networking, building incubators, cluster development,

								options for support, mapping)	development of innovative actions, information, good practices, seminars, workshops, internationalization, cooperation with business angels)
26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?							
27		Only two of the cluster concept support activities provided? Which ones?	training of cluster managers and facilitators and their certification, cluster concept awareness building(PR), mapping, monitoring, evaluation, financing of cluster functioning and development through SF and SB						
28		At least one of the cluster concept support activities		none	none	none	none	cluster concept awareness building	cluster concept awareness building

		provided? Which one?						
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3.A Existing cluster funding programmes (2014-2020)

INDICATORS			Cluster policy territorial administration level		
No.	Type	Questions	National	Local	Regional
1	0. Identification	Name of the programme:	OP Enterprise and Innovation for Competitiveness 2014-2020 (OP EIC), COOPERATION, CLUSTERS		
2		Managing body:	MIT		
3		Implementation body:	CzechInvest (the establishment of new agency planned in 2015)		
4		Choose the priorities of the programme: networking, human resources, R&D and innovation projects, marketing, internationalisation, others:	PA 1-development R&D for innovation - networking, clustering, SMEs		
5		Officially approved by the government in the year:	14.7.2014, RG No.581/2014, updated 20.10.2014 RG No.852/2014, 9.2.2015 RG No.87/2015		
6	1. Durability	Long-term (7 years and more)?	x		
7		Mid-term (3-6 years)?			
8		Short-term (1-2 years)?			
9	2. Autonomy	Specifically devoted to clusters?	x (development of innovative networks - clusters)		
10		An explicit part of another programme? Which one?			
11		Partly concerning clusters?			
12	3. Functionality	Allocated funds for the whole programme concerning clusters in thousands €:/share on the whole OP	70, 4 mil. EUR/1,62 % (1,9 mld. Kč Spolupráce/117 mld. Kč OP PIK)		
13		Min.-max. budget per project in thousand €:	19 - 593 (by type of activity)		

14		Average percentage of public funding per project:	48%		
15		Number of calls published/to be published:	2/5		
16		No. of projects funded by the programme/total expended in thous. €:	55/11 606		
17	4. Viability	Supported by public budget and governed by a specialised institution?			
18		Supported by public budget and governed by traditional government body?	x		
19		Not supported by public budget / not governed by a specific body?			
20	5. Continuity	Continuously valid with regular updates?			
21		Valid for the period 2014-2020 and existing also in previous years?	x		
22		Valid in the period 2014-2020?			
23	6. Integrity	Covering clusters in all sectors and industries?			
24		Limited to certain sectors/industries? Which ones?	manufacturing, waste management, inf. and communic. activities, architectural and engineering activities, repair of PC and communic. equipment (except for tourism, free time activities, spas)		
25		Only one sector supported? Which one?			
26	7. Complexity	Funding covering all 5 cluster development stages?			
27		Funding only for three to four cluster development stages? Which ones?			

28		Funding only for one to two cluster development stages? Which one/s?	x (development of matured clusters activities in the cluster excellence concept, internationalization)		
29	8. Consistency	Does the evaluation of applications for funding valorize the cluster organisation's achievements in the national accreditation system, participation in trainings and other capacity indicators with respect to eligibility for different levels of grants?			
30		Does the evaluation of applications for funding valorize some type of cluster organisation's capacity indicators with respect to eligibility for different levels of grants? Which ones?	x (rating will reflect the development phase of the cluster - in the case of the excellence cluster - higher score)		
31		No levels of grants to differentiate the cluster organisation capacity?			

3. B Preceding cluster funding programmes (2007-2013)

INDICATORS			Cluster policy territorial administration level		
No.	Type	Questions	National	Local	Regional
1	0. Identification	Name of the programme:	OP Enterprise and Innovation 2007-2013, COOPERATION, CLUSTERS (3 calls)		
2		Managing body:	MIT		
3		Implementation body:	CzechInvest		
4		Choose the priorities of the programme: networking, human resources, R&D and innovation projects, marketing, internationalisation, others:	PA 5 - Environment for enterprise and innovation, a support of establishing and developing new cooperative sectoral groups (clusters)		
5		Officially approved by the government in the year:	15.1.2006, RG No.(175/2006)1302/2006		
6	1. Durability	Long-term (7 years and more)?	x		
7		Mid-term (3-6 years)?			
8		Short-term (1-2 years)?			
9	2. Autonomy	Specifically devoted to clusters?	x		
10		An explicit part of another programmer? Which one?			
11		Partly concerning clusters?			
12	3. Functionality	Allocated funds for the whole programme concerning clusters in thousands €:	83333 (1,073 mld. Kč Klastry/OPPI		
13		Min.-max. budget per project in thousand €:	74 - 2 963		
14		Average percentage of public funding per project:	55		

15		Number of calls published/to be published:	3 (Call I., Call II., Call II. - prolongation)		
16		No. of projects funded by the programme/total expended in thous. €:	39/47 632		
17	4. Viability	Supported by public budget and governed by specialised institution?			
18		Supported by public budget and governed by traditional government body?	x		
19		Not supported by public budget / not governed by a specific body?			
20	5. Continuity	Continuously valid with regular updates?			
21		Valid for the period 2007-2013 and existing also in previous years?	x		
22		Valid in the period 2007-2013?			
23	6. Integrity	Covering clusters in all sectors and industries?			
24		Limited to certain sectors/industries? Which ones?	manufacturing, waste management, inf. and communic. activities, architectural and engineering activities, repair of PC and communic. equipment		
25		Only one sector supported? Which one?			
26	7. Complexity	Funding covering all 5 cluster development stages?	x		
27		Funding only for three to four cluster development stages? Which ones?			
28		Funding only for one to two cluster development stages? Which one/s?			

29	8. Consistency	Does the evaluation of applications for funding valorize the cluster organisation's achievements in the national accreditation system, participation in trainings and other capacity indicators with respect to eligibility for different levels of grants?			
30		Does the evaluation of applications for funding valorize some type of cluster organisation's capacity indicators with respect to eligibility for different levels of grants? Which ones?			
31		No levels of grants to differentiate the cluster organisation capacity?	x		

APPENDIX 3: List of cluster organisations by type in the Czech Republic

			Cluster name	Cluster type
Region	Prague	1	Czech and Moravian Glass Cluster	Manufacturing, energy and construction clusters
	Central Bohemia	1	ATOMEX GROUP	Manufacturing, energy and construction clusters
		2	Biocluster	Manufacturing, energy and construction clusters
		3	Czech Pellets Cluster	Manufacturing, energy and construction clusters
		4	STAR - Research & Innovation Cluster	Key enabling technologies and R&D-based clusters
		5	CzechBio - Association of Czech Biotech Companies	Key enabling technologies and R&D-based clusters
	South Bohemia	1	Cluster of Applied Biotechnology and Nanotechnology	Agro-food industries clusters
		2	Regional Food Cluster - Tastes well. Southbohemian	Agro-food industries clusters
		3	South Bohemian Forestry - Wood Cluster	Manufacturing, energy and construction clusters
		4	NiPaS - Cluster of Low-energy & Passive Civil Engineering	Manufacturing, energy and construction clusters
		5	CGMC - Cluster of General Machinery Companies	Manufacturing, energy and construction clusters
		6	EKOGEN	Manufacturing, energy and construction clusters
		7	Czech Smart City Cluster	Service industries clusters
		8	Czech Cloud Cluster	Information and communication technologies clusters
	Plzeň	1	Cluster MECHATRONICS	Manufacturing, energy and construction clusters
	Liberec	1	CLUTEX - Cluster of Technical Textiles	Manufacturing, energy and construction clusters
	Hradec Králové	1	OMNIPACK Cluster - Cluster of packaging manufacturers	Manufacturing, energy and construction clusters
		2	Czech Stone Cluster	Manufacturing, energy and construction clusters
	Pardubice	1	ORLICKO Agricultural Cluster	Agro-food industries clusters
		2	ETIK - Energy Technical Innovation Cluster	Manufacturing, energy and construction clusters

Region		3	Hi-Tech innovation cluster	Service industries clusters
		4	NANOPROGRES	Key enabling technologies and R&D-based clusters
	Vysočina	1	Agrocluster Vysočina	Agro-food industries clusters
		2	Vysočina Precision Engineering Cluster	Manufacturing, energy and construction clusters
		3	Czech IT Cluster	Information and communication technologies clusters
	South Moravia	1	CREA Hydro & Energy	Manufacturing, energy and construction clusters
		2	South-Moravian Building Cluster	Manufacturing, energy and construction clusters
		3	Cluster of Czech Furniture Manufacturers	Manufacturing, energy and construction clusters
		4	ENERGOCLUSTER	Manufacturing, energy and construction clusters
		5	Elektra-City	Service industries clusters
		6	Cluster of Industrial Innovation in Transportation	Service industries clusters
		7	Network Security Monitoring Cluster	Information and communication technologies clusters
	Olomouc	1	Czech Nanotechnology Cluster	Key enabling technologies and R&D-based clusters
		2	MedChemBio - Cluster of Medicinal Chemistry and Chemical Biology	Key enabling technologies and R&D-based clusters
	Zlín	1	Moravian Aerospace Cluster	Manufacturing, energy and construction clusters
		2	Czech - Slovakia Industry Cluster	Manufacturing, energy and construction clusters
		3	Plastics Cluster	Manufacturing, energy and construction clusters
		4	Zlín Creative Cluster	Creative and cultural industries clusters
	Moravia-Silesia	1	Moravian Forestry Cluster	Agro-food industries clusters
		2	MoPharmaC - Moravian Pharma Cluster	Manufacturing, energy and construction clusters
		3	HK Metal Cluster	Manufacturing, energy and construction clusters
		4	ENVICRACK - Cluster of Alternative Energy Sources	Manufacturing, energy and construction clusters
		5	Additive Manufacturing Alliance	Manufacturing, energy and construction clusters
		6	Moravian-Silesian Automotive Cluster	Manufacturing, energy and construction clusters
		7	National Wood -processing Cluster	Manufacturing, energy and construction clusters

		8	National Energy Cluster	Manufacturing, energy and construction clusters
		9	Czech Machinery Cluster	Manufacturing, energy and construction clusters
		10	Safety & Security Technology Cluster	Service industries clusters
		11	KLACR - Tourism Cluster	Service industries clusters
		12	SINEC - Social Innovation & Enterprise Cluster	Service industries clusters
		13	Czech Telecommunication Cluster	Information and communication technologies clusters
		14	IT Cluster	Information and communication technologies clusters

Source: own compilation based on NCA (2016)